

RECLAMATION

Managing Water in the West

Reclamation Programs to Support Efficient Use of Water and Planning for the Impacts of Climate Change on our Water Supply

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SECURE Water Act

Science and Engineering to Comprehensively Understand and Responsibly Enhance

- The SECURE Water Act authorizes federal water and science agencies to work together with state and local water managers to:
 - Plan for climate change and the other threats to our water supplies; and
 - Take action to secure our water resources for the communities, economies, and the ecosystems they support
- The SECURE Water Act is implemented through the WaterSMART Program



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WaterSMART Program:

Secure and Manage America's Resources for Tomorrow

- Established by Secretarial Order 3297, February 2010 to:
 - Establish a framework to provide federal leadership and assistance on the efficient use of water
 - Integrate water and energy policies to support the sustainable use of all natural resources
 - Coordinate the water conservation activities of the various Interior offices
- Important to Reclamation's implementation of the SECURE Water Act (P.L. 111-11, Title IX, Subtitle F)

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Reclamation Components of WaterSMART

- WaterSMART Grants
- Basin Study Program
 - Landscape Conservation Cooperatives
 - West-Wide Climate Risk Assessments
 - Basin Studies
- Title XVI Water Re-use
- Cooperative Watershed Management Program



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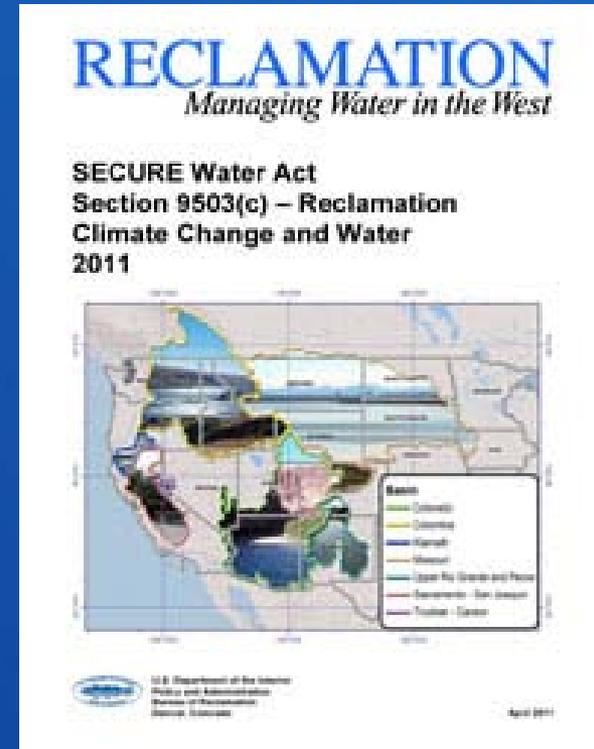
Basin Study Program

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Basin Study Program

SECURE Water Act Section 9503

- Directs the Secretary to establish a climate change adaptation program to:
 - *Assess risks* to water supply
 - *Analyze the impacts* of changes in water supply on a variety of demands
 - *Develop mitigation strategies* in consultation with non-Federal participants



Basin Study Program

DOI Climate Change Adaptation Policy

- To effectively and efficiently *adapt to the challenges posed by climate change* on the Department's mission, programs, operations and personnel
- Using *best available science* to
 - *Increase understanding* of climate change impacts
 - Inform *decision-making*
 - Coordinate an *appropriate response* to impacts on land, water, wildlife, cultural and tribal resources, and other assets
- Consistent with
 - E.O. 13514, Federal Leadership in Environmental, Energy, and Economic Performance (October 5, 2009)
 - CEQ's Federal Agency Climate Change Adaptation Planning: Implementing Instructions (March 4, 2011)



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Basin Study Program Activities

- West-Wide Climate Risk Assessments (WWCRA)
 - Apply a **consistent approach** throughout the west to assess impacts of climate change to water supplies, demands and operational risks
 - Key baseline assessments leading towards more in-depth analyses performed through future Basin Studies
- Basin Studies
 - Reclamation works on a cost-shared basis with **state and local partners** to develop potential **adaptation strategies** to meet future demands in light of imbalances in supply & demand
- Landscape Conservation Cooperatives
 - Partnerships to **develop applied science tools** to help resource managers address landscape-scale threats.
 - Provides a forum to share information developed through the Basin Study Program and to benefit from complementary activities by other agencies

Basin Study Program: West Wide Climate Risk Assessments (WWCRAs):

- Reconnaissance-level baseline assessments that can be used to support future basin Studies.
- WWCRAs help Reclamation *implement § 9503* of the SECURE Water Act
- Supports *periodic Report to Congress* as required under § 9503 of the SECURE Water Act
- *Assess specific risks* to the water supply of each major Reclamation river basin
 - Change in snowpack
 - Timing and quantity of runoff
 - Changes in groundwater recharge and discharge
 - Any increase in
 - Demand for water as a result of increasing temperatures
 - Rate of reservoir evaporation

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The West Wide Climate Risk Assessment in New Mexico

- The Upper Rio Grande is the first basin for which Reclamation has completed a WWCRA Impacts Assessment.
- The Upper Rio Grande WWCRA Impacts Assessment develops projections of hydrologic impacts of climate change in the Rio Grande Basin in Colorado and New Mexico.
- Report expected to be released late summer or early fall.



Basin Study Program: Basin Studies

- Require the following four elements:
 - **State-of-the-art projections** of future supply and demand by river basin, including the impacts of climate change and building on the information developed through the WWCRAAs
 - Analysis of **how the basin's existing water and power operations and infrastructure will perform** in response to the projections of future water supplies and demands
 - Development **of options to improve operations and infrastructure** to supply adequate water in the future
 - **Trade-off analysis** of the options identified, findings, and recommendations as appropriate

Funded Basin Studies

19 Basin Studies funded since 2009

2009

- Colorado River Basin
- Milk/St. Mary Rivers Basin
- Yakima River Basin

2010

- Niobrara River Basin
- Truckee River Basin
- Santa Ana River Basin
- Henrys Fork of Snake River
- S.E. California Regional Basin

2011

- Lower Rio Grande River Basin
- Santa Fe Basin
- Klamath River Basin
- Hood River Basin

2012

- Upper Washita River Basin
- Sacramento-San Joaquin Rivers
- Republican River Basin
- Pecos River Basin
- L.A. Basin

2013 (newly funded, not on map)

- San Diego Watershed
- West Salt River Valley



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Basin Studies in New Mexico

- FY-2011: **Santa Fe Basin Study**: Evaluate impacts to Santa Fe City and County water supply and potential mitigation strategies.
- FY-2012: **Pecos Basin Study**: Develop tools to better understand surface-water/groundwater interaction in the Pecos Basin, particularly in light of projected hydrologic changes.

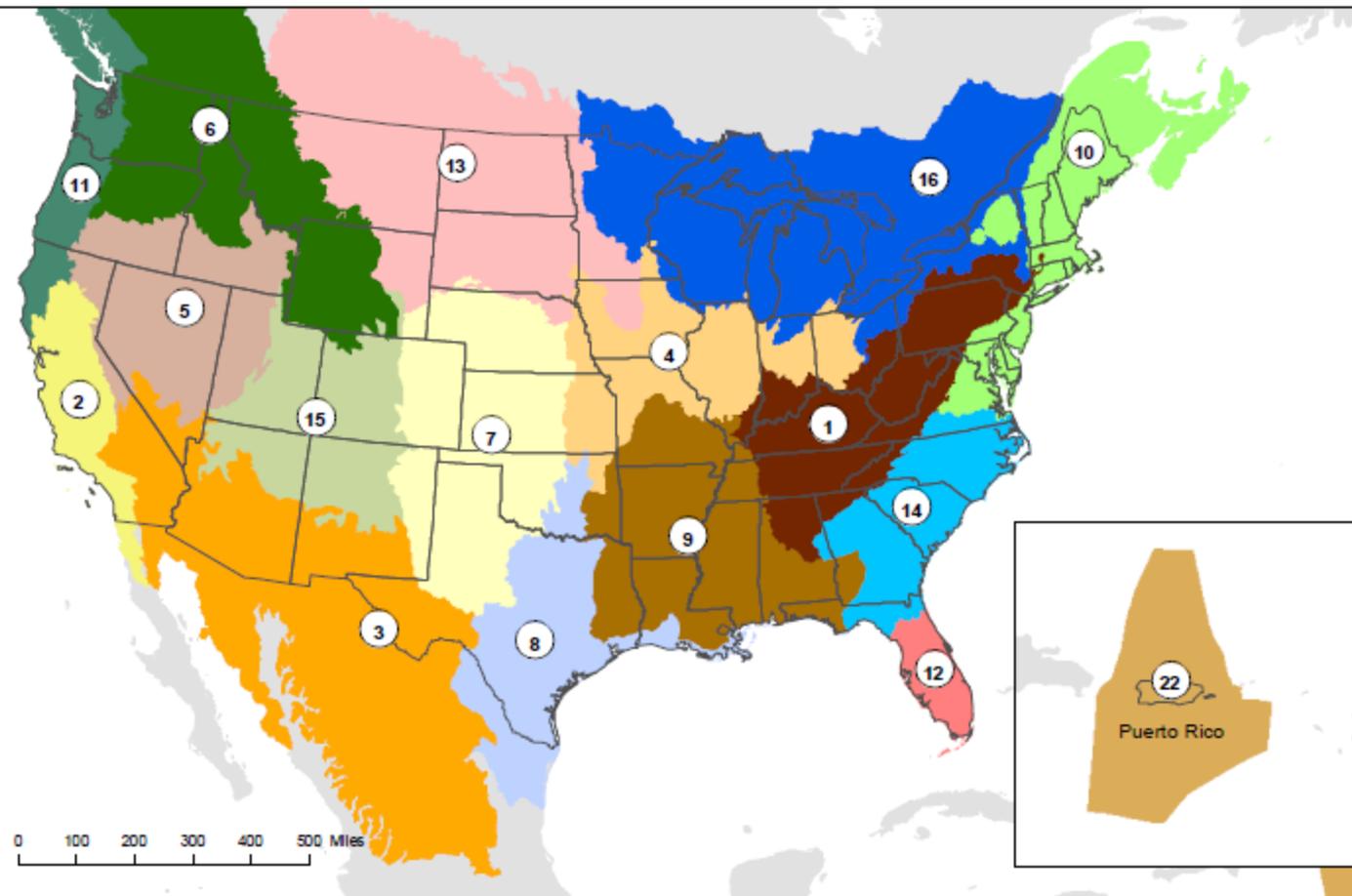
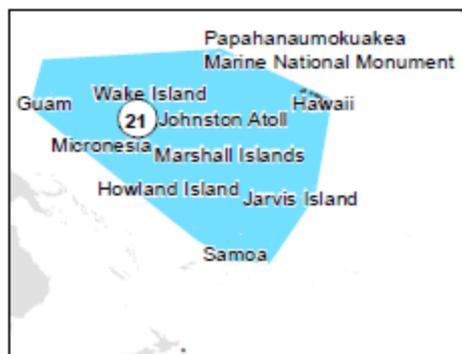
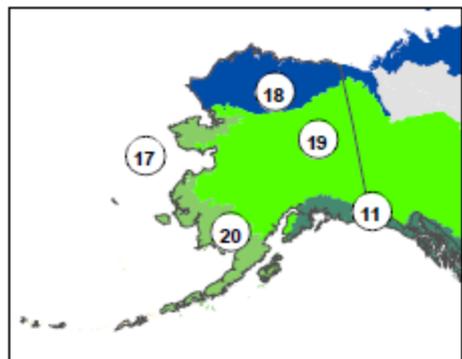
Basin Study Program:

Landscape Conservation Cooperatives

- *Grants for conservation & resource management* efforts at the landscape level
- In 2010, the Department developed a plan for a *coordinated, science-based response* to climate change impacts on our land, water, and wildlife resources.
- LCCs are the applied science branch of this strategy
 - Each LCC will function in a specific geographic area, and will form a national and possibly an international network.
- Reclamation co-leads 2 LCCs with FWS that encompass the Colorado River Basin
 - *Desert LCC* and *Southern Rockies LCC*

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Landscape Conservation Cooperatives



Landscape Conservation Cooperatives

- | | | | |
|---|-----------------------------------|-------------------------------------|----------------------------------|
| 1. Appalachian | 7. Great Plains | 13. Plains and Prairie Potholes | 19. Northwestern Interior Forest |
| 2. California | 8. Gulf Coast Prairie | 14. South Atlantic | 20. Western Alaska |
| 3. Desert | 9. Gulf Coastal Plains and Ozarks | 15. Southern Rockies | 21. Pacific Islands |
| 4. Eastern Tallgrass Prairie and Big Rivers | 10. North Atlantic | 16. Upper Midwest and Great Lakes | 22. Caribbean |
| 5. Great Basin | 11. North Pacific | 17. Aleutian and Bering Sea Islands | Unclassified |
| 6. Great Northern | 12. Peninsular Florida | 18. Arctic | |

WaterSMART Grants

- **Implements Section 9504 of the SECURE Water Act**
- **Requires a minimum of 50% non-Federal cost-share contribution**
- **Selected through a competitive process**
- **Generally must be completed within two to three years from funding date**
- **The majority of WaterSMART Grants are Water and Energy Efficiency Grants**

Water and Energy Efficiency Grants

- **Types of projects funded:**
 - Install water service meters in areas where actual water is currently difficult to measure accurately
 - Install soil moisture sensors
 - Install new proven lining materials or technology
 - Convert open canals to pipeline
 - Implement landscape rebate programs – (i.e. turf replacement)
 - Construct wind and/or solar power generation systems



New Mexico Water and Energy Efficiency Grants

- **FY-2011: Arch Hurley Conservancy District**, Tucumcari, Sodium Bentonite Application to Prevent Water Loss in High Seepage Areas within the Water Delivery System of the Arch Hurley Conservancy District
 - Reclamation funding: \$51,000
 - Total Project Cost: \$122,713
- **FY-2012: Carlsbad Irrigation District**: Improved Water Measurement and Accounting for Carlsbad Irrigation District.
 - Reclamation funding \$153,799
 - Total Project Cost: \$446,338

**Title XVI - Water
Reclamation & Reuse
Program**

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Title XVI Water Reclamation & Reuse

- Title XVI of P.L. 102-575 directed the Secretary of the Interior (through Reclamation) to establish a program to identify and investigate opportunities to **reclaim and reuse wastewater and naturally impaired ground and surface water** in the 17 Western United States and Hawaii
- For the purposes of the Title XVI program, a water reuse project reclaims and reuses municipal, industrial, domestic, or agricultural wastewater or naturally impaired groundwater and/or surface waters
- Reclamation makes **cost-shared funding available for planning, design, and construction** of specific water recycling projects

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Title XVI in New Mexico

- This year, the Albuquerque Bernalillo County Water Utility Authority was selected for \$1.89 million in Title XVI Program funding to expand the treatment system at the Southside Water Reclamation Plant, bringing total federal funding for the project to \$20 million.



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Cooperative Watershed Management Program

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Cooperative Watershed Management Program

The Cooperative Watershed Management Program (CWMP) contributes to the WaterSMART strategy by providing funding to watershed groups to encourage diverse stakeholders to form local solutions to address their water management needs. The purpose of the CWMP is to improve water quality and ecological resilience, conserve water, and reduce conflicts over water through collaborative conservation efforts in the management of local watersheds.

- Currently Reclamation provides funding to establish a new watershed group or expand an existing watershed group. (*No non-Federal Cost share required*)

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Thanks for your attention



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