

Science and Technology Program FY 2015 Awards

This factsheet provides an overview of the categories of projects funded under the FY 2015 Science and Technology Program. Attachment 1 provides a line-by-line listing of the projects funded with the award amount and project lead. You may visit www.usbr.gov/research or contact the project lead for additional information about that specific project. Reclamation phone numbers are available at www.usbr.gov/cgi-bin/phone.pl.

Advanced Water Treatment Research Projects

This research supports technologies and processes that will reduce the cost of desalination, reduce the environmental impact of desalination, and increase the usability of degraded and non-traditional water sources.

Climate Change and Variability Research Projects

This research is engaged in improving our ability to predict, and effectively adapt to the risks and impacts of climate change on western water resources. The priority of the S&T Program is to develop technical tools and science that can inform Reclamation and other Western water managers about the potential impacts of climate change, and continue to build tools that water managers can use to better adapt to short-term variations and long-term changes in climate.

Invasive Zebra and Quagga Mussel Research Projects

Invasive mussels, including quagga and zebra, have the potential to block water intakes, clog piping and adversely affect hydraulic equipment associated with municipal water supplies, powerplant systems, water delivery systems, and recreational facilities. With the initial infestation of quagga mussels in the West appearing on the Lower Colorado River in 2007 Reclamation's Science and Technology Program has given high priority to research efforts to improve monitoring and detection methods; identify, develop, demonstrate, and implement facilities protection technologies and strategies; and assess ecological impacts.

Renewable Energy and Energy Conservation Research Projects

The S&T Program will continue its research and development efforts to reduce operation and maintenance costs, reduce failures, and increase overall reliability and efficiency of Reclamation's extensive hydropower generation infrastructure. Small improvements in hydropower efficiency can provide a large return on the research investment in terms of total additional power generation and power revenues. The S&T Program also considers opportunities for non-hydropower renewable energy research and development, such as solar, wind, and geothermal development that can be facilitated by Reclamation and/or integrated into Reclamation operations.

Sustainable Water Infrastructure and Safety Research Projects

This research is focused on improving the reliability of Reclamation water storage and delivery facilities by producing or advancing effective solutions, tools, and practices that Reclamation facility managers use to maintain, modernize, and extend the life of Reclamation's aging infrastructure. Improvements and technological advances range from structural condition assessment and performance monitoring, to repair, maintenance, and public and employee safety.

Regional Director Research Projects

This research is directed at addressing science issues on the mind of Reclamation’s premier water managers—our five Regional Directors. Reclamation’s five Regional Directors were asked to identify issues that could benefit from research and development projects. A number of issues were submitted, and the Research and Development Office worked with others to develop research proposals and to pull together a team to plan research for each of the identified science issues.

Water Operations and Decision Support Research Projects

This research is focused on developing solutions and tools to help Reclamation water managers make effective reservoir and river system operational and planning decisions through better integration, evaluation, understanding, and presentation of critical data and information. Improvements and technological advances are pursued in managing hydrologic events, water supply forecasting, water operations models and decisions support systems, and water resource data analysis.

Environmental Issues in Water Delivery and Management Research Projects

This research seeks to improve the reliability of Reclamation water deliveries by producing effective solutions, tools, and practices that Reclamation water managers can use to prevent water conflicts with the environmental demands on water supplies. Improvements and technological advances are pursued in the following areas: fish passage and entrainments, ecosystem needs, aquatic and riparian invasive species, river and reservoir restoration, and sediment management.

Conserving and Expanding Water Supply Research Projects

This research strives to develop solutions and tools that enhance water supplies for Reclamation stakeholders with new technologies, solutions, and practices that expand, liberate, or conserve water supplies. Improvement and technological advances are pursued in the following areas: conjunctive groundwater storage and use, agriculture water efficiency, institutional approaches to water solutions, helping irrigation districts cope with change, reducing system water losses, and other conservation practices.

Table 1. FY 2015 Science and Technology Program Research Portfolio
Summary

Activity	Budget
Advanced Water Treatment	\$ 975,000
Climate Change and Variability	\$ 1,256,255
Invasive Zebra and Quagga Mussels	\$ 1,636,947
Renewable Energy and Energy Conservation	\$ 1,376,550
Sustainable Water Infrastructure and Safety	\$ 1,343,900
Regional Director Research Needs	\$ 691,434
Water Operations and Decision Support	\$ 685,980
Environmental Issues in Water Delivery and Management	\$ 956,550
Conserving and Expanding Water Supplies	\$ 322,500
Grand Total	\$ 9,245,116