

# RECLAMATION

*Managing Water in the West*



Crow Tribal Water Allocation



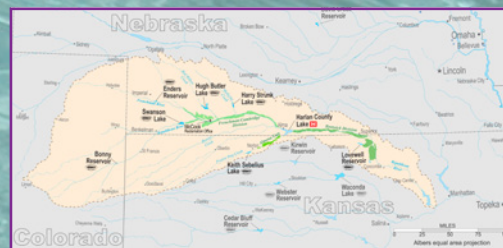
NAWS Record of Decision



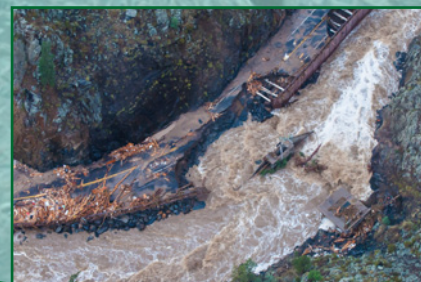
Youth Conservation Corps at Shadehill



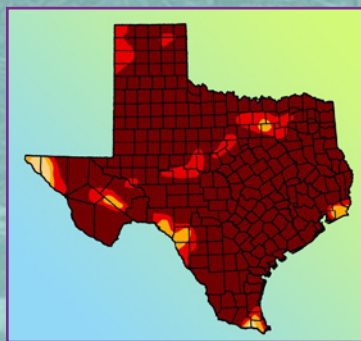
Glendo Safety Improved



Republican River Basin



Dille Dam Flood Damage Repair



Drought Planning



Altus Dam modification to begin



Glen Elder Coatings Refinished

*Accomplishments and Challenges  
for the Great Plains Region*



## From the Desk of Regional Director Mike Ryan:

The Great Plains Region comprises more than half of the area served by Reclamation and holds a larger number of projects, although often smaller, than other regions. That does not make the impact that we have on the communities and states we serve less important.

During the last year we have completed milestones toward serving high quality drinking water to communities in North Dakota and Colorado, increased reliability and safety of a major storage facility in Wyoming, and planned for future drought and water needs in Oklahoma and Texas. The challenges of endangered species compliance, an aging infrastructure, completion of Rural Water projects, and fulfilling Tribal obligations are being met through cooperative efforts led by our employees. However, these tasks are no more important than the day-to-day operation of dams, canals, pumping plants, power generation and other facilities that are the core of the Great Plains Region.

This publication is designed to give an overview of the many facets of our effort to serve the American West. We can't possibly cover everything, but we can give you an idea of the many aspects of our work that enable us accomplish our primary mission: delivering water and generating power for the American public.



A handwritten signature in blue ink, which appears to read "Michael J. Ryan". The signature is fluid and stylized, with a long horizontal line extending to the right.

Michael J. Ryan, PE,  
Great Plains Regional Director





## Significant Milestones:

**Windy Gap:** The Windy Gap Firming Project is an exceptional example of the federal government working with our partners to get big things done. 2016 represents the first year of implementing a more collaborative approach to water operations.

**Northwest Area Water Supply:** Reclamation continues to work to resolve litigation affecting the project designed to deliver a bulk water supply to meet municipal and rural water needs of people in northwestern North Dakota. The project was authorized because existing water supplies are not of sufficient quality or quantity to reliably meet current needs or projected growth.

**Wildfire fuel reduction:** The Glacier Creek to Mill Creek Fuel Reduction in Colorado is a project of federal, state and local entities. Reclamation is providing \$84,500 toward the partnership to reduce fuel loads and help prevent wildfires while improving watershed health on 210 acres in Rocky Mountain National Park in the headwaters of the Colorado-Big Thompson Project.

**WaterSMART:** Since 2009, Reclamation has provided more than \$174 million in funding through WaterSMART Grants to states, Tribes and other partners. The grants are being leveraged with more than \$426 million in non-federal funding to complete more than \$600 million in improvements, which are

expected to result in annual water savings of more than 570,000 acre-feet once completed, enough water for more than 2.2 million people. This year's Water and Energy Efficiency Grants are expected to be announced in June.



Fishermen below Yellowtail Afterbay Dam at power plant location.

**Crow Tribal Hydropower Development:** The Claims Resolution Act of 2010 (Act) gives the Crow Tribe (Tribe) the exclusive right to Develop hydropower at Yellowtail Afterbay Dam and authorizes \$20,000,000 for energy development projects on the Reservation. Appraisal studies completed by the Tribe's consultant estimate the Yellowtail Afterbay Dam hydropower project will cost approximately \$40,000,000. The Tribe and Reclamation executed an agreement to move forward with the project on March 26, 2015, and Reclamation will provide technical assistance to ensure safety and reliability with the existing Yellowtail Afterbay Dam.

## Challenges in the Nine Great Plains States:

**Republican River Compact:** Reclamation will continue to work with Nebraska, Kansas and Colorado to comply with the Compact and make beneficial use of the water in the basin. Collaboration is needed to progress toward a long-term solution.

**Rural Water Project Construction:** Four projects in the Great Plains Region have significant balances of unfunded federal construction cost: Fort Peck/ Dry Prairie, Garrison Diversion, Lewis and Clark and Rocky Boys / North Central. These four projects have a federal appropriated construction cost of \$1,480,329,000 through the end of the last fiscal year. \$851,758,000 in federal expenditure remains to complete them.

Reclamation prioritizes rural water funding to meet two goals: complete high priority rural water projects that meet the most urgent water supply needs in a timely manner, and give priority to rural water projects addressing tribal water supply needs.

**Operation, Maintenance and Rehabilitation of Reserved Works:** Great Plains continues to build support with power customers for up-front funding

of maintenance projects at power plants such as Mt. Elbert and Yellowtail. FY16 power customer funding is \$29,573,000.

**Ongoing Endangered Species Act Obligations:** Continued support of the Platte River Recovery Implementation Program and the shared vision for creating and maintaining habitats on the Platte in Colorado, Wyoming, and Nebraska. Coordination with the Corps of Engineers, the Fish and Wildlife Service, the Solicitor's Office, and the Department of Justice in response to a lawsuit alleging violations of the ESA in operation of Fort Peck Dam and Reclamation's Intake Diversion Dam on the lower Yellowstone River in Montana.

**Staffing issues:** Workforce attrition due to retirements and competition with private sector wages (such as in Bakken area of North Dakota) impacts staffing of mission critical activities. Reclamation continues to increase our response to the Employee Viewpoint Survey results as a tool in improving employee engagement and retention.





## Dakotas Area

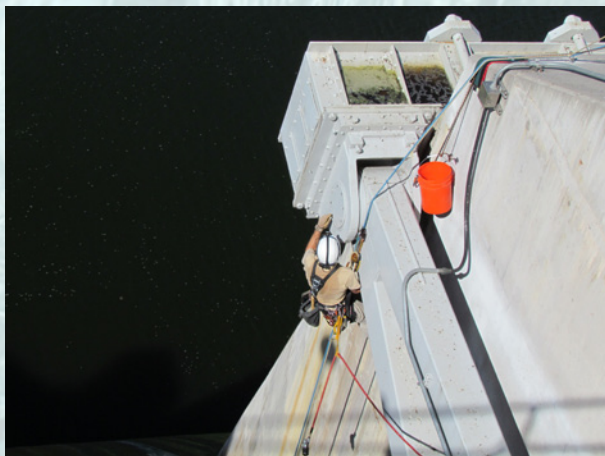
💧 The **Northwest Area Water Supply** would deliver Missouri River water to communities in North Dakota. The Final Supplemental Environmental Impact Statement Record of Decision was signed on August 21, 2015. This culminated a multi-year effort after a 2010 District Court ruling. A motion for summary judgement is being coordinated with the Department of Justice and scheduled for June..

💧 Continued **Rural Water Construction** in FY 2016, providing \$24.8 million in North Dakota and \$ 9.54 million in South Dakota to construct new water systems. Systems in North Dakota are serving 285,000 people and systems in South Dakota are serving 352,000 people.

💧 In support of **President Obama's Youth Initiative DKAO** provided work experience opportunities at Shadehill, Dickinson, Keyhole, Belle Fourche, and Buford-Trenton projects performing fencing and maintenance.



Youth Conservation Corps fencing at Shadehill Reservoir.



Inspecting gate trunnion at Angostura Dam.

💧 **Work on Aging Infrastructure:** Reclamation provided technical assistance and oversight to the Belle Fourche Irrigation District for the removal and replacement of the North and South Gate Control Houses including: all new mechanical equipment, electrical equipment, power service, and safety equipment.

💧 Water was provided to irrigate 25,770 acres in ND and 87,800 acres in SD in 2015.

## Eastern Colorado Area



Pueblo Dam releasing 6500 CFS during June 2015 runoff.

### Fryingpan-Arkansas Project:

💧 Reclamation completed a project scope, schedule, and cost estimates for rehabilitation of the **Mt. Elbert Power Plant**. This information was submitted to power customers with a request for additional up-front funding.

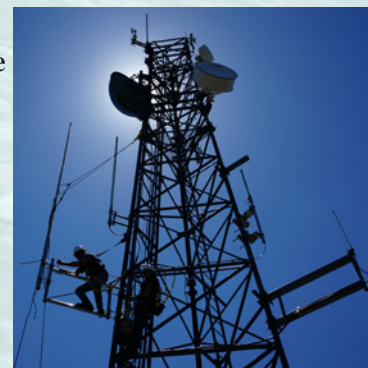
💧 **Southern Delivery System** Phase I construction was completed on time, \$160 million under budget by Colorado Springs Utilities and went into commercial production on April 28, delivering potable water from Pueblo Reservoir to Colorado Springs.

💧 Feasibility level engineering designs and updated cost estimates the **Arkansas Valley Conduit** will be completed in September 2016.

### Colorado-Big Thompson Project:

💧 Reclamation signed a memorandum of understanding (MOU) with Northern Colorado Water Conservancy District, Grand County Board of Commissioners, Colorado River Water Conservation District, and Northwest Colorado Council of Governments. The MOU establishes an adaptive management process to improve clarity in Grand Lake, while generating power and delivering water from the west slope to the east slope of the Rocky Mountains, to be implemented this summer.

💧 Repairs to the **Dille Diversion** will be completed in time for spring runoff. This completes repairs to infrastructure damaged by the 2013 Big Thompson flood.



New antenna for Olympus Dam.





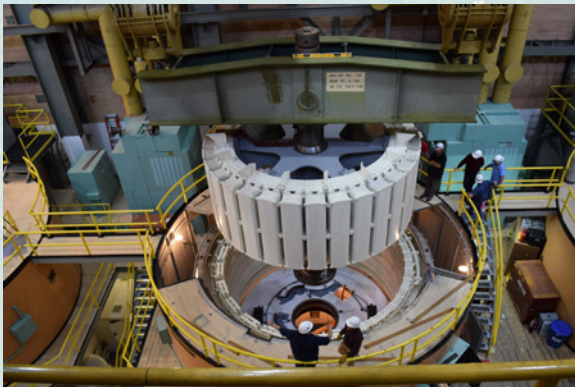
## Montana Area

Implementation of the **Crow Tribe Water Rights Settlement** included Reclamation and the Tribe working cooperatively on early stages of designs and investigations for hydropower development at Yellowtail Afterbay Dam. A major milestone was reached with the signing of a water storage and allocation agreement on March 30th of this year.

**Threatened and endangered species** continue to be a concern with Bull Trout at the St. Mary Unit of the Milk River Project and Pallid Sturgeon on Lower Yellowstone Irrigation Project. The estimated cost to replace the St. Mary diversion dam and provide fish screens is \$40 million. For the Lower Yellowstone, a Draft EIS is being prepared jointly with the Corps of Engineers to evaluate passage alternatives at the Intake Diversion Dam.

Response to **climate change** is being explored through a National Drought Resiliency Demonstration Pilot Project in the Missouri River Headwaters Basin. This demonstration project responds to the President's March 21, 2016 Memorandum on Drought Resilience.

**Rural water construction** continues in FY 2016 with Fort Peck/Dry Prairie receiving \$16.1 million and Rocky Boys/North Central receiving \$13.1 million.



Reassembling Yellowtail Power Plant Unit 3.

Completed the rewind of Unit 3 at **Yellowtail Power Plant**, part of a \$50 million project to upgrade Yellowtail generation.

An \$8 million modernization project for the **Goose Bay Marina** at Canyon Ferry Reservoir was completed and a new concessions contract was awarded in April 2016 to Canyon Enterprises of Bozeman.

## Nebraska-Kansas Area

In November 2015, the **Republican River Compact Administration** adopted a resolution, similar to the 2015 agreement, that extended the temporary approval of Nebraska's augmentation projects through 2016. The 2016 operations agreement reached by the States and Reclamation provide better certainty and more reliable water supplies for the surface water users in the basin.



Harlan County Dam.

19 Tainter gates at **Harlan County Dam**, constructed by the Army Corps of Engineers, are undergoing extraordinary maintenance work which is scheduled for completion in 2018 at an estimated cost of approximately \$41 million. Bostwick Division irrigators are responsible for repayment of 15.37% or just under \$6 million.

In March 2016, Reclamation released the **Republican River Basin Study**, which identifies adaptation strategies that address water management challenges in the basin. The study included an area of 2.7 million acres of irrigated agriculture served primarily by ground water supply and it represents an extensive collaborative effort among the states of Colorado, Kansas, and Nebraska.

A Health and Safety Report for the **Medicine Creek Concessionaire and Trailer Area** was completed in January 2016 identifying more than 1,165 non-compliance items in the areas of electrical, water, sewer and fire safety. Our managing partner, Nebraska Game and Parks Commission will be working with the Concessionaire and 54 trailer owners to come into compliance with local, state, and federal health and safety requirements.

A \$600,000 contract to repair coatings on Glen Elder Dam spillway gates, hoisting equipment, and outlet works was completed in April 2016.





## Oklahoma-Texas Area

Conservation storage at Reclamation's projects in Oklahoma has remained at or near 100% since June of 2015, except for Foss Reservoir which is at 80% of storage capacity. Conservation storage at Reclamation's three Texas Projects currently ranges from 9% at Twin Buttes Reservoir to 33% at Choke Canyon Reservoir.

Although much of the Oklahoma-Texas Area received an abundance of rainfall in recent months, planning activities for the next drought continue. Reclamation has been coordinating with several entities in Oklahoma and Texas on the completion of contingency plans and projects that improve drought resiliency.

Reclamation's **Basin Studies** Program is partnering with the Oklahoma Water Resources Board and local irrigation and municipal water districts in southwest Oklahoma on two basin-wide planning studies that assess long-term water supplies and demands, identify risks and vulnerabilities to supplies, and evaluate adaptation and mitigation strategies to improve long-term resiliency of Reclamation's reservoirs. Both studies are expected to be complete in 2018.

Reclamation will award a contract for dam safety modifications to the **W.C. Austin Project** (Altus-Lugert Reservoir) in September, 2016. The modifications will include raising the dikes which surround the Reservoir, backfilling open drain trenches, and installing toe drain systems below two of the dikes. The modifications are expected to require 20 months to complete, and will be funded in accordance with the Dam Safety Act which requires 85% Federal funding and 15% from non-Federal sponsors (Lugert-Altus Irrigation District and the City of Altus).

Reclamation and the Oklahoma Tourism and Recreation Department have continued to partner on Americans with Disabilities Act compliant improvements at Lake Thunderbird, McGee Creek Reservoir, and Fort Cobb Reservoir.



Accessible courtesy dock at McGee Creek Reservoir.

## Wyoming Area

The **Glendo Safety of Dams Project** was substantially completed. Additions and alterations were designed to handle a new design flood of a 100,000 year return with flood peak inflow of 140,000 cfs.



Buffalo Bill.

**Power customer funded** maintenance was completed at three power plants. Buffalo Bill's tailrace and draft tube concrete was repaired, Glendo's fixed wheel gate was refurbished to extend working life and prevent the loss of water supply for power generation, and Fremont Canyon's water service piping was replaced to assure cooling water to the generators and for fire protection.



Glendo.



Fremont Canyon.

**Current statistics:** 3.1 million acre-feet of reservoir releases were made in FY 15 provided irrigation to 648,000 acres of land in Wyoming and Nebraska. Eleven hydropower plants produced a net generation of nearly 764,000 megawatt-hours, enough to supply the electricity to 70,000 households for one year. An estimated one million recreation visitors enjoyed WYAO reservoirs and lands in FY15 adding approximately \$1.6 million in revenue to local economies.

While Wyoming continues to be the least populated state in the union, the population is growing steadily. This is expected to lead to more demand for resources, such as water, power, and use of federal land, which may lead to increased demands on Reclamation facilities.





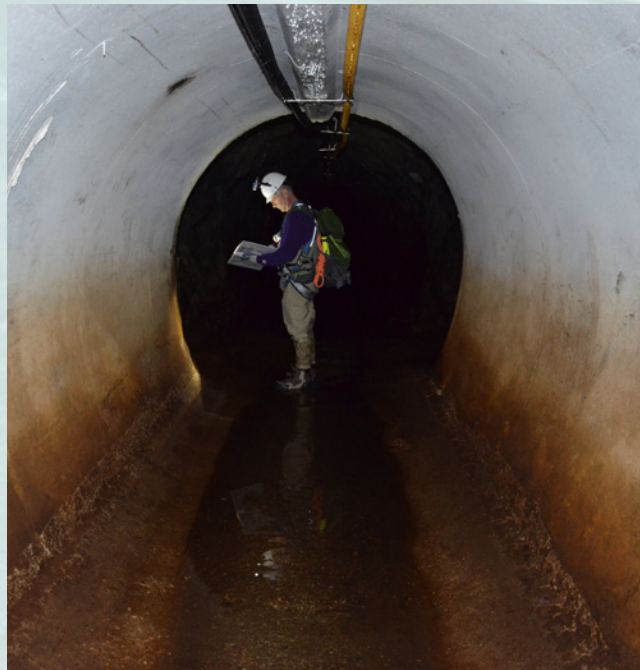
## About The Region

The Great Plains Region is vast. It includes 856,000 square miles - more than half the area Reclamation serves. It covers most of nine states and encompasses a wide range of ecosystems from alpine tundra to the gulf coast. Facilities in the region face challenges unique to their location and demands on their operation. Because of geographical diversity, the region is typically impacted by drought and flooding at the same time.



Veliger (invasive mussel) sampling at Tiber Reservoir, Montana.

Many of the first projects built by Reclamation are in what is now the Great Plains Region. These early projects are often called “single purpose” because their primary function was to store water for irrigation. Flood control, hydro-power, recreation, fish and wildlife enhancement and municipal water evolved as the West was settled and demands on water supplies grew.



Cunningham Tunnel inspection in Colorado.

In the Great Plains Region there are 80 Reclamation reservoirs with a total capacity of 22.9 million acre-feet of water. Reclamation’s assets, including canals, power and pumping facilities, dams and support buildings, have a current value of about \$20 billion.

## Great Plains Region Provides:



**Irrigates more than 2 million acres.**



**Has avoided over \$4.4 billion in flood damages.**



**Generates power for more than 173,000 homes.**



**Provides drinking water to more than 3 million people.**



**Has 18 recreation areas and 14 million visitors annually.**



**Provides fish and wildlife habitat in nine states.**





## Reclamation and the Great Plains Region

As a Department of the Interior agency, the Bureau of Reclamation oversees hundreds of dams, reservoirs and other water projects that Reclamation built during the 20th century to “reclaim” the West. These dams, power plants and canals are managed to balance economic and environmental priorities.

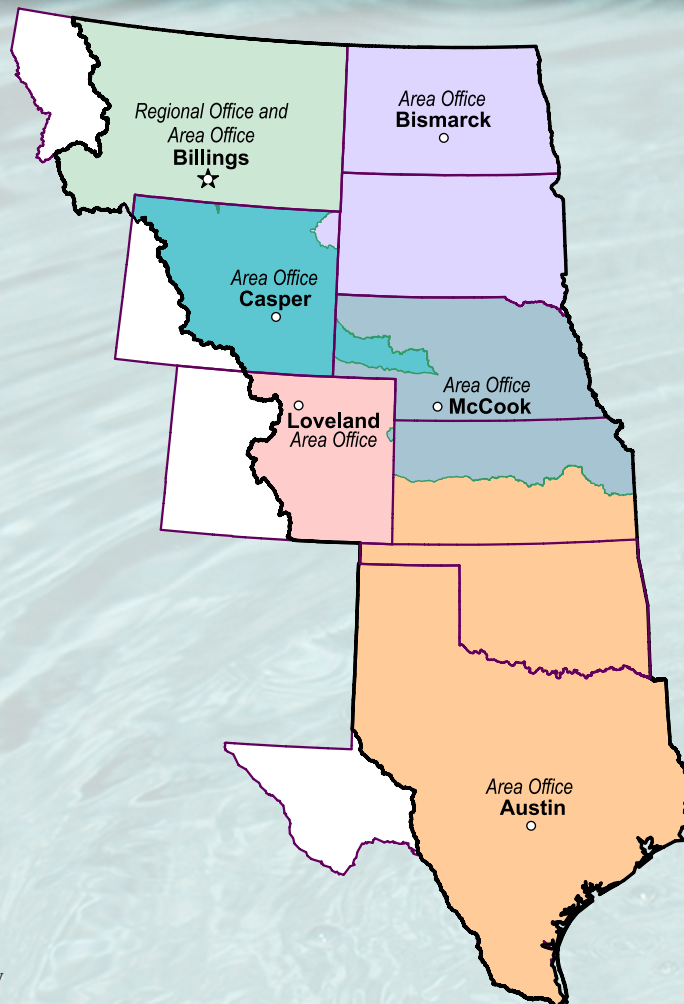
The 17 Western Reclamation States\* are divided administratively into five regions based primarily upon river basins. The Great Plains Region is the largest and most ecologically diverse of the five regions and covers all or part of nine of the 17 states east of the Continental Divide extending from the Canadian border adjoining Montana and North Dakota, to the southern tip of Texas.

\*16 Western states were originally named to be served by Reclamation. Texas was added in 1906.

## Regional Organization and Contacts

The Great Plains Region is managed from the regional office in Billings, Montana, and six area offices located across nine states.

The Regional Director in Billings is assisted in managing the region by two Deputy Regional Directors and six area managers.



### Great Plains Areas

- Montana
- Dakotas
- Wyoming
- Eastern Colorado
- Nebraska-Kansas
- Oklahoma-Texas

### Contact Information

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