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Incorporating Ecosystem Services into Decision-Making On Private Lands

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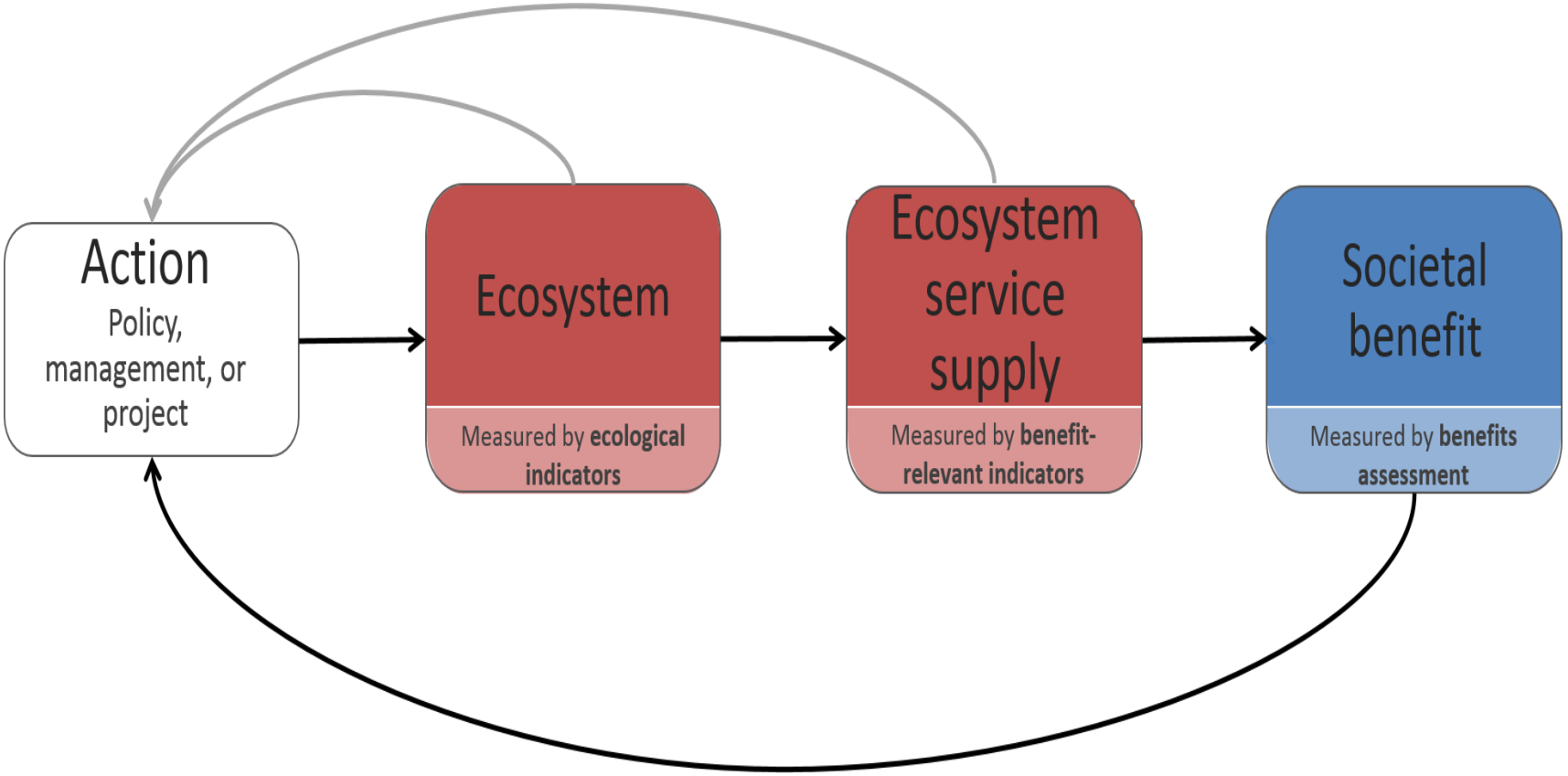
Since 2009, NRCS has:

- ✓ **Invested more than $29 billion to help producers make conservation improvements**
- ✓ **Worked with approximately 500,000 farmers, ranchers and landowners**
- ✓ **Addressed natural resource concerns on more than 400 million acres nationwide**

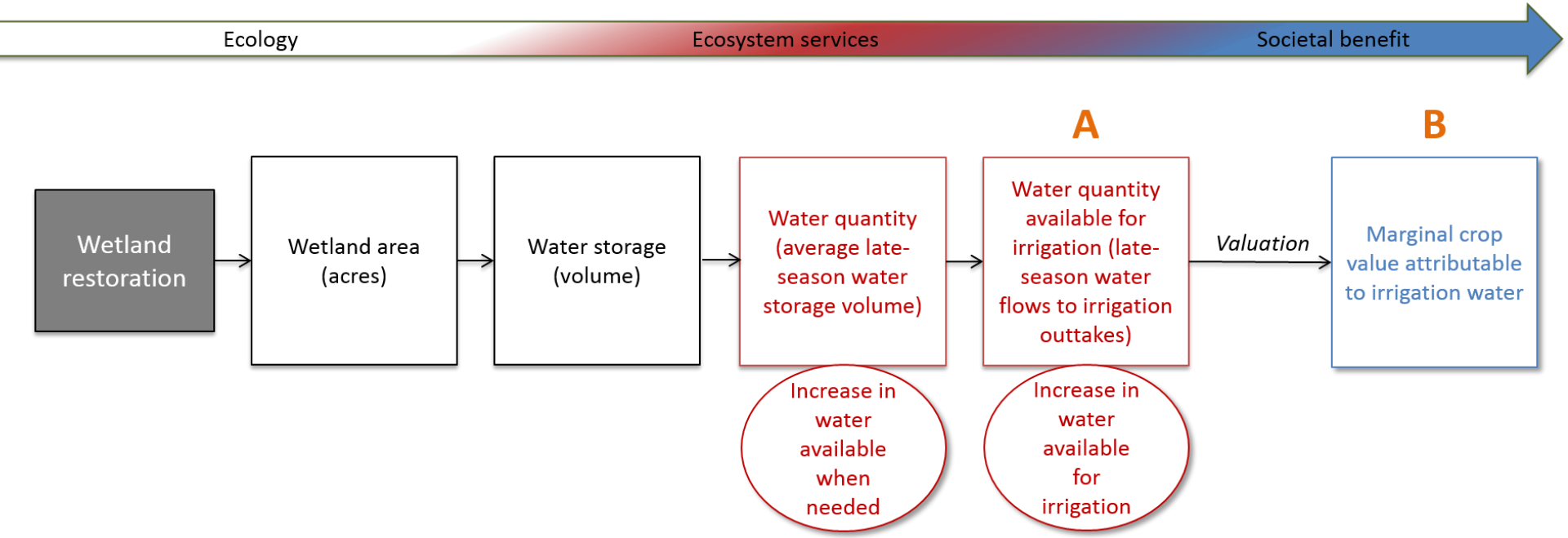
Ecosystem Services

Ecosystem Services Models



From National Ecosystem Services Partnership, Federal Resource Management And Ecosystem Services Guidebook

Ecosystem Services Models



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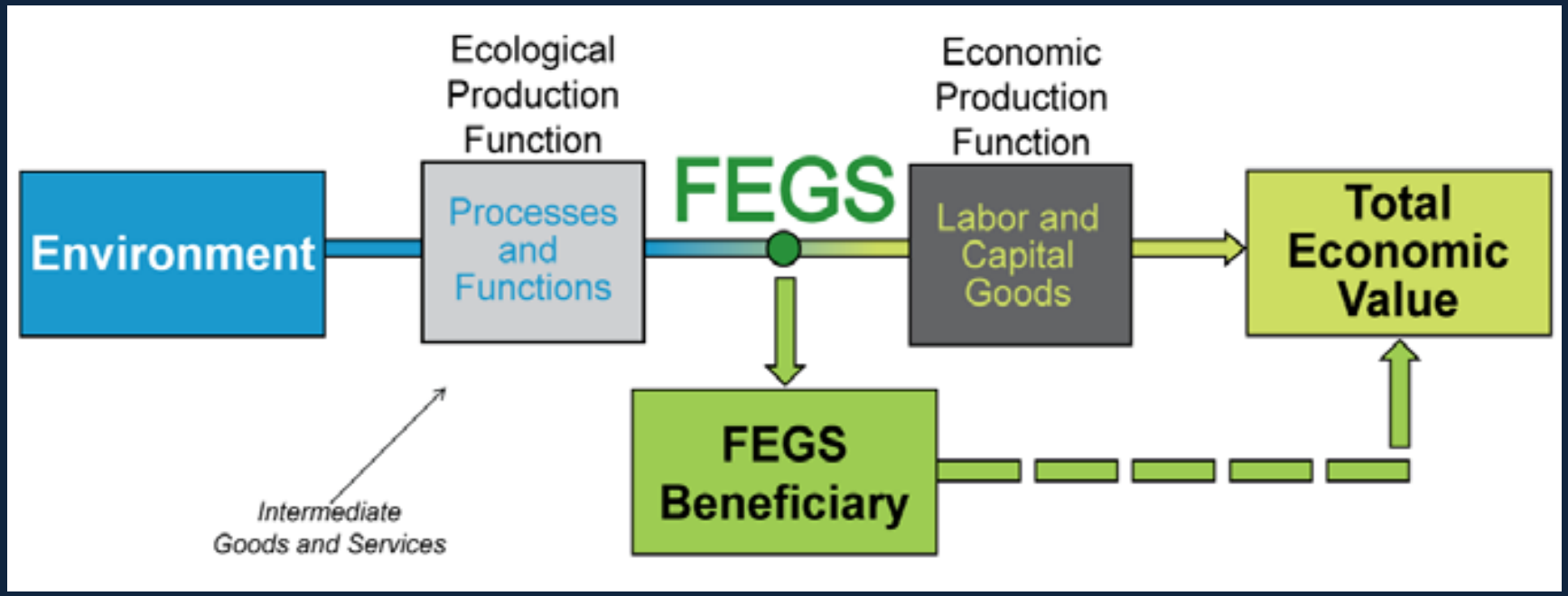
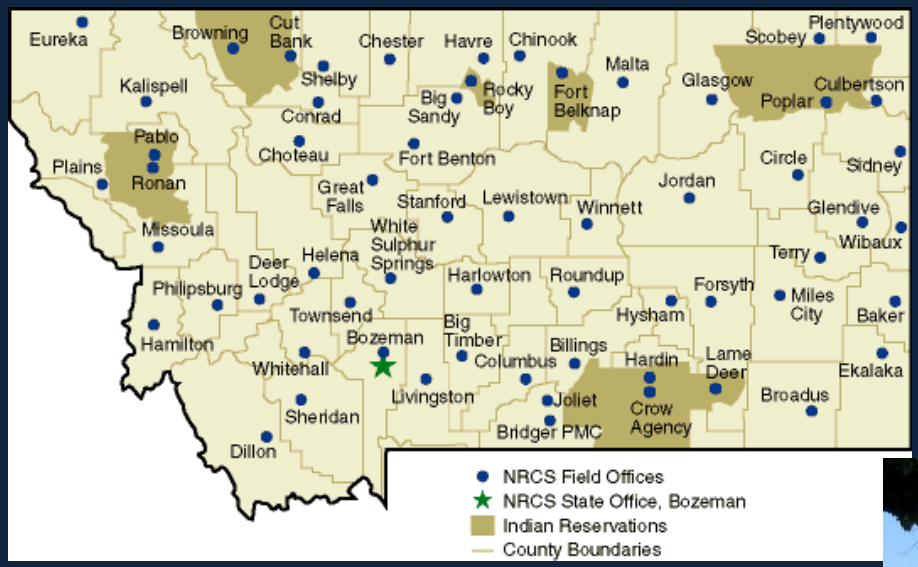
Ecosystem Services Models



From EPA's Final Ecosystem Goods and Services Classification System

How NRCS works around the country



NRCS in Montana

NRCS in D.C.

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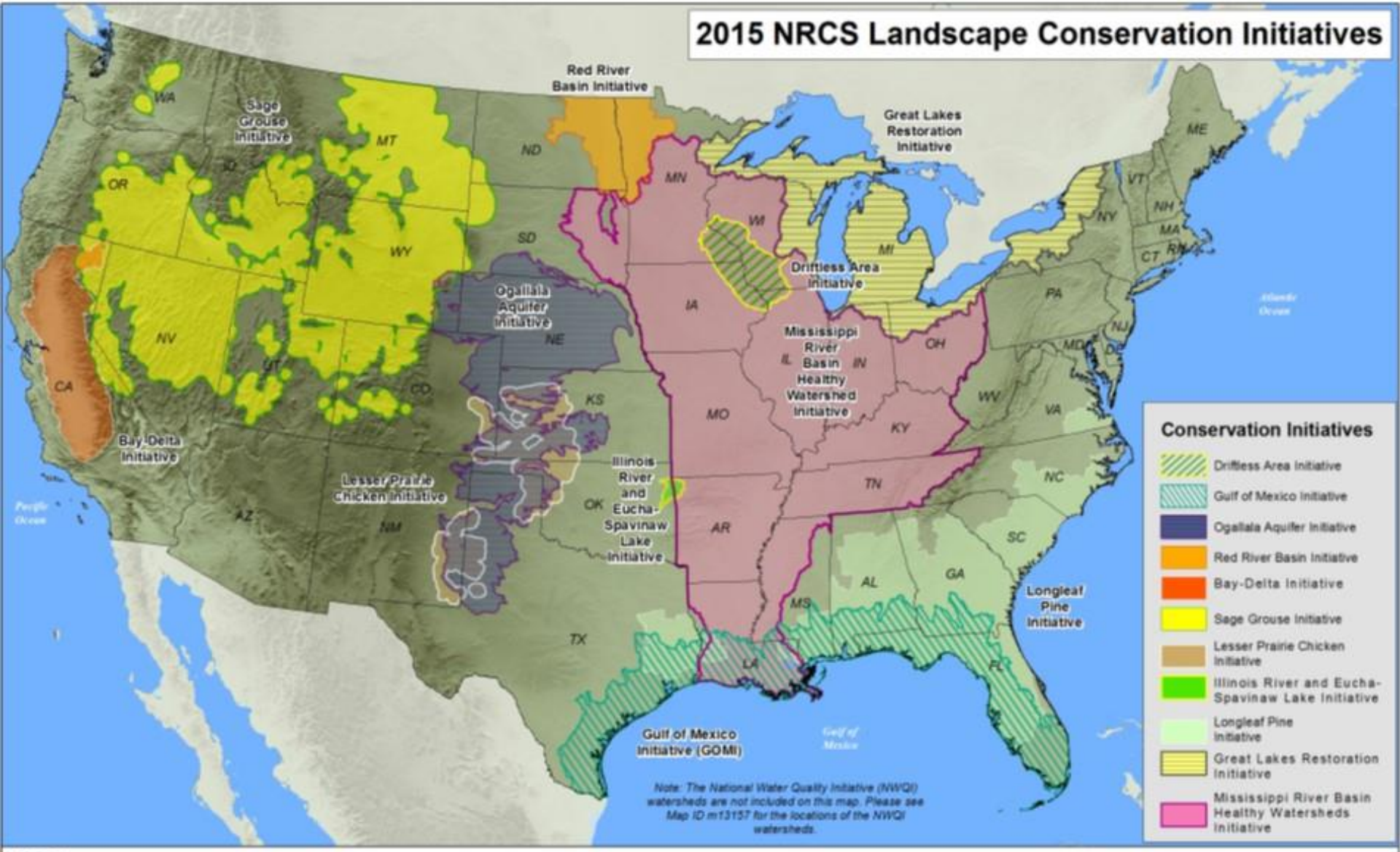
2015 NRCS Landscape Conservation Initiatives



Note: The National Water Quality Initiative (NWQI) watersheds are not included on this map. Please see Map ID m13157 for the locations of the NWQI watersheds.

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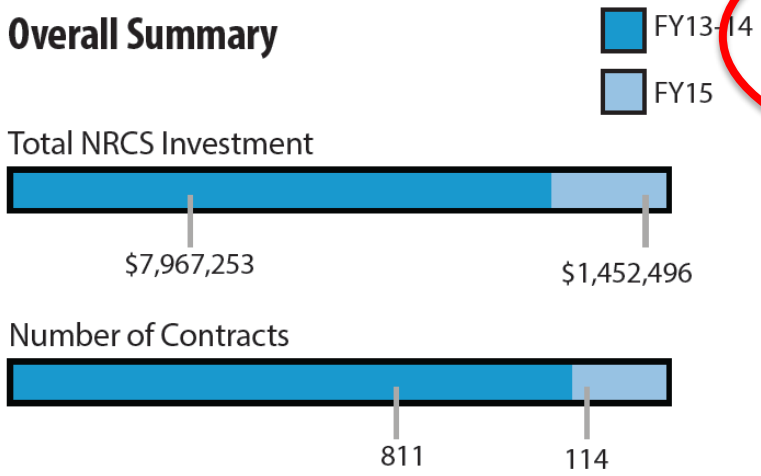
Measuring Outcomes

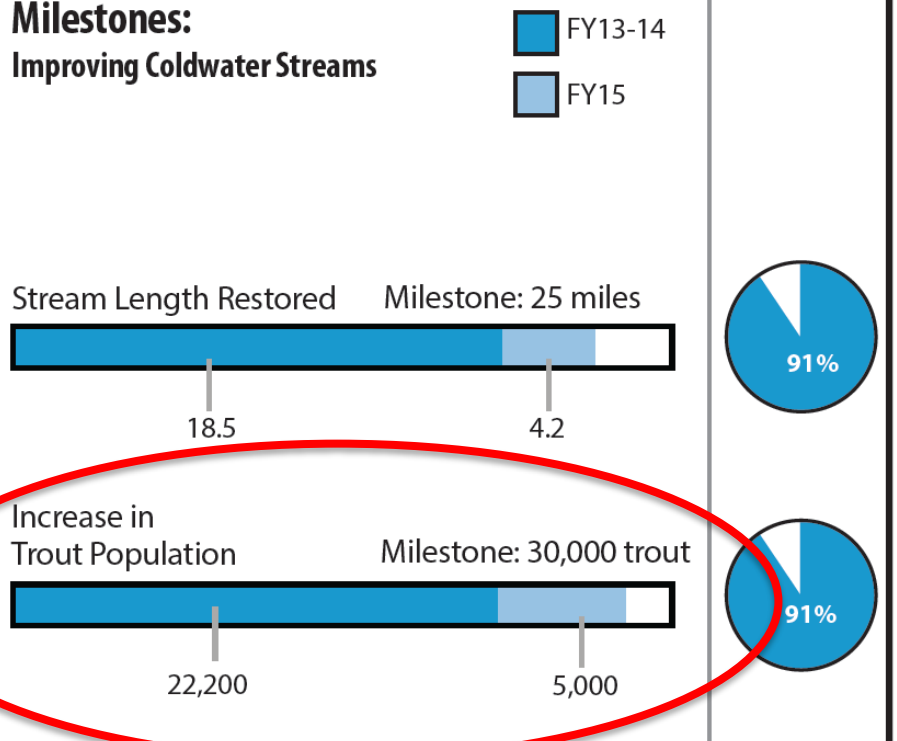
TRACKING PROGRESS

DALCI focuses on restoring coldwater streams and improving upstream landscapes to improve water quality. NRCS uses a number of milestones to measure the outcomes of this effort, including the miles of streams restored, number of trout and the amount of conservation work applied to lands upstream.

Overall Summary



Milestones:
Improving Coldwater Streams



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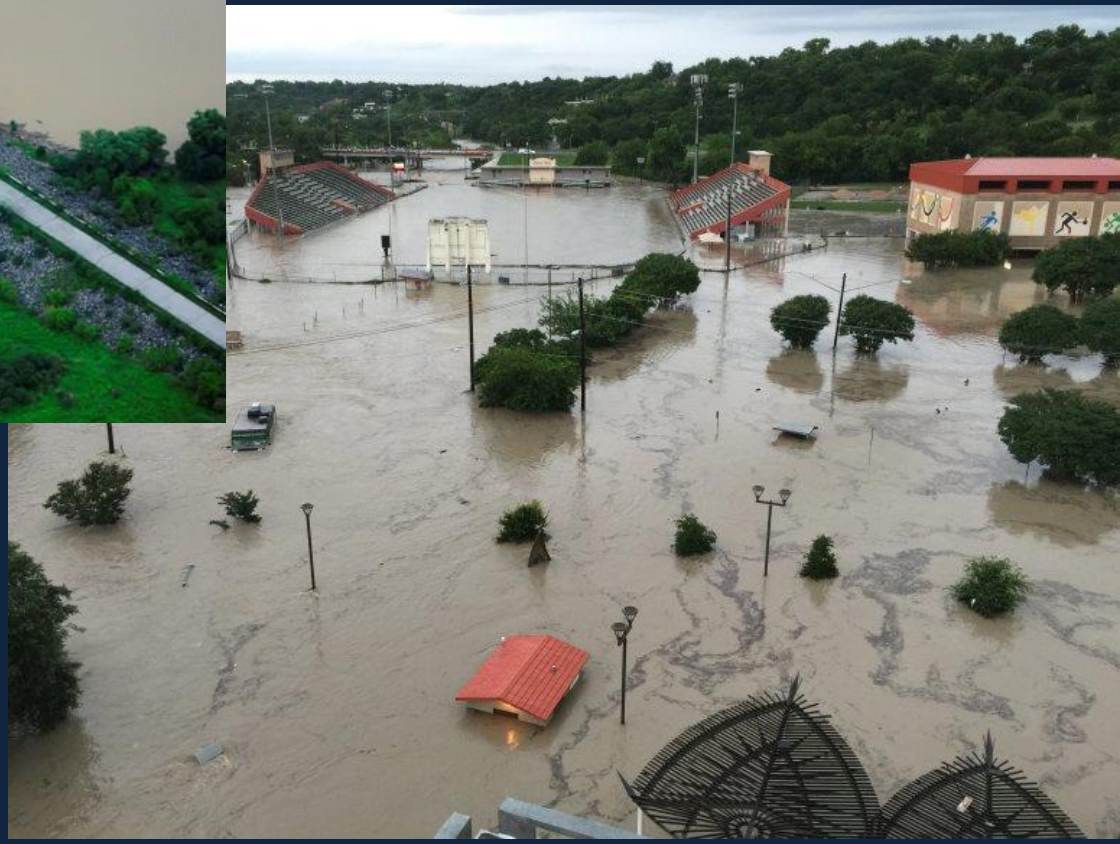
Case Study: Watershed Operations Program (PL-566)



2015 Flooding in Texas & Oklahoma

Newsroom

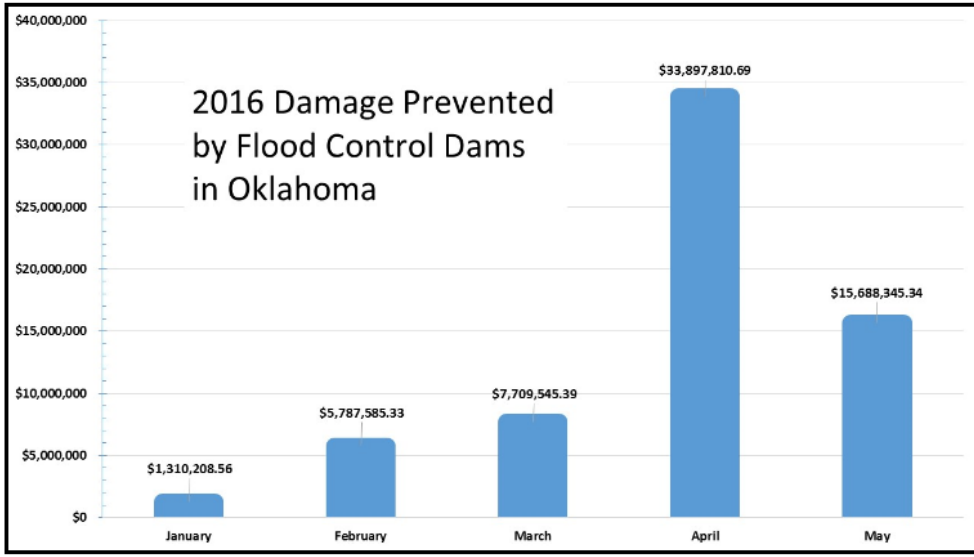
- News Releases
- Events & Deadlines
- Features
- Photos and Videos
- Public Notices
- Publications & Fact Sheets
- Success Stories

News Release

Oklahoma Flood Control Update: May 2016

Email This Pag

Oklahoma's flood control network of 2,107 small watershed dams continues to function despite heavy rains and damage to many structures sustained during the spring of 2015.



Flood control dams prevented an estimated $33.9 and $15.7 million in flood damage in the months of April and May respectively according to the USDA Natural Resources Conservation Service Water Resources Office in Oklahoma. Prevented damage is an estimate of damage that would have occurred were the dams not in place. The calculation does not include potential loss of economic activity such as a result of closed businesses or washed out roads. It also does not place a dollar value on potential loss of life.

In total, flood control dams in Oklahoma have prevented an estimated $64.3 million in damage through May. On average, the dams prevent $91 million in damage annually and prevented $280 million in damage in 2015.

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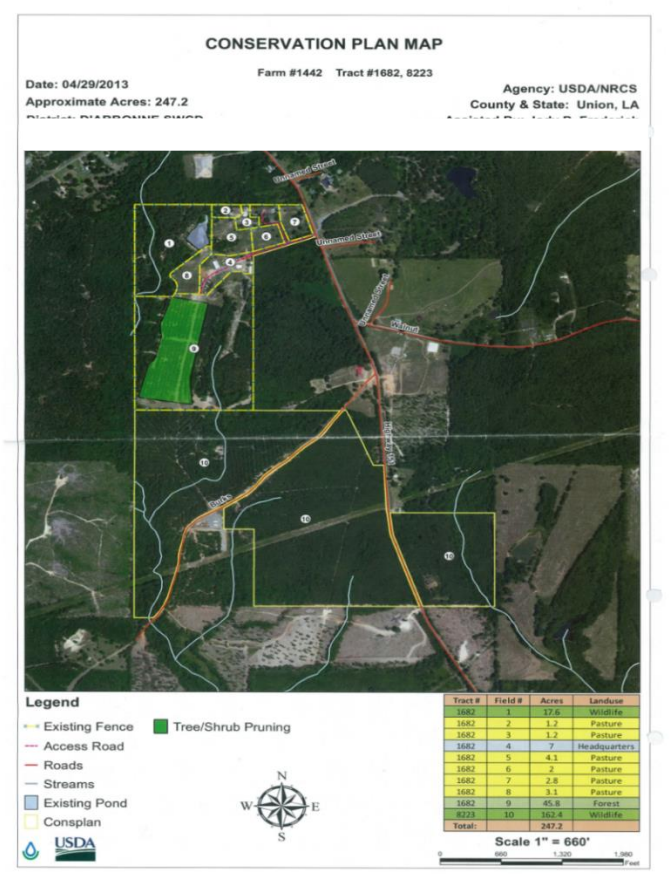
Case Study: Watershed Rehabilitation Program

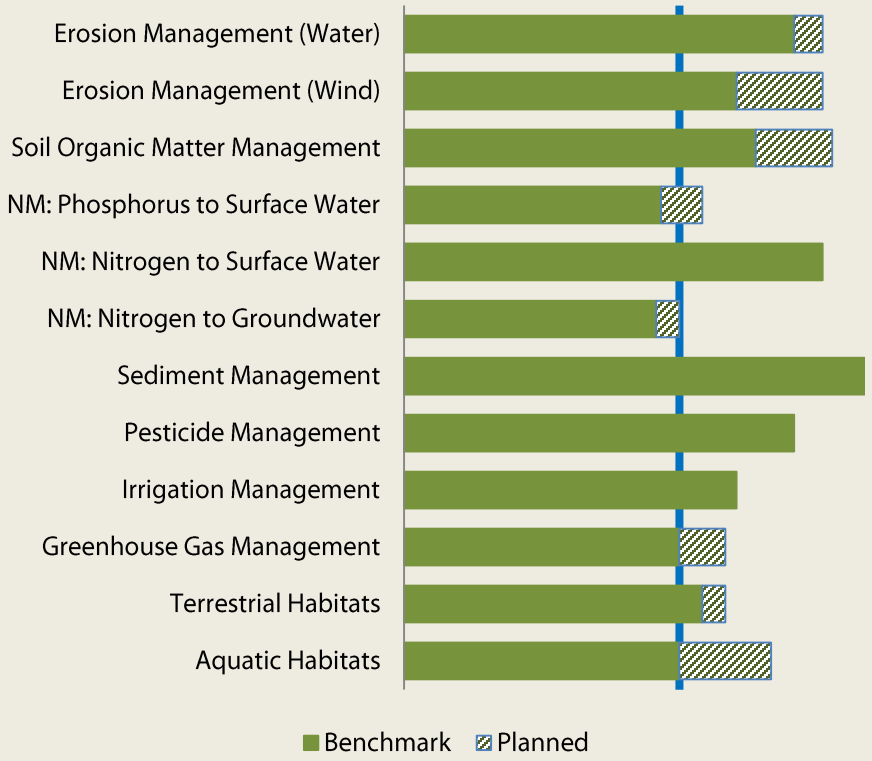
Case Study: San Joaquin Valley Air Quality


Equipment
Timing
Finances
Production
Ecosystem Services
Convenience
Other Advice
Natural Resources
Neighbors & Friends
Personality

Resource Stewardship Evaluation Tool



Cropland Stewardship Key Indicators



Ecosystem Services Quantification Tools

Nutrient Tracking Tool


Partner

What are our messages?

- Helping farmers improve their natural resources and produce food & fiber sustainably
- Investing in rural communities
- Reducing soil erosion
- Increasing yields, decreasing input costs
- Improving local/regional water quality
- Increasing property values along water bodies by __%
- Increased sportfishing opportunities in the Chesapeake Bay by __%

Who is our audience?

- Farmers, Ranchers, Forest Landowners, Rural Communities
- Stakeholders
- Congress
- Public

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Science to Solutions

Sage Grouse Initiative

Sagebrush Rangelands Help Maintain Water Availability

In Brief: Removing encroaching conifer stands from sagebrush ecosystems can increase late season water retention in western rangelands by holding snow longer in the spring. Researchers with the U.S. Department of Agriculture's Agricultural Research Service analyzed snow and streamflow data from a snow-dominated sagebrush steppe ecosystem in southwest Idaho to evaluate the impact that juniper-dominated landscapes might have on water availability in the system. They found that areas with more juniper had earlier snow melt and less streamflow relative to sagebrush-dominated landscapes. The water retention in sagebrush systems comes from the increased water storage within snow drifts and delayed release of the melting snow back into the soils. **Water delivery is delayed by an average of nine days in sagebrush systems compared to juniper-dominated systems.** The implications of this research suggest that conifer removal efforts to support sage grouse restoration also provide the ecosystem service of improved water availability in these semi-arid systems.

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Assessing the Effects of USDA Conservation Programs on Ecosystem Services Provided by Wetlands

The U.S. Department of Agriculture's Conservation Effects Assessment Project (CEAP) b more than seven years ago to document the impact of conservation programs and practices on vate lands. The ultimate goal of the project is to fill in the gaps associated with wetland and ricultural conservation so that the most effective practices and programs can be used to maxi wetland ecosystem services in agricultural landscapes.

By Loren M. Smith, William R. Eel and, Kathrine D. Behrman, and Mari-Vaughn V. Johnson

Soil Health Economics: Measuring and Validating the Economic Benefits & Costs of Soil Health Practices

The need to understand the economic benefits of soil health and conservation practices that promote soil health is receiving greater attention as recognition grows concerning the importance of soil health in conservation policy. One of the primary reasons farmers cite for not adopting conservation practices is the lack of credible information about the economics of these practices.

In the fall of 2015, USDA's Natural Resources Conservation Service awarded a Conservation Innovation Grant to Farm Foundation, NFP to examine the economics of soil health. Farm Foundation has contracted with Purdue University to lead a three-year project to gather and organize economic data related to conservation practices that promote soil health.

Data will be collected from whole fields--rather than strip trials--to build a data set that can be used to assess the long-term economic and environmental consequences of adopting cover crops and no-till conservation practices. The project has three specific objectives:

1) Develop and institutionalize best practices for economic data collection and analysis.
2) Pilot the use of best practices for economic analysis of soil health management by collection and analyzing field-level economic and agronomic data.
3) Disseminate to farmers economic information on the benefits and costs of improving soil health to help accelerate the adoption of conservation practices.

Wally Tyner, James and Lois Ackerman Professor of Agricultural Economic at Purdue University, is heading up the study, which will focus on farms in central and northeast Indiana. Only farms with corn-corn or corn-soybean rotations on the targeted fields will be accepted. For the study, farmers must provide five years of historic data on five fields. Data will also be supplied for the three years of project operations.

essment Project
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tify the environ-

Planning and Assessment

The CEAP-Wetlands component began in 2004 wit establishment of two collaborative CEAP-Wetlands reg