

Water Challenges



WaterSMART is a perfect example of the value of strong partnerships that bring Interior together with local water and conservation managers to create sustainable water supplies in the West.

***Ken Salazar, Secretary of the Interior
March 21, 2012***

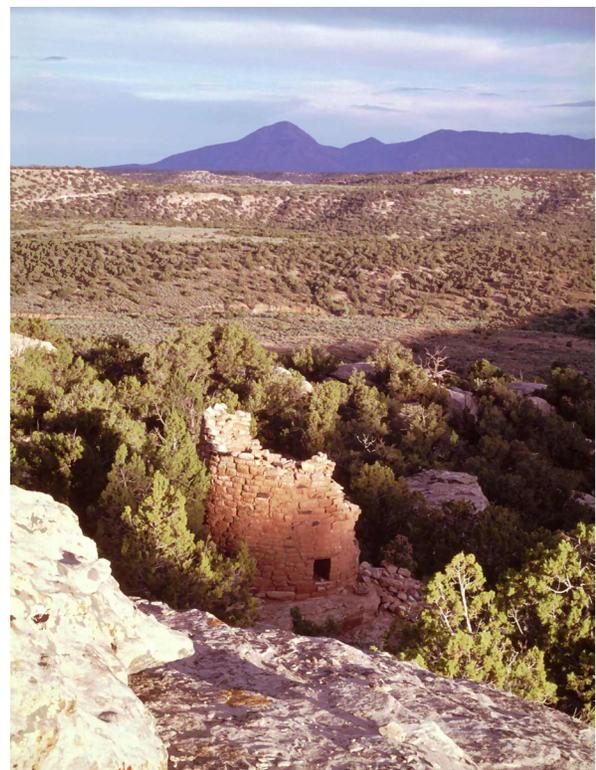
The health, security, economic, and ecological well-being of the American people depend on adequate supplies of clean water. Water is needed to stay healthy, produce energy, grow food, advance the economy, and engage in recreation. On a more basic level, water is vital to maintaining healthy ecosystems. The amount of water available to support people, the economy, and the environment is finite. As the need for water continues to grow, available supplies will be increasingly strained, risking the depletion of shared natural resources and raising the potential for conflict.

America's water resource challenges are varied and increasing. Aging water infrastructure, population growth, depletion of groundwater resources, impaired water quality, increasing demand for human and environmental uses, and climate variability and change all play a role in determining the amount of available fresh water.

Water shortages and conflicts among competing uses have become more commonplace in many areas of the United States, even in normal water years. Prolonged drought and increasing demands for water are exacerbating the challenges facing water managers, and traditional approaches no longer meet today's needs. As competition for water resources grows, so does the need for information and tools to aid water resource managers.

State governments and a complex array of laws and ownership regimes govern water allocation and use, but the Federal government has a role to play by providing leadership and support for sustainable water stewardship.

The Administration places a priority on ensuring clean and safe water supplies and on restoring and protecting ecosystems. Federal agencies must work together with State and local governments, Tribes, industry, the agricultural sector, and other non-governmental partners to achieve these goals. These integrated efforts will lead to improved strategies and results to better protect the Nation's water resources.



Imbalances between water supply and demand are increasing in intensity, geographical scope, and complexity. The WaterSMART program is designed to help secure and stretch existing water supplies, provide tools that support better management of water, and advance research and projects that contribute to water sustainability.

*Anne Castle
Assistant Secretary – Water and Science
March 22, 2013*

WATERSMART SUSTAIN AND MANAGE AMERICA'S RESOURCES FOR TOMORROW

Interior continues to implement the multiple components of the WaterSMART program, established by Secretary Salazar in 2010. The goals of the program are to secure and stretch water supplies for use by existing and future generations to benefit people, the economy, and the environment, and identify adaptive measures needed to address climate change and future demands. The Program's successes are showcased in *WaterSMART – A Three-Year Progress Report*, published in October 2012.

In 2012, the Department of the Interior focused efforts to promote sustainable water strategies, and improve water management through science, collaboration, and cooperation. These approaches are demonstrated by efforts underway to examine water resources in the Colorado River Basin and other basins, the U. S. Geological Survey Water Census, and the Cooperative Watershed Management program. Comprehensive basin-wide approaches such as these will be critical to assessing water needs, evaluating the availability of and risks to water supplies, and planning for the impacts of reduced availability and increasing demands in collaboration with Interior's partners. The Colorado River Basin was selected as a study pilot area for coordinated strategies in water management as part of the WaterSMART initiative.

Spanning parts of the seven Basin States of Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming, the Colorado River Basin is one of the most critical sources of water in the West. The Colorado River and its tributaries provide water to nearly 40 million people for municipal use, irrigate nearly 5.5 million acres of land, and are the lifeblood

for at least 22 federally recognized Tribes, seven national wildlife refuges, four national recreation areas, and eleven national parks. Hydropower facilities along the Colorado River provide more than 4,200 megawatts of generating capacity, helping to meet the power needs of the West and offset the use of fossil fuels. The Colorado River is also vitally important to meeting Mexico's agricultural and municipal water needs, and serves as host to a variety of endangered species.

The challenges and complexities of ensuring a sustainable water supply and meeting future demand in an over-allocated and highly variable system such as the Colorado River have been recognized and documented in several studies conducted by the Bureau of Reclamation, USGS, and the Basin States over the past several decades. Looking ahead, concerns regarding the ability of the Colorado River system to meet future needs are even more apparent, given the likelihood of increasing demand for water throughout the Basin coupled with projections of reduced supply due to climate change.

Colorado River Basin Water Supply and Demand Study – Completed in December 2012, the purpose of the study was to define current and future imbalances in water supply and demand in the Basin and the neighboring areas of the Basin States that receive Colorado River water over the next 50 years, through 2060, and to develop and analyze adaptation and mitigation strategies to resolve those imbalances. Of particular importance, the Colorado River Basin Study provides the participants an opportunity to collaborate on scenario planning. Developed with input from a broad range of Basin Study participants, the water supply and demand scenarios incorporate key factors that drive future uncertainty. These factors include changes in natural systems including climate, demographics and land use, technology and economics, and social and governance structures. The Study did not result in a decision on how future imbalances should be addressed. Rather, the Study provides a common technical foundation and identifies a range of potential challenges and solutions that may be considered to resolve them. The Study—including a discussion of the methodologies—is available at www.usbr.gov/lc/region/programs/crbstudy.html.

Other On-going Basin Studies – Throughout 2013, Reclamation will continue the strong partnerships with local water and conservation managers working together on comprehensive water studies in the Los Angeles Basin in California; the Pecos River Basin

COLORADO RIVER BASIN WATER SUPPLY AND DEMAND STUDY

On December 12, 2012, Secretary of the Interior Ken Salazar announced the release of a study that projects water supply and demand imbalances throughout the Colorado River Basin and adjacent areas over the next 50 years. The Colorado River Basin Water Supply and Demand Study, the first of its kind, also includes a wide array of adaptation and mitigation strategies proposed by stakeholders and the public to address the projected imbalances.

This Study is one of a number of ongoing basin studies that Reclamation is undertaking through Interior's WaterSMART program....These analyses pave the way for stakeholders in each basin to come together and determine their own water destiny. This Study is a call to action, and we look forward to continuing this collaborative approach as we discuss next steps.

*Anne Castle, Assistant Secretary – Water and Science
December 12, 2012*

Authorized by the 2009 SECURE Water Act, the Study analyzes future water supply and demand scenarios based on factors such as projected changes in climate and varying levels of growth in communities, agriculture, and business in the seven Colorado River Basin States of Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming.

The average difference between supply and demand is projected to be greater than 3.2 million acre-feet by 2060, according to the Study. One acre-foot of water is approximately the amount used by a single household of four people in a year. The Study projects the largest increase in demand will come from municipal and industrial users, owing to population growth. The Colorado River Basin currently provides water to some 40 million people, and the Study estimates this number could nearly double to 76.5 million people by 2060, under a rapid growth scenario.

The Study includes over 150 proposals from study participants, stakeholders, and the public that represent a wide range of potential options to resolve supply and demand imbalances. Proposals include increasing water supply through reuse and desalinization methods and reducing demand through increased conservation and efficiency efforts. The Study does not determine how future imbalances should or will be addressed. Reclamation intends to work with stakeholders to explore in-basin strategies, rather than proposals—such as major trans-basin conveyance systems—that are not considered cost effective or practical.

Through the Colorado River Basin Study, the Basin States have taken established partnerships to a higher level, providing huge benefits to the States.

*Kay Brothers
Deputy General Manager of Engineering and Operations (retired)
Southern Nevada Water Authority*

The ability to share the collective wisdom and experience of water managers representing the seven Basin States, the Tribes, the Federal government, and NGOs benefits all of the States involved.

*Ted Kowalski, Interstate and Federal Section Chief
Colorado Water Conservation Board*

Throughout the course of the three-year Study, eight interim reports were published to reflect technical developments and public input. Public comments were encouraged on the final Study and were summarized and posted to the website for consideration in future basin planning activities.

in New Mexico; the Republican River Basin in Colorado, Kansas, and Nebraska; the Sacramento-San Joaquin River Basins in California; and the Upper Washita River Basin in Oklahoma.

National Water Census – Another key component of Interior’s water sustainability strategy is to inform the public and decisionmakers about the status and changes over time of the Nation’s freshwater resources. Through the WaterSMART program, the USGS has developed and begun implementation of the WaterSMART Availability and Use Assessment program—known as the National Water Census. The Census will provide a more accurate picture of the quantity and quality of the Nation’s water resources for beneficial uses and a basis for improved forecasting of water availability for future economic, energy production, and environmental uses. The concept of a Census is consistent with the SECURE Water Act, which calls for the establishment of a WaterSMART Availability and Use Assessment within USGS.

The Census includes a series of studies, focused on selected large watersheds, where there is a desire on the part of watershed stakeholders to conduct a comprehensive technical assessment of water availability with the best available tools. These Geographic Focus Area Studies help to assess water availability in these watersheds and provide opportunities to test and improve approaches for future studies.

Throughout 2013, USGS will finalize the framework within which the Census will be conducted and continue Geographic Focus Area Studies of water availability and use in the Colorado, Delaware, and Apalachicola-Chattahoochee-Flint River Basins:

- *Colorado River Basin* – While surface water in the Colorado River Basin is carefully regulated and monitored, other components of the water budget are less well understood. Through stakeholder consultations and as a result of issues identified during the Colorado River Basin Water Supply and Demand Study, USGS identified the following major components of the Basin water budget for investigation: 1) estimation of current water use—in particular the consumptive use of water—and historical and future trends in water use, 2) assessments of evapotranspiration and dynamic variation in snowpack water content on a regional and yield of water scale, and 3) estimation of groundwater discharge to

The Census is a great example of leveraging resources for both the benefit of regional water management and the WaterSMART Availability and Use Assessment. The Delaware River Basin Commission is getting invaluable assistance in the form of customized work products that advance our long-term Strategy for Sustainable Water Resources, and the U.S. Geological Survey is getting very specific integrated water resource management feedback from a data rich Basin that will inform and ground truth the National Water Census—to ensure that it is a value added to water managers across the Nation.

Robert Tudor
Deputy Executive Director
Delaware River Basin Commission

WaterSMART – A Three Year Progress Report, published October 2012

streams and rivers. Better quantification of these components of the Basin water budget will inform water managers of water sources and movement and enhance their ability to make resource management decisions. For example, preliminary studies by USGS indicate that somewhere between 20 and 60 percent of the surface water flow in the upper Basin is derived from groundwater discharge. Identification of stream reaches that receive large amounts of groundwater discharge will be a major effort in the upper portion of the Colorado River Basin during the Geographic Focus Area Study.

- *Apalachicola-Chattahoochee-Flint River Basin* – Increased water use for municipal and industrial supplies, power generation, and agriculture has led to conflict over water resources in the Apalachicola-Chattahoochee-Flint River Basin among Alabama, Florida, and Georgia. Competition over water is not limited to the State borders since during drought conditions, competition among all water users can become pronounced. The Apalachicola-Chattahoochee-Flint Geographic Focus Area Study, currently underway, will provide information for water managers including enhanced water use information and linked surface water and groundwater models. This information also provides input to ecological models to predict changes

in fish and mussel populations, including endangered and threatened species, in streams that flow into main stem rivers. Together, the databases and models can be used to make better decisions regarding future growth and water use, and potential effects on water availability for diverse uses.

- *Delaware River Basin* – The Delaware River Basin covers parts of the four States of Delaware, New Jersey, New York, and Pennsylvania. The Basin has the largest inter-basin withdrawal of water east of the Mississippi River and provides water to over 15 million people. The information, databases, and products developed as a part of the Delaware River Basin Geographic Focus Area Study will inform the Delaware River Basin Commission’s strategy for a sustainable future water supply. Products will include: 1) a database of water withdrawal, use, and return flow information for watersheds that will be accessible to basin water resource managers; 2) a web-based tool developed using index streamgages of daily streamflow from 1960 to 2010 to estimate flows for ungaged streams in the Basin; 3) an evaluation of water needs for the Basin’s aquatic ecological systems including an updated decision support system for sections of the River to evaluate and adapt reservoir release flow to enhance habitat and the development of tributary response relations for interacting aquatic species; and 4) an easy to use hydrologic model of the non-tidal portions of the watershed tributaries to evaluate potential impacts from future population, land use, or water demand scenarios.

Cooperative Watershed Management and the National Blueways System – In 2012, Interior established the Cooperative Watershed Management program in the Bureau of Reclamation under authority from the Omnibus Public Land Management Act of 2009. This program has been very successful in building locally based support. A solicitation in 2012 to allocate \$250,000 generated 30 proposals requesting a total of \$1.7 million in Federal funds. Expansion

of this program has allowed Interior to broaden its reach to better meet the objectives of the Department’s National Blueways System and encourage partnerships that will sponsor projects to conserve river resources like those of the Connecticut River.



In May 2012, the Secretary of the Interior established the National Blueways System to recognize and support locally led efforts to sustain the economic, recreational, and natural values of rivers and watersheds of national significance. The designation does not establish a new protective status or regulation, but provides recognition and support for existing local and regional conservation, recreation, restoration efforts, and coordination of ongoing Federal, State, tribal, and local activities in the watershed. The 2014 budget proposes \$3.6 million Department-wide, \$3.3 million in the Fish and Wildlife Service, and \$250,000 in the Cooperative Watershed Management program in Reclamation to expand this important program supporting landscape-scale collaborative conservation with watershed partnerships. The \$3.3 million in the FWS budget will be used to provide candidate and designated National Blueways partnerships with financial assistance to support partnership coordination and watershed projects. Funds will be available to land management bureaus in the Department including BLM, Reclamation, FWS, and the National Park Service as grants and cooperative agreements. Projects will be selected via a joint decisionmaking process of the National Blueways Committee, consisting of members from these land management bureaus.

WATERSMART
(dollars in millions)

	2013 Full Yr CR ^{1/}	2012 Enacted	2014 Request	Change from 2012	Change from 2013
BUREAU OF RECLAMATION					
WaterSMART Grants	24.5	12.2	12.0	-0.2	-12.5
Basin Studies	6.0	4.9	4.7	-0.2	-1.3
Cooperative Watershed Management	0.3	0.2	0.3	0.0	0.0
Shared Investment Water Innovation Program	0.0	0.0	1.0	+1.0	+1.0
Title XVI Water Reclamation/Reuse Program ..	20.3	24.7	14.0	-10.7	-6.3
Water Conservation Field Services	4.9	5.0	3.4	-1.6	-1.4
Subtotal, Reclamation	55.9	47.1	35.4	-11.7	-20.5
U.S. GEOLOGICAL SURVEY					
Fisheries	0.5	0.5	1.9	+1.4	+1.4
Land Change Science	0.6	0.5	0.6	+0.1	0.0
Contaminant Biology	0.0	0.0	1.0	+1.0	+1.0
Toxic Substances Hydrology	0.0	0.0	1.8	+1.8	+1.8
Groundwater Resources	2.7	2.7	4.5	+1.8	+1.8
National Water Quality Assessment	1.1	0.0	3.3	+3.3	+2.2
Hydrologic Research and Development	0.0	0.0	0.3	+0.3	+0.3
Hydrologic Networks and Analysis	5.4	4.3	6.6	+2.3	+1.2
Cooperative Water Program	1.5	0.0	2.0	+2.0	+0.5
National Cooperative Geologic Mapping	0.0	0.0	0.2	+0.2	+0.2
National Geospatial Program	0.2	0.0	0.2	+0.2	0.0
Subtotal, U.S. Geological Survey	12.0	8.0	22.5	+14.5	+10.5
TOTAL, WATERSMART PROGRAM	67.9	55.1	57.9	+2.8	-10.0

^{1/} 2013 Full Year Continuing Resolution, P.L. 112-175, annualized.

2014 BUDGET SUMMARY

Water and energy are linked....Water is necessary to generate power, while energy is required to store, move, and treat water. Water saved is energy earned, and energy saved is water earned.

*Michael Connor, Commissioner
Bureau of Reclamation
October 11, 2012*

Interior's 2014 budget request includes \$57.9 million for the WaterSMART program, including \$35.4 million for Reclamation and \$22.5 million for USGS.

Bureau of Reclamation – The Department is the largest supplier and manager of water in the 17 western States. Reclamation manages 476 dams and 337 reservoirs that deliver water to over 31 million people. These facilities deliver water to one in every five western farms for about ten million acres of irrigated land. Reclamation is also the Nation's

second largest producer of hydroelectric power, generating 40 billion kilowatt hours of energy each year from 58 power plants, including five plants owned by Reclamation but operated by other entities. Hydropower is the Nation's primary source of renewable energy. Reclamation is improving operational efficiencies at existing hydropower generation facilities and looking into the integration of hydropower production with other renewable resources. In addition, Reclamation's facilities provide substantial flood control, as well as many recreational and fish and wildlife habitat benefits. Reclamation has an important role in providing leadership and assistance to States, Tribes, and local communities to address competing demands for water.

The Department's 2014 budget request includes \$35.4 million for water sustainability efforts through Reclamation, a decrease of \$11.7 million from 2012 and \$20.5 million below the annualized 2013 Continuing Resolution, P.L. 112-175, in recognition of the constrained fiscal environment. In 2014, Reclamation will continue implementing the existing WaterSMART components, including the WaterSMART Grants, Basin Studies program,

PRIORITY GOAL

To track the progress made in implementing WaterSMART, the Department established a Priority Goal for water sustainability in 2010. The goal commits Interior to biannual targets, including the following for 2014:

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

By September 30, 2014 Interior will further enable the capability to increase the available water supply for agricultural, municipal, industrial, and environmental uses in the western United States through Reclamation water conservation programs to 790,000 acre-feet, cumulatively since 2009.

In 2012, Reclamation's conservation-related programs contributed over 128,000 acre-feet toward meeting Reclamation's Priority Goal for Water Conservation, or enough water for more than 500,000 people.

Several 2012 WaterSMART grant projects address the connection between water and energy use. These projects not only achieve water savings, but can lead to significant increases in energy efficiency by decreasing pumping and reducing the amount of water imported across long distances.

In 2012, Reclamation selected 33 projects in 11 States to receive nearly \$12 million WaterSMART Water and Efficiency Grants to conserve water and energy through improvements to existing facilities. These projects are expected to save 61,423 acre-feet of water annually, which is enough water for more than 240,000 people.

Title XVI Water Reclamation and Reuse program, Cooperative Watershed Management program, and Water Conservation Field Services program—and a new Shared Investment Water Innovation program.

WaterSMART Grants – The 2014 budget request includes \$12.0 million for WaterSMART Grants, a decrease of \$233,000 from 2012 and \$12.5 million from the 2013 Continuing Resolution annualized. Recla-

mation will continue to award competitive grants that require a minimum 50 percent non-Federal cost-share and which may include the following:

- Water and energy efficiency improvements that save water, increase energy efficiency and the use of renewable energy in water management, address endangered species and other environmental issues, and facilitate transfers to new uses. WaterSMART recognizes the connection between energy and water use and emphasizes the need to continue to develop sources of renewable energy.
- Pilot and demonstration projects to address the technical and economic viability of treating and using brackish groundwater, seawater, impaired waters, or otherwise creating new water supplies within a specific locale.
- System optimization reviews that assess the potential for water management improvements and identify specific ways to implement those improvements.
- Projects to develop tools to more efficiently manage water resources in a changing climate.

Reclamation generally funds new water conservation projects that can be completed within two or three years to encourage near-term impacts on water savings. Reclamation considers water conservation, the use of water markets, and improved efficiency as crucial elements of plans to address western water issues. With leveraged water sustainability grants, the 2014 budget continues the important investment in increasing conservation and advancing the efficient use of water in the West.

With the funding requested in 2014, Reclamation anticipates initiating 27 new WaterSMART Grant projects, including those that will contribute to the Priority Goal for Water Conservation. Reclamation will also continue to develop the WaterSMART Clearinghouse website—a tool for sharing water conservation information with the public and water resources managers—to help coordinate and integrate sustainable water strategies.

Basin Studies – The Department's budget request includes \$4.7 million for Reclamation's Basin Studies program. The 2014 request is a decrease of \$194,000 from 2012 and \$1.3 million from the 2013 Full Year Continuing Resolution. In 2014, Reclamation will continue the following activities:

The Basin Studies program is perhaps the most valuable component of the WaterSMART in that it leverages Reclamation funding and the extensive expertise of its water professionals in a collaborative effort with equally knowledgeable State and local water interests to identify practical, implementable solutions to existing or anticipated shortages. The Basin Studies conducted to date have advanced the state of knowledge about the dynamics of each particular watershed and brought to bear the collective expertise of interested stakeholders to formulate constructive actions to address imbalances.

*Anne Castle
Assistant Secretary – Water and Science
March 22, 2013*

- Conduct state-of-the-art projections of future water supply and demand on a basin-wide scale, analyses of how the basins' existing water and power operations and infrastructure will perform in the face of changing water supplies and needs, develop recommendations on the optimization of operations and infrastructure to supply adequate water in the future, and perform trade-off analyses of the options identified. Funding also will continue for SECURE Water Act feasibility studies, initiated in 2013. Through the feasibility studies, Reclamation will collaborate with willing States, Tribes, and local water management entities on a 50/50 cost-share basis to evaluate the implementation of adaptation strategies developed in basin studies or equivalent studies to address demand and supply imbalances, including those caused by the effects of climate change. The feasibility studies are selected through a competitive process to ensure that studies that best meet program goals are funded. Reclamation will not seek authorization or appropriations for projects identified in the feasibility studies.
- Continue West-wide climate risk assessments to provide a baseline of water supply, demand, and operations risks and impacts associated with climate change. This information will provide a consistent foundation for basin studies across the western States and support the Landscape Conservation Cooperative partnerships. Through this activity, Reclamation will assess the climate change risks to water supplies and demands, and identify impacts

to Reclamation's operations to better support development of adaptation options through future basin studies. In 2014, this will include an analysis of how climate projections can be incorporated into Reclamation planning processes such as feasibility studies, among others. The information developed through these assessments will be communicated with partners through the LCC partnerships and other venues.

- Participate in and support the Desert and Southern Rockies LCC partnerships. These partnerships between Interior and other Federal agencies, States, Tribes, non-governmental organizations, and other stakeholders develop and share applied science tools and approaches that support resource management at the landscape scale. The LCC partnerships leverage the resources and expertise of the partners and work across jurisdictional barriers to focus on natural resource issues specific to a particular ecosystem or landscape. In 2014, Reclamation and FWS will continue to work with LCC partners to evaluate the science and technical capabilities needed to support the Desert and Southern Rockies partnerships, including: 1) building and expanding on existing applied science tools and capabilities and identifying gaps that can be addressed through the Department's Climate Science Centers, universities, and other sources; 2) providing support for adaptation and conservation efforts by various partners in the LCCs, including facilitating data sharing, developing and implementing adaptive management techniques and monitoring plans; and 3) identifying and implementing potential new adaptation strategies to address climate change impacts.

In 2014, Reclamation and its partners will fund one or two basin studies in the western U.S. and one new West-wide climate risk impact assessment, identified as vulnerability assessments under the Priority Goal for Climate Change.

Cooperative Watershed Management – In 2014, Reclamation anticipates awarding four to six projects totaling \$250,000 for the establishment and expansion of existing watershed groups through the Cooperative Watershed Management program. Reclamation also will participate in the Department's National Blueways System.

Shared Investment Water Innovation Program—In 2014, Reclamation anticipates initiating a new external water resources grants program of \$1.0 million for research and development of new technologies such as water reuse, desalination, water conservation, water infrastructure, and hydropower generation that can help solve complex water problems.

Title XVI Water Reclamation and Reuse Program—Reclamation's budget request in 2014 includes \$14.0 million for the Title XVI Water Reclamation and Reuse program, a major component of the WaterSMART strategy. The 2014 level for Title XVI is a decrease of \$10.7 million from 2012 and \$6.3 million below the 2013 annualized Continuing Resolution. Title XVI projects will identify and investigate opportunities to reclaim and reuse wastewater and naturally impaired ground and surface water in the 17 western States and Hawaii. Title XVI provides authority for project sponsors to receive Federal funding on a cost-shared basis for planning, design, construction, and pre-construction activities. Only Congressionally authorized Title XVI projects are eligible to receive funding for design and construction activities.

Title XVI projects have the potential to stretch water supplies using time-tested methodologies and piloting new concepts. By making use of recycled and reused water, these projects spur significant investments, creating long-term water supplies for communities, and avoiding the need to develop new supplies. Federal investments in Title XVI projects, including all projects funded since 1992, made available an estimated 295,000 acre-feet of water in 2012. The 2014 budget includes \$14.0 million for distribution, on a competitive basis, to those authorized projects that best reduce existing diversions, address specific water supply issues in a cost-effective manner, resolve and address environmental and water quality concerns, and meet other program goals.

Water Conservation Field Services—The 2014 Reclamation budget request includes \$3.4 million to provide small scale, cost-shared financial assistance at the local level for water conservation planning activities, on-the-ground efficiency improvements, and demonstration projects. Applicants must compete for funding that is capped at \$100,000 per project. The 2014 budget is a decrease of \$1.6 million from 2012 and \$1.4 million below the 2013 Full Year Continuing Resolution.

U.S. Geological Survey—The USGS provides a broad range of expertise in geography, geology,

hydrology, biology, and data integration that is used by Federal agencies, Tribes, States, local communities, and others in water management and science. The USGS data and analyses of water quality and quantity help resource managers develop, regulate, and monitor management practices to ensure the continued availability of water resources.

The need to quantify, forecast, protect, and secure fresh water sources to meet demands now and into the future was recognized when Congress established a National WaterSMART Availability and Use Assessment program in 2009. The last assessment of the availability and use of water resources in the United States was completed in 1978—over 30 years ago. The collection of new and continuing assessment data of the Nation's water resources is needed to ensure future water supplies.

The 2014 budget request includes \$22.5 million for the USGS WaterSMART Availability and Use Assessment program—known as the National Water Census. This is a \$14.5 million increase from 2012 and \$10.5 million from the 2013 Full Year Continuing Resolution. An interdisciplinary science approach will be used to implement this assessment.

Regional Estimates of Baseflow and Recharge—Any water budget analysis for water availability has to consider groundwater as a critical component. However, regional groundwater availability studies will not be completed for more than a decade and are focused on only 40 of the 62 priority principal aquifers of the United States. During the intervening time—and for those areas that are not slated for regional groundwater availability studies—baseflow and recharge estimates are needed for basin focused water budget analyses under WaterSMART. In 2014, the Groundwater Resources Program will develop regional techniques for these estimates.

Ecological Water Science—The USGS will advance understanding of wildlife and habitat water needs by classifying streams across the Nation based on their hydro-ecological type, systematically examining ecological responses to hydrologic alterations, developing flow alteration, and ecological response relationships for each type of river or stream. Efforts in 2011 and 2012 concentrated on the classification system for streams and supported ecological water needs work in the geographic focus areas—the Apalachicola-Chattahoochee-Flint River Basin, Colorado River Basin, and Delaware River Basin. In 2013 and continuing into 2014, USGS is working

to complete the classification system and develop a means to link hydrologic data to biological databases to allow for the systematic analysis of ecological responses to hydrologic alteration.

Water Quality Assessment – In 2013 and continuing into 2014, USGS will work to better understand how natural and human-induced variability in water quality and quantity are linked; develop ways of assessing the degree to which these linkages influence water availability for human uses and ecosystem services; and improve understanding of the cause and effect linkages between water quantity and quality. This involves integrating water quality and quantity information and relating it to the human and ecological needs for the water.

Geographic Area Focus Studies – In 2014, USGS is continuing its geographically focused studies of water availability and use in the Colorado River Basin States of Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming; the Delaware River Basin States of Delaware, New Jersey, New York, and Pennsylvania; and the Apalachicola-Chattahoochee-Flint River Basins in the States of Alabama, Florida, and Georgia.

National Groundwater Monitoring Network – Section 9507(b) of the SECURE Water Act authorizes the National Groundwater Monitoring Network, a groundwater monitoring program for each major aquifer system located in the U.S. The Network will bring comparable monitoring data together from disparate sources to close spatial data gaps and evaluate national-scale groundwater levels, quality, and rates of change. In 2013, USGS began implementation of the Network. With additional funds in 2014, USGS will:

- Provide day-to-day management of the Network and provide guidance to data providers.
- Transition from a pilot-scale Network data portal to a production-scale portal.
- Use hydrologic information and modeling tools currently available and being developed for selected major aquifers, as part of the Groundwater Resources Program groundwater availability studies, to identify monitoring locations to enhance the national network.
- Incorporate groundwater level and groundwater quality data from selected wells and springs into the Network in consultation with State, tribal, and local entities.
- Establish a National Program Board composed of Network data providers.
- Begin expansion of the Groundwater Climate Response Network to improve understanding of the effects of global climate change on groundwater recharge and availability.

Information Management – Managing the various data streams and integrating this information into a cohesive picture is a major effort of WaterSMART. The USGS is developing a system to use historical streamgauge data to estimate stream flows at stations that do not have streamgages, and to make the data available to the public. Efforts begun in 2013 and continuing into 2014 will concentrate on storing, integrating, and providing information about water budget components within a defined watershed.

Streamflow Estimation and Hydrologic Stressors – The USGS researchers are developing a system to allow decisionmakers access to critical water budget information for water availability analyses. Streamflow is one of the most critical components of a water budget. Future efforts will concentrate on storing, integrating, and serving information about water budget components within a defined watershed. The goal is a web-based system in which the user can access all information on daily streamflows, recharge, precipitation, evapotranspiration, storage, and monthly water use characteristics for that watershed and all associated watersheds that may impact its characteristics. The same system will be used to develop the water budget and access information on historical trends in water budget components. One integrating tool of the WaterSMART web system is the USGS National Hydrography Dataset. The NHD provides USGS scientists with



a means of relating information about hydrologic stressors, like water withdrawals and return flows, to the stream network. In 2014, USGS will begin to populate that information into NHD and relate it to streamflow estimation models.

Water use information, which delineates the direct hydrologic stressors caused by human water withdrawals and return flows, is critical to WaterSMART's water budget analyses. This information, collected mostly at State, regional, and local levels, must be obtained on a geospatially site-specific scale to be fully useful in WaterSMART analyses. More work is required to develop improved methods of sampling, estimating, aggregating, and presenting water use data. Research into new methods that use remote sensing and spatial datasets in water use estimation is needed. The Cooperative Water Program will work directly with State, tribal, regional, and local cooperators to maximize use of their water use datasets in water availability and use assessments. Priority will be placed on irrigation and self-supplied industrial water use. The USGS will integrate this information with decision support tools to facilitate its use in water resource management decisionmaking.

RESOLVING LAND AND WATER CLAIMS

Today's agreement signifies not only another major milestone in progress toward the Navajo-Gallup Water Supply Project, but also the high priority the Obama Administration has placed on completing the project to deliver clean running water to Navajo communities — many for the first time.

**Ken Salazar, Secretary of the Interior
September 27, 2012**

The 2014 budget request for Indian water settlements demonstrates the Administration and Department's strong commitment to resolving tribal water rights claims and ensuring that Tribes have access to use and manage water to meet domestic, economic, cultural, and ecological needs. Including funding for technical and legal support and for authorized settlements involving tribal waters, the 2014 budget request totals \$159.6 million, which is an increase of \$25.9 million over 2012 and \$35.8 million above the 2013 Full Year Continuing Resolution annualized.

To strengthen the Department's capacity to meet its trust responsibilities and more effectively partner with Tribes on water issues, increases totaling \$5.2

CROW TRIBE-MONTANA WATER RIGHTS COMPACT

Secretary of the Interior Ken Salazar, Crow Chairman Cedric Black Eagle, and Montana Governor Brian Schweitzer signed the compact on April 27, 2012—marking a major milestone in implementing the Crow Tribal Water Rights Settlement Act of 2010, which is part of the Claims Resolution Act of 2010. The signing of the Compact authorized \$460.0 million and calls for the Bureau of Reclamation to plan, design, and construct a municipal, rural, and industrial water system for the Tribe and to rehabilitate and improve the Crow Irrigation Project.

The Obama Administration is proud to be a party to the Crow-Montana Compact. Signing the Compact...demonstrates the Administration's continued commitment to resolving Indian water rights and providing settlements that truly benefit Indian Tribes....The Compact not only ensures delivery of a much-needed safe supply of water for the Crow community, but will also bolster their economic security.

**Ken Salazar, Secretary of the Interior
April 27, 2012**

Water is life. This Compact ensures that Crow people will have water and the necessary infrastructure for generations to come.

**Cedric Black Eagle, Chairman
Crow Tribe Apsáalooke Nation
April 27, 2012**

million over 2012 are provided in the budgets of the Bureau of Indian Affairs, Reclamation, and USGS. This includes increases totaling \$3.4 million for BIA to support Water Management and Planning, Water Rights Litigation, and to conduct a comprehensive Department-wide evaluation to strengthen engagement, management, and analytical capabilities of the Indian Water Rights Office and other bureaus and offices that work on these issues. An increase of \$766,000 in the Reclamation Native American Affairs Program and \$1.0 million in the Cooperative Water program at USGS are to strengthen technical analysis in support of water rights settlement work.

The 2014 budget request includes \$135.3 million for authorized settlements, including \$35.7 million in BIA's budget and \$99.7 million in Reclamation's budget. This is an increase of \$20.4 million from 2012 and \$30.4 million from the 2013 Continuing Resolution annualized.

In 2012, the Department continued moving forward to implement four Indian water rights settlements, signed into law in December 2010, as part of the Claims Resolution Act of 2010 and the ongoing Navajo-Gallup Water Supply project authorized in Title X of the Omnibus Public Land Management Act of 2009. The four settlements provide permanent water supplies and offer economic security for the Taos Pueblo of New Mexico; the Pueblos of Pojoaque, Tesuque, San Ildefonso, and the Nambé involved in the Aamodt settlement in New Mexico; the Crow Tribe in Montana; and the White Mountain Apache Tribe in Arizona. Together, these Acts authorize funding to settle claims to complete and improve reservation water systems, rehabilitate irrigation projects, construct a regional water system, and codify water sharing arrangements with neighboring communities.

The Claims Resolution Act of 2010 authorized the establishment of trust funds for each of the Tribes to manage the development of these projects. Reclamation has primary responsibility for constructing the water systems, while the Bureau of Indian Affairs is responsible for funding the trust funds.

Bureau of Reclamation – In 2014, Reclamation's budget includes \$18.2 million for projects that are part of the Claims Resolution Act settlements, including \$2.0 million for the White Mountain Apache Settlement, \$7.5 million for the Crow Settlement, \$4.0 million for the Taos Pueblo Settlement, and \$4.7 million for the Aamodt Settlement.

The 2014 budget proposes establishment of a separate Indian Water Rights Settlements account within Reclamation to highlight and segregate these funds to enhance transparency in managing and budgeting settlement construction funds. This proposal would establish an account that parallels the BIA Land and Water Claim Settlements account. The account will include the four settlements discussed above, as well as \$60.5 million for the Navajo-Gallup Water Supply Project authorized in 2009. The Navajo-Gallup Project will provide reliable and sustainable municipal, industrial, and domestic water supplies from the San Juan River to 43 Chapters of the Navajo Nation including the Window Rock, Arizona area;

the city of Gallup, New Mexico; the Navajo Agricultural Products Industry; and the southwestern portion of the Jicarilla Apache Nation Reservation in New Mexico.

The 2014 Reclamation budget also contains \$21.0 million for ongoing settlement operation and maintenance functions including the Ak Chin Indian Water Rights Settlement Act, San Carlos Apache Tribe Water Settlement Act, Animas-La Plata Project specified in the Colorado Ute Settlement Act, and Nez Perce/Snake River Water Rights Act, which is part of the Columbia and Snake River Recovery Project.

Bureau of Indian Affairs – The 2014 budget includes \$35.7 million for the BIA Land and Water Claim Settlements account, which will fund ongoing settlements including:

- *Shoshone-Paiute Tribes of the Duck Valley Reservation Settlement* – The Omnibus Public Land Management Act of 2009 authorizes \$60.0 million over five years for the Shoshone-Paiute Tribes of the Duck Valley Reservation Water Settlement. The budget includes \$12.0 million for this settlement.
- *Navajo Nation Water Resources Development Trust Fund* – The Omnibus Public Land Management Act of 2009 authorizes \$50.0 million over ten years for the Navajo Nation Water Resources Development Trust Fund. The BIA 2014 budget includes \$6.0 million—the fifth payment to satisfy this requirement.

\$43.0 MILLION AGREEMENT FOR NAVAJO-GALLUP WATER SUPPLY PROJECT

Secretary of the Interior Ken Salazar and Navajo Nation President Ben Shelly announced a \$43.0 million financial assistance agreement for design and construction of a portion of the Navajo-Gallup Water Supply Project. The leaders broke ground in June 2012 on the historic project, which, when completed, will have the capacity to deliver clean running water to a potential future population of approximately 250,000. This milestone is one in a series of steps that are part of the larger Navajo-Gallup Water Supply Project.

- *Navajo-Gallup Water Supply Project* – The budget includes \$7.8 million for San Juan Conjunctive Use Wells and San Juan River Navajo Irrigation Project Rehabilitation, which are part of the Navajo-Gallup Settlement.
- *Taos Pueblo Indian Water Development Fund* – The budget includes \$8.8 million for the first current payment of the Taos Pueblo Indian Water Rights Settlement. This Settlement authorizes the Department to provide a total of \$38.0 million to be funded through 2016.
- The budget request also includes \$1.0 million for other smaller Indian land and water settlements.

REGIONAL WATER ISSUES

The Department is engaged in water resource and supply activities across the West in areas such as the Klamath Basin, the Colorado River, and California’s Bay-Delta.

Klamath Basin – Two agreements designed to restore the Klamath River Basin while also sustaining the communities that rely on the resources of the Basin were approved and signed by a broad cross section of stakeholders. The Klamath Hydroelectric Settlement Agreement, to which the Interior Department is a party, called for a study of the potential removal of four privately owned hydroelectric facilities on the Klamath River. Under this Agreement, congressional action is needed before the Secretary may make a determination whether facilities removal will advance restoration of the salmonid fishery and is in the public interest. The Klamath Basin Restoration Agreement, which the Department has not signed, seeks to restore the communities of the Basin through a series of restoration actions combined with a water agreement for lake levels, river flows, and irrigation needs. Although the Department is not a party to the Klamath Basin Restoration Agreement and would require congressional authorization before becoming a party, a number of restoration and water supply enhancement actions called for under the agreement are authorized under existing law.

The 2014 budget includes \$63.4 million for activities in the Klamath Basin across the Department. Of this amount, \$52.8 million continues traditional activities including operation of irrigation projects, fisheries management, operation of national wildlife refuges, and other resource enhancements and management actions. In addition to these traditional activities,

Interior is using current authorities to support projects listed in both the Klamath Basin Restoration and Hydroelectric Settlement Agreements including: \$7.0 million for BIA to fund acquisition of former reservation lands of the Klamath Tribe to support economic and cultural activities; \$3.6 million in the FWS budget, of which \$1.6 million will be used for fish related monitoring and modeling—such as fish population, water temperature, hydrology, water quality, fish disease, stock assessments, fish and watershed habitat planning, restoration projects, and projects to improve in stream flows for fish. While actual grant projects have yet to be selected, FWS estimates \$2.0 million will be leveraged from the Cooperative Endangered Species Fund for habitat acquisition.

The Department coordinates its efforts with the Department of Agriculture’s U.S. Forest Service, the National Oceanic and Atmospheric Administration’s National Marine Fisheries Service, the States of California and Oregon, Native American Tribes, and non-governmental organizations.

U.S. AND MEXICO SIGN HISTORIC COLORADO RIVER WATER AGREEMENT

The Colorado River is the lifeblood of local communities from the peaks of Rocky Mountain National Park to the mouth at the Sea of Cortez, supplying water for millions of Americans, irrigating our farms, and helping to power our cities and towns....The Department of the Interior recognizes the many challenges facing the Colorado River, and this bi-national agreement demonstrates our shared commitment to cooperation and partnership to protect and promote its future.

*Ken Salazar, Secretary of the Interior
November 20, 2012*

Colorado River – On November 20, 2012, Secretary Salazar joined the U.S. and Mexico delegations in San Diego, California, at an official signing ceremony of Minute 319 to the 1944 Treaty with Mexico—a historic bi-national agreement to guide future management of the Colorado River through 2017. A Minute is a rule, agreed to by all parties, which clarifies the Treaty where the original wording was vague or silent on an issue. The five-year agreement approved

by both governments provides for a series of joint cooperative actions between the United States and Mexico. Elements of the agreement include:

- Implementing efforts to enhance water infrastructure and promote sharing, storing, and conserving water as needed during both shortages and surpluses.
- Establishing proactive basin operations by applying water delivery reductions when Lake Mead reservoir conditions are low in order to deter more severe reductions in the future.
- Extending humanitarian measures from a 2010 agreement, Minute 318, will allow Mexico to defer delivery of a portion of its Colorado River allotment, storing the water in Lake Mead, while it continues to make repairs to earthquake-damaged infrastructure.
- Establishing a program of Intentionally Created Mexican Allocation whereby Mexico could temporarily reduce its order of Colorado River water, allowing that water to be delivered to Mexico in the future.
- Promoting the ecological health of the Colorado River Delta.

Minute 319 became effective immediately. Many of the projects and programs outlined in the agreement will be implemented through the Bureau of Reclamation.

Another historic milestone was achieved on the Colorado River in November 2012 when Secretary Salazar triggered the first “high-flow experimental release” at Glen Canyon Dam, under a new experimental long-term protocol to better distribute sediment to conserve downstream resources, while meeting water and power needs and allowing continued scientific experimentation, data collection, and monitoring on the Colorado River. The new protocol calls for experimental releases from the Dam through 2020 to send sediment downstream to rebuild sandbars, beaches, and backwaters. The rebuilt areas will provide key wildlife habitat, enhance the aquatic food base, protect archeological sites, and create additional camping opportunities in the Canyon.

The new protocol is built on more than 16 years of scientific research and experimentation conducted under the Glen Canyon Dam Adaptive Management Program. In partnership with stakeholders in the Colorado River Basin, the Department translated

the research into a flexible framework that enables scientists to determine, based on the best available data, when the conditions are right to conduct these releases to maximize the ecosystem benefits along the Colorado River corridor in Glen Canyon National Recreation Area and Grand Canyon National Park. The River outlet tubes of the Glen Canyon Dam were opened, releasing additional flows that continued for nearly five days based on the parameters specified in the protocol. Through the foundation laid by the protocol, annual experiments can be conducted through 2020 to evaluate the effectiveness of multiple high flow experimental releases in rebuilding and conserving sandbars, beaches, and associated backwater habitats that have been lost or depleted since the Dam’s construction and operation. The protocol identifies the conditions under which a high flow release will likely yield the greatest conservation and beneficial use of sediment deposited by inflows from Colorado River tributaries as a result of rainstorms, monsoons, and snowmelt.

As mentioned above, Reclamation and FWS are leading the Southern Rockies and Desert LCCs. These partnerships were created to address the landscape impacts of change on America’s water, land, and other natural and cultural resources and to ensure resource managers have the applied science tools they need to adapt to climate change and threats that cross political boundaries. Significant interest by other Federal, non-Federal and tribal partners exists in participating in these LCCs. The Steering Committee for the Desert partnership has 28 members, including ten Federal partners, five States, seven non-governmental organizations, five Tribes, and one Mexican partner. The Steering Committee for the Southern Rockies partnership has 25 members, including ten Federal partners, seven State agencies, six non-governmental organizations, and two Tribes.

As a result of the Desert and Southern Rockies LCC partnerships, the Department has been able to initiate and support projects that will make important contributions to the Colorado River Basin. These include a project with Arizona Game and Fish to develop a spatial fisheries database and a decision tool that can be used by both wildlife and water managers to forecast the spread of invasive species across the landscape. Another example is a project led by The Nature Conservancy that builds on the Colorado River Basin Study to develop a decision support tool for incorporating ecological flows into water management models used for Basin-wide water supply planning. Additionally, the New Mexico Office of the State Engineer will improve

crop coefficients for the Middle Rio Grande by assessing actual crop water use through remote sensing technologies that estimate the evapotranspiration of individual crops within the Basin utilizing Landsat satellite data. Updated decisionmaking models, based on climatic change and other water limiting factors, improve the accuracy of the calculation of water used by crops. The results from this project will provide local, State, tribal, and Federal water managers with a better estimate of future water demand.

Finally, Colorado River restoration efforts are being advanced through the Bureau of Reclamation's Upper Colorado River and San Juan River Recovery programs and the Lower Colorado River Multi-Species Conservation program. These efforts are making significant strides in recovering listed and native fish species and protecting current and future water uses within the Colorado River Basin.

California Bay-Delta – The Sacramento–San Joaquin River Delta is a regional, State, and national treasure. It is an integral part of an ecosystem dependent on more than 750 wildlife species and more than 120 species of fish. As a migratory corridor for numerous species, the Bay-Delta hosts two-thirds of the State's salmon and nearly half of the waterfowl and shorebirds along the Pacific flyway. The Bay-Delta spans five counties and is home to more than 500,000 people. It is a place of great scenic beauty, historic towns, productive farms, close-knit communities, and varied recreation.

The Bay-Delta is the hub of the Nation's largest water delivery system and one of the most important estuary ecosystems. The Bay-Delta provides drinking water to 25 million people and sustains nearly \$400 billion of annual economic activity, including a \$28.0 billion agricultural industry and a robust set of recreational opportunities. It irrigates more than seven million acres of farmland on which 45 percent of the Nation's fruits and vegetables are grown. It supports a thriving commercial and recreational fishing industry that contributes hundreds of millions of dollars annually to the California economy.

In July 2012, the Governor of California, the Secretary of the Interior, and the Assistant Administrator for Fisheries, National Oceanic and Atmospheric Administration outlined revisions to the proposed Bay-Delta Conservation Plan. The revised Plan, along with a full range of alternative proposals, underwent a rigorous public environmental review completed in late 2012. The parties expect

**CALIFORNIA AND THE OBAMA
ADMINISTRATION OUTLINE A
PATH FORWARD FOR THE
BAY-DELTA CONSERVATION PLAN**

A healthy Delta ecosystem and a reliable water supply are profoundly important to California's future....This proposal balances the concerns of those who live and work in the Delta, those who rely on it for water, and those who appreciate its beauty, fish, waterfowl, and wildlife.

Edmund Brown Jr.
Governor, State of California
July 25, 2012

As broken and outdated as California's water system is, we are also closer than ever to forging a lasting and sustainable solution that strengthens California's water security and restores the health of the Delta....Through our joint Federal-State partnership, and with science as our guide, we are taking a comprehensive approach to tackling California's water problems when it comes to increasing efficiency and improving conservation. With California's water system at constant risk of failure, nobody can afford the dangers or costs of inaction.

Ken Salazar, Secretary of the Interior
July 25, 2012

Our proposed changes to the BDCP reflect important improvements in shaping a comprehensive strategy to fix a broken system. Because this is a complicated issue and we do not have all the answers today, we will continue to evaluate and refine the proposal. We call upon the many participants throughout California to join us in staying focused on science-based solutions.

Dr. Jane Lubchenco
*Under Secretary of Commerce for
Oceans and Atmosphere and
NOAA Administrator*
July 25, 2012

to issue a draft Bay-Delta Conservation Plan and corresponding Environmental Impact Report and Environmental Impact Statement for public review in the spring of 2013.

Population growth, habitat loss, and ongoing threats to levee stability and water supply have harmed the California Bay-Delta, threatening the health and economies of California communities. The revised approach, captured in the revised Bay-Delta Conservation Plan and EIS, is grounded in science, designed to help restore fish populations, protect water quality, and improve the reliability of water supplies for all water users who receive deliveries from State and Federal projects. It improves on key aspects of previous proposals and offers a strong governance model, financing options, a scientific review process, and a conservation strategy that includes a new water conveyance facility to move water and help restore the health of the ecosystem. The Conservation Plan is coordinated by six Federal agencies and calls for the restoration of tens of thousands of acres of marshes, wetlands, and habitat, and the construction of a new water conveyance system to move water from north of the California Bay-Delta to water users in the Central Valley and the southern part of the State.

Between 2009 and 2013, Interior has invested nearly \$800 million in major water projects in the region, including construction of the Delta-Mendota Canal/California Aqueduct Intertie to relieve conveyance limitations, allow for maintenance and repair activities, and provide the flexibility to respond to Central Valley Project and State Water Project emergency water operations. Other recent accomplishments include the Red Bluff Diversion Facility; Contra Costa fish screens; a large number of water reuse and water conservation projects; feasibility studies, reports, and environmental documentation for potential storage projects; and seismic safety

improvements at Folsom Dam. The 2014 budget for Reclamation includes \$153.7 million for California Bay-Delta, an increase of \$23.6 million from the 2013 Full Year Continuing Resolution, primarily for implementation of the San Luis drainage management plan. The budget also includes \$10.6 million for USGS and \$4.9 million for FWS.

Reclamation is proposing \$37.0 million in the 2014 budget for its California Bay-Delta Restoration account, \$2.9 million below the 2013 Full Year Continuing Resolution. The funds will support implementation of the Bay-Delta Conservation Plan as modified by the Interim Federal Plan. This account focuses on the health of the Bay-Delta ecosystem and improving water management and supplies.

San Joaquin River Restoration Program—Beginning in late 2009, the Department reinstated flows in a 330-mile stretch of California's San Joaquin River, much of which had been dry for over 60 years. The 2014 budget supports the settlement of *Natural Resources Defense Council v. Rodgers*. The Settlement included a provision to establish the San Joaquin River Restoration Fund to implement the two primary goals of the Settlement, which are to restore and maintain fish populations and to avoid adverse water impacts. Reclamation is proposing \$26.0 million in current funding in 2014 for this effort. The increase for San Joaquin River Restoration program implementation will ensure that significant progress will occur on several key settlement requirements: 1) construction work on the Arroyo Canal fish screen and Sack Dam fish passage high priority infrastructure projects; 2) flow and seepage management projects necessary to mitigate damage and potential liability; 3) the Friant-Kern Canal capacity restoration project; and 4) the Mendota Pool Bypass and Reach 2B Channel and structural improvements project, a key component of the San Joaquin River Restoration program and America's Great Outdoors.

RIVER RESTORATION PROJECT

In February 2013, the Bureau of Reclamation awarded a \$3.6 million construction contract for the Battle Creek salmon and steelhead restoration project for the construction of a fish barrier and weir that will allow a constant five cubic-feet-per-second of minimum flow in Baldwin Creek, downstream of the Darrah Springs State Trout Hatchery.

The key to success on such a complex issue as this restoration project is collaboration and cooperation at all levels....Reclamation has worked diligently with local and national stakeholders and agencies to find ways to improve native fish habitat. This project will do that.

*Michael Connor, Commissioner
Bureau of Reclamation
February 7, 2013*

The five cubic-feet-per-second will provide the necessary flows for suitable salmon and steelhead habitat in the Creek, while the barrier weir is to protect the Hatchery from various pathogens that could be transmitted from infected anadromous fish. Construction is planned to be completed by year-end.

The restoration project will increase threatened and endangered Chinook salmon and Central Valley steelhead trout populations by restoring nearly 42 miles of habitat in Battle Creek and six miles of habitat in its tributaries, while maintaining renewable energy production at the Battle Creek Hydroelectric Project.

