USDA

United States Department of Agriculture

Natural Resources Conservation Service

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Washington, DC

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Natural Resource Specialist

Conservation Efforts to Limit Nutrient Runoff Into the Great Lakes

Natural Resources Conservation Service

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Biographical Sketch

- **Natural Resource Specialist - Great Lakes, 2016 -Present**
  - Washington DC
- **Assistant State Conservationist – Field Operations, 2014**
  - Northern Michigan
- **District Conservationist, 2008**
  - Saint Johns, Michigan
- **Soil Conservationist, 2006**
  - Tulelake, California
- **Student Trainee, 2005**
  - North Plate, Nebraska
  - Utuado, Puerto Rico

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USDA – Natural Resources Conservation Service

The NRCS is the USDA's principal agency for providing **conservation technical assistance** to private landowners, conservation districts, tribes, and other organizations through the **voluntary** Conservation Technical Assistance Program (CTA).

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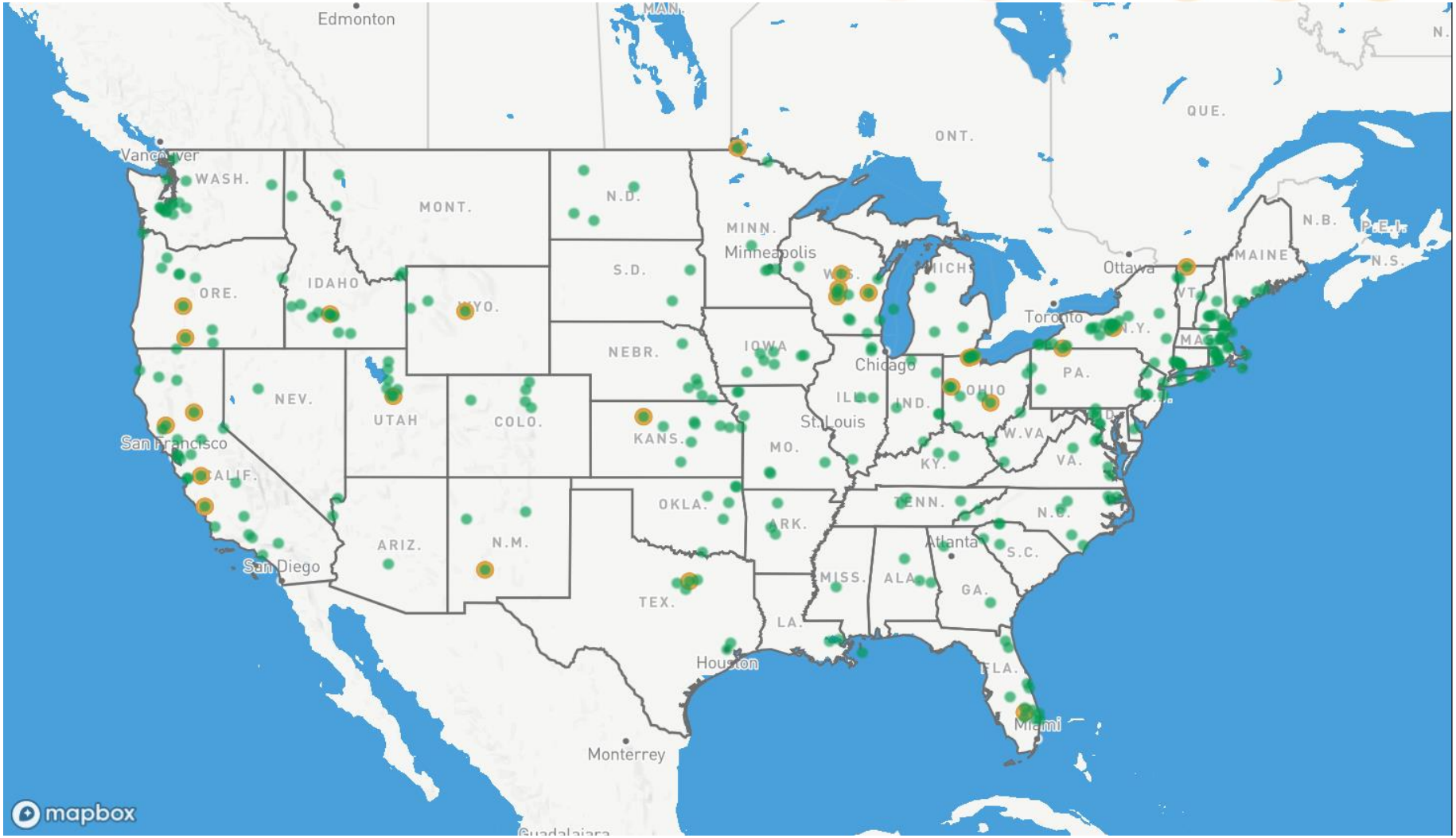
Harmful Algal Blooms, 2010-2017



Source: Environmental Working Group: https://www.ewg.org/toxicalgalblooms/

USDA NRCS Targeted Conservation

NRCS has developed approaches with federal, state, and private partners to better target conservation for improving water quality in the **Great Lakes Region**.

- **Farm Bill Authorities:**
  - Environmental Quality Incentive Program (EQIP)
    - Western Lake Erie Basin (WLEB)
    - National Water Quality Initiative (NWQI)
    - Regional Conservation Partnership Program (RCPP)
    - Conservation Innovation Grants (CIG)

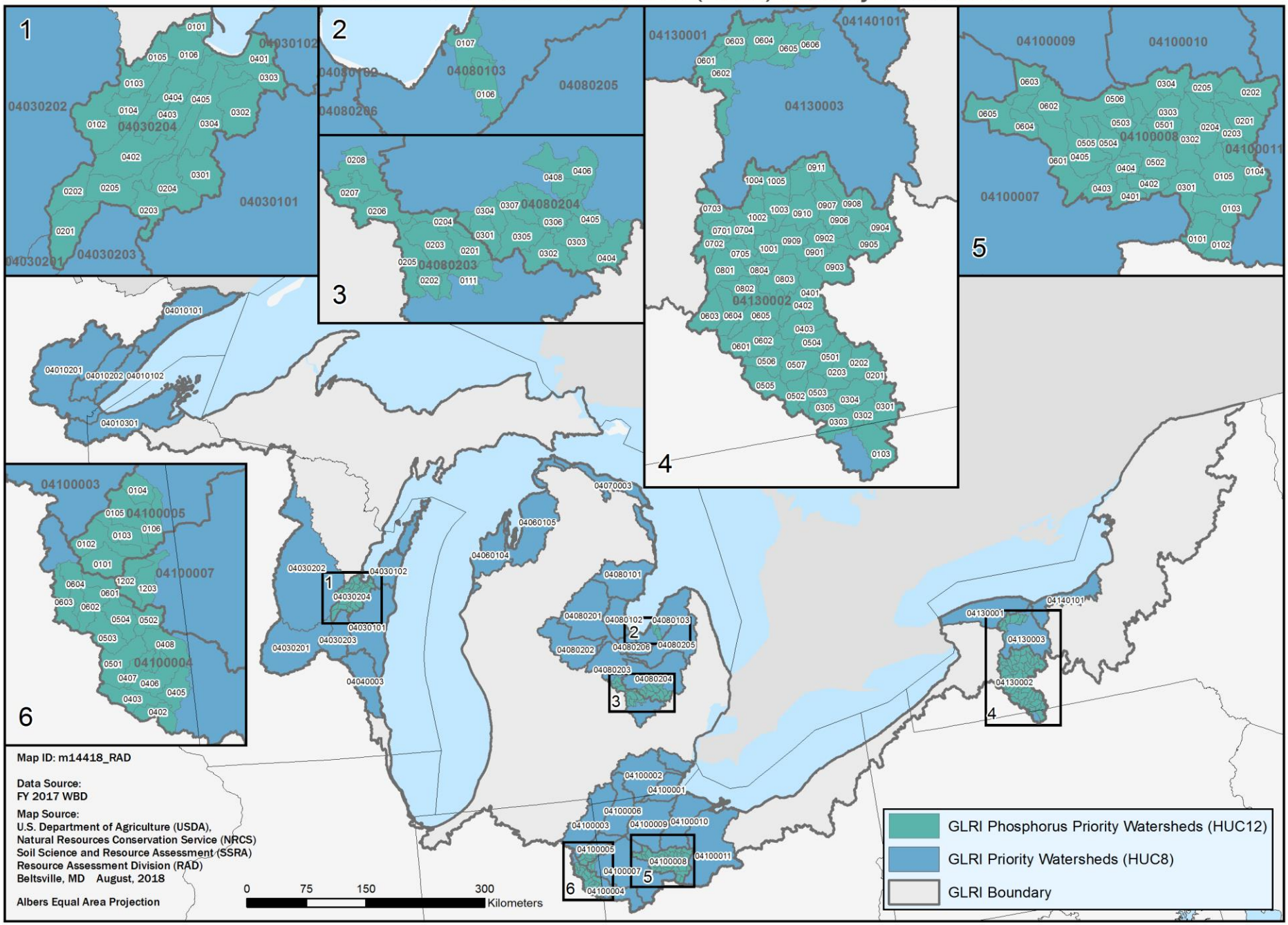
- **Other Authorities:**
  - Great Lakes Restoration Initiative (GLRI)

Great Lakes Restoration Initiative (GLRI)

- NRCS, through the GLRI, targets watersheds that are expected to have the biggest impacts on improving water quality.

- The GLRI has been critical to addressing the most persistent and challenging environmental problems in the Great Lakes.

Great Lakes Restoration Initiative (GLRI) Priority Watersheds

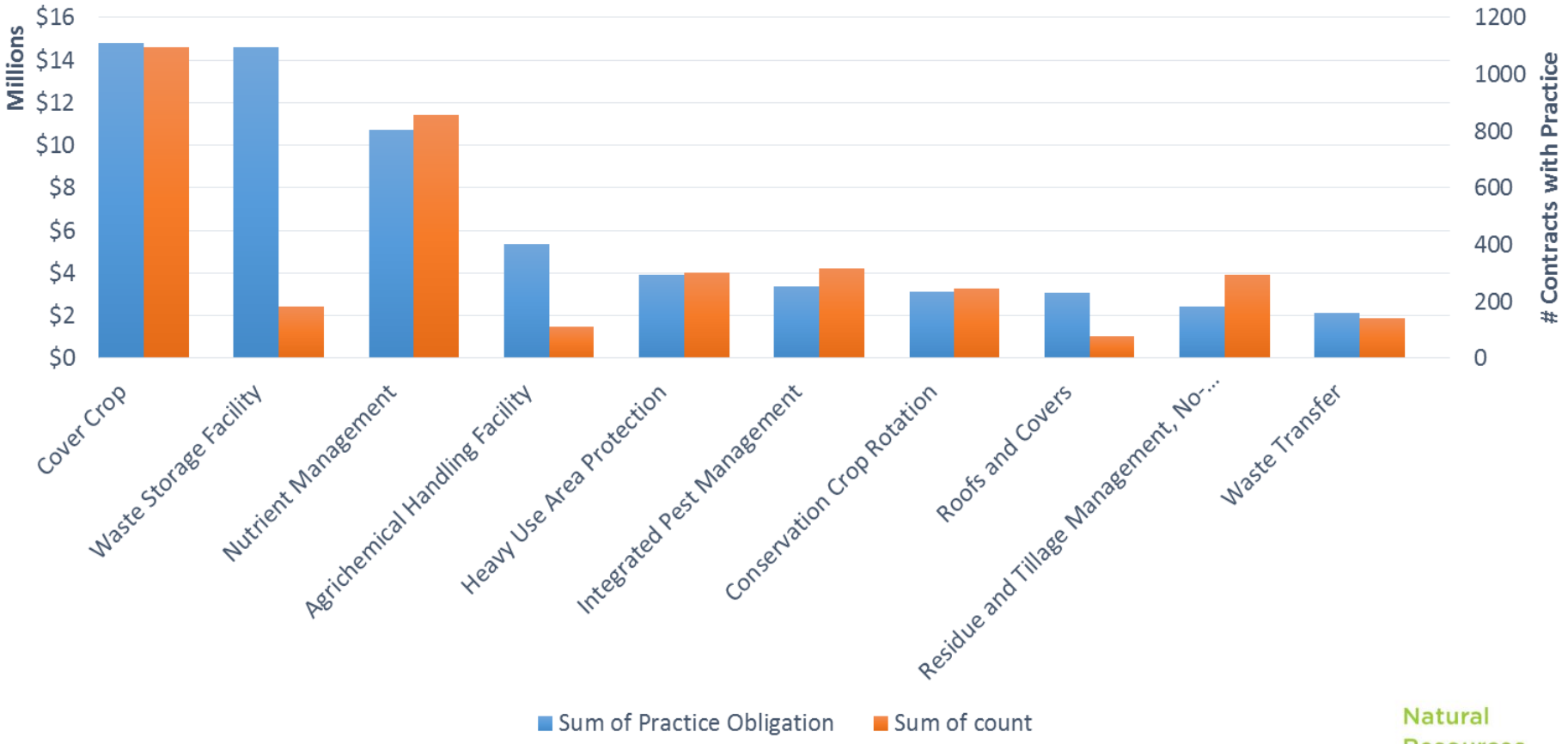


Great Lakes Action Plan

USDA NRCS Focus Areas

- FA 2: Invasive Species
- **FA 3: Nonpoint Source Pollution Impacts on Nearshore Health**
- FA 4: Wildlife Habitat and Species

GLRI Top Water Quality Conservation Practices: 2010-2018



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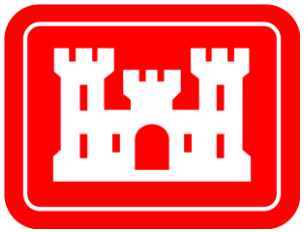

- **State and federal agencies**
- **Conservation Districts**
- Universities Education Extensions
- Conservation Groups
- **Local communities**
- Professional societies

LOWER FOX
Demonstration Farms Network
COVER CROPS
FOR
CLEAN WATER
#FoxDemoFarms
Cleaner Water in the River Raisin Watershed
Voluntary implementation of two-stage ditch to reduce nutrients and sediment in our water
Additional Best Management Practices
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Drainage Water Management
No-Till
Cover Crops
Nutrient Management
Water and Sediment Control Basins
Want to learn more? Visit nature.org/wleb
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Great Lakes
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Sand Point Restoration Project
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Great Lakes Restoration Initiative (GLRI)
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NRCS GLRI Conservation Efforts in the Great Lakes Region to Improve Water Quality

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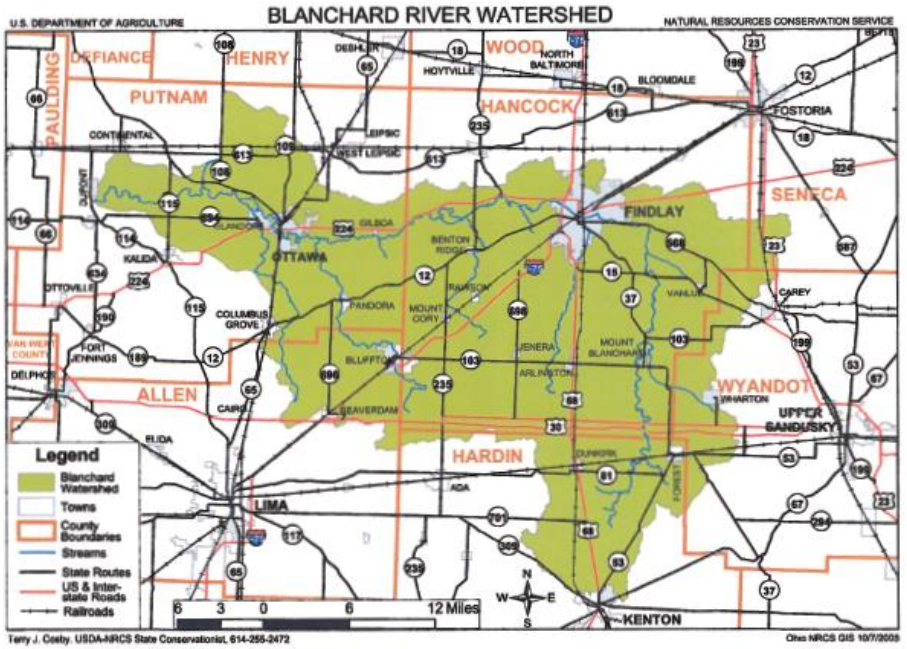
GLRI Demonstration Farms Blanchard River Watershed

- **Agreement Type**: Contribution
- **Partner:** Ohio Farm Bureau Foundation
- **Target:** Blanchard River Watershed, OH
- **Objectives:** Project designed to showcase and demonstrate leading edge conservation practices to improve Great Lakes water quality.



Phosphorus Reduction in Genesee County, Michigan

- **Agreement Type**: Contribution
- **Partner:** Genesee Conservation District
- **Target:** Saginaw Watershed, MI
- **Objectives**: Reduce Phosphorus from entering into the Saginaw Bay watershed through Outreach and Technical assistance.

GENESEE
CONSERVATION DISTRICT

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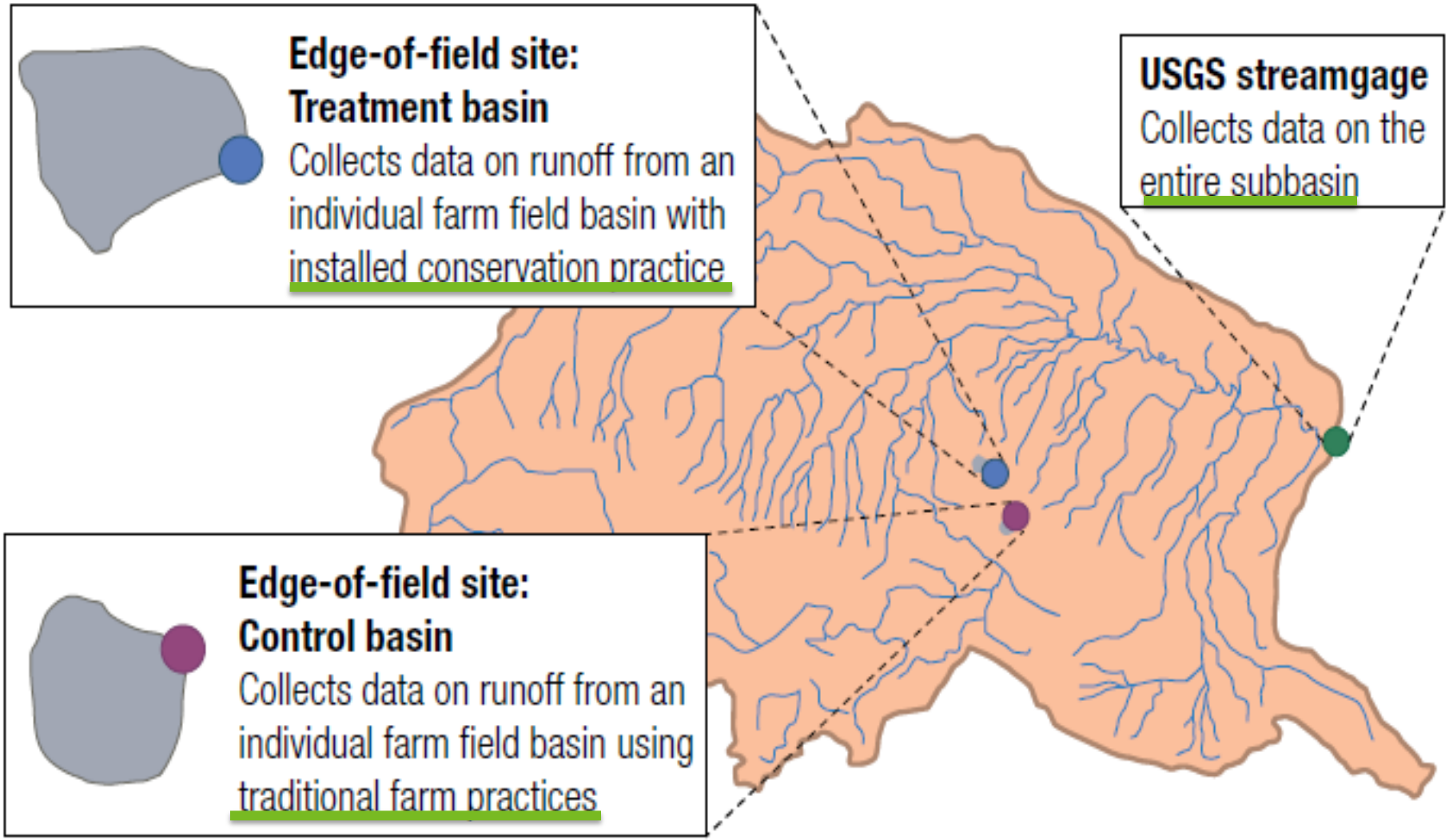
Great Lakes Commission (GLC)

- Great Lakes Sediment and Nutrient Reduction Program

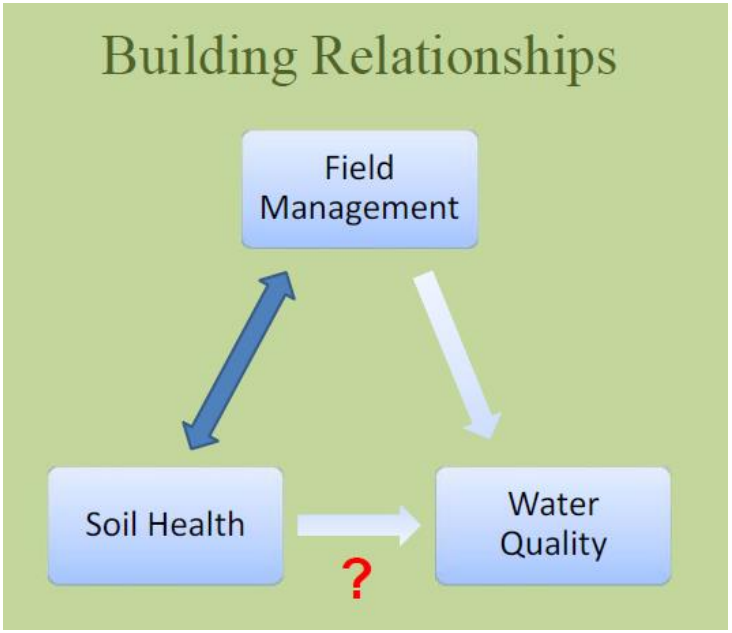
- Proposed projects focus on implementing nutrient management programs and reducing sediment and phosphorus runoff into the Great Lakes through the installation of long-term practices.

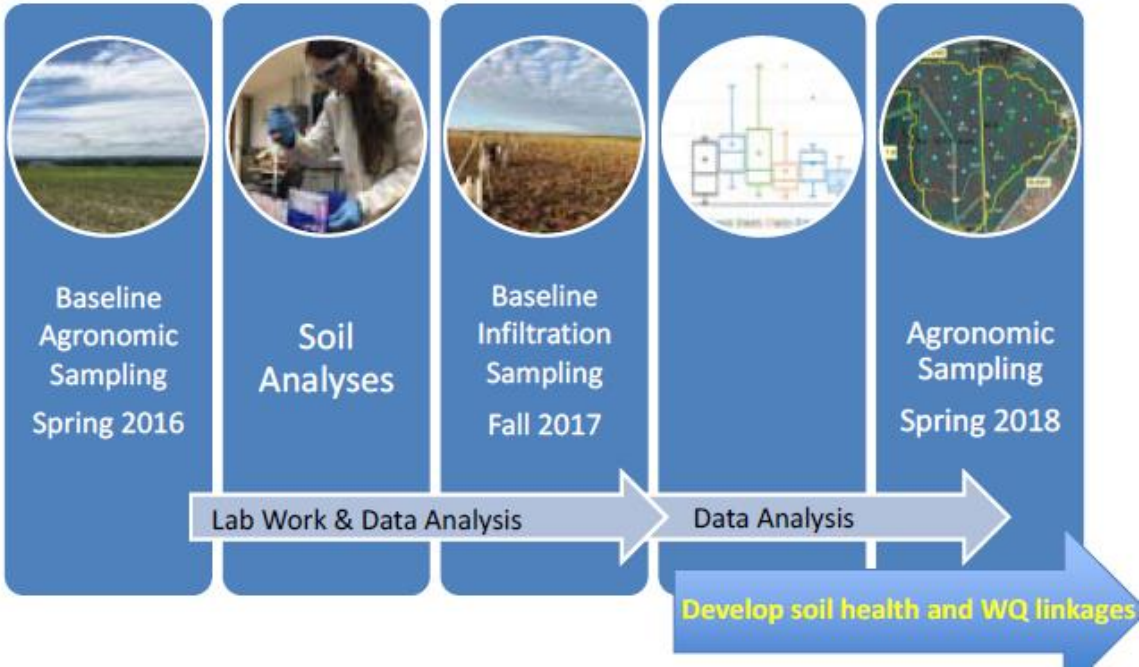
Edge of Field Monitoring



Linking Soil Health Assessment to Edge of Field Water Quality in the Great Lakes Basin

- Team effort between NRCS, University of Wisconsin Green Bay, Purdue University, and the US Geological Survey to connect soil health parameters with Water Quality Leaving Agricultural Fields.



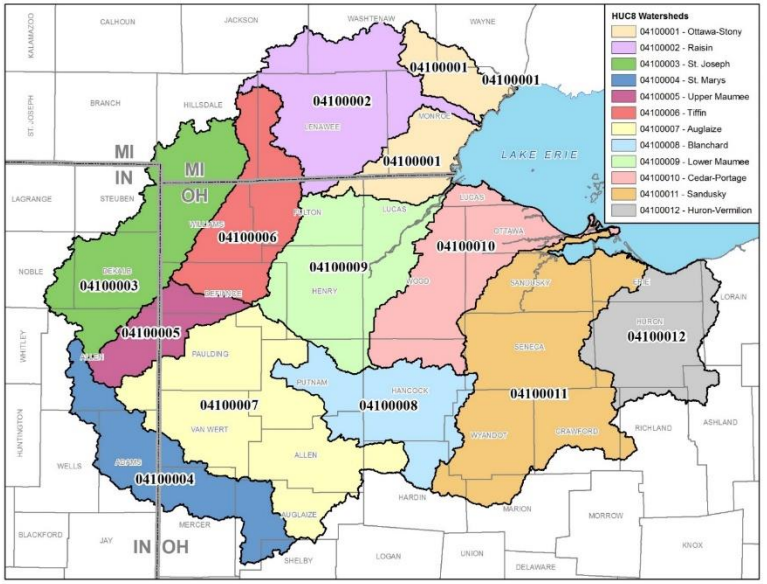


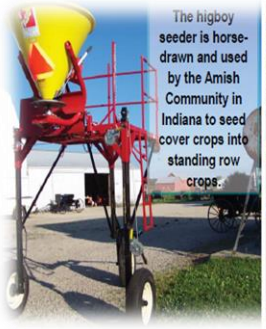
Other Conservation Efforts in the Great Lakes Region

Western Lake Erie Basin (WLEB)

The WLEB initiative accelerates conservation practices adoption on agricultural lands that reduce nutrient and sediment loadings by:

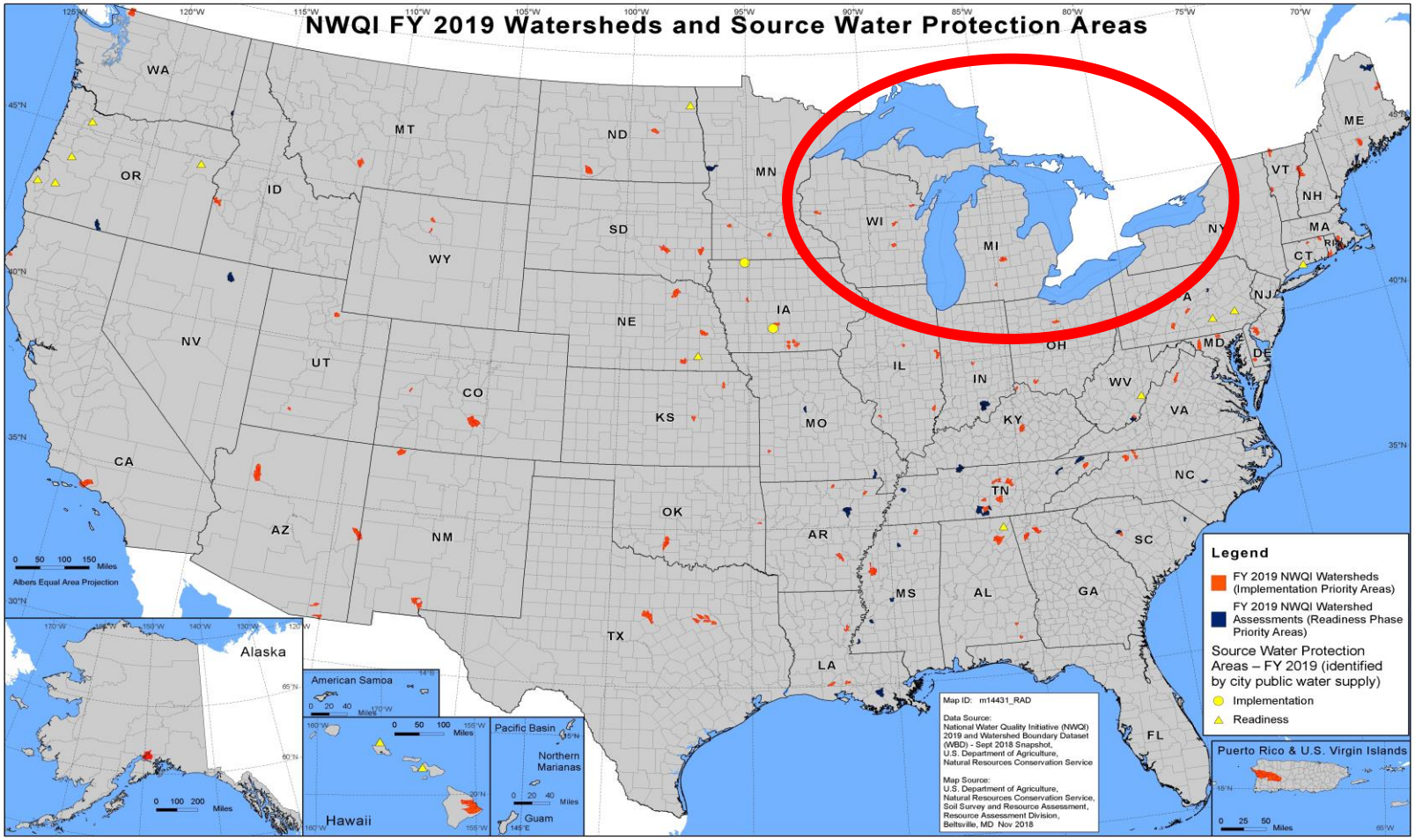
- **Avoiding** Excess Nutrient Application
- **Controlling** Nutrient and Sediment Movement
- **Trapping** Nutrient and Sediment Losses
- **Managing** Hydrological Pathways to Reduce Nutrient and Sediment Losses





National Water Quality Initiative (NWQI)

- Provides a way to accelerate voluntary, on-farm conservation investments and focused water quality monitoring and assessment resources where they can deliver the greatest benefits for clean water.



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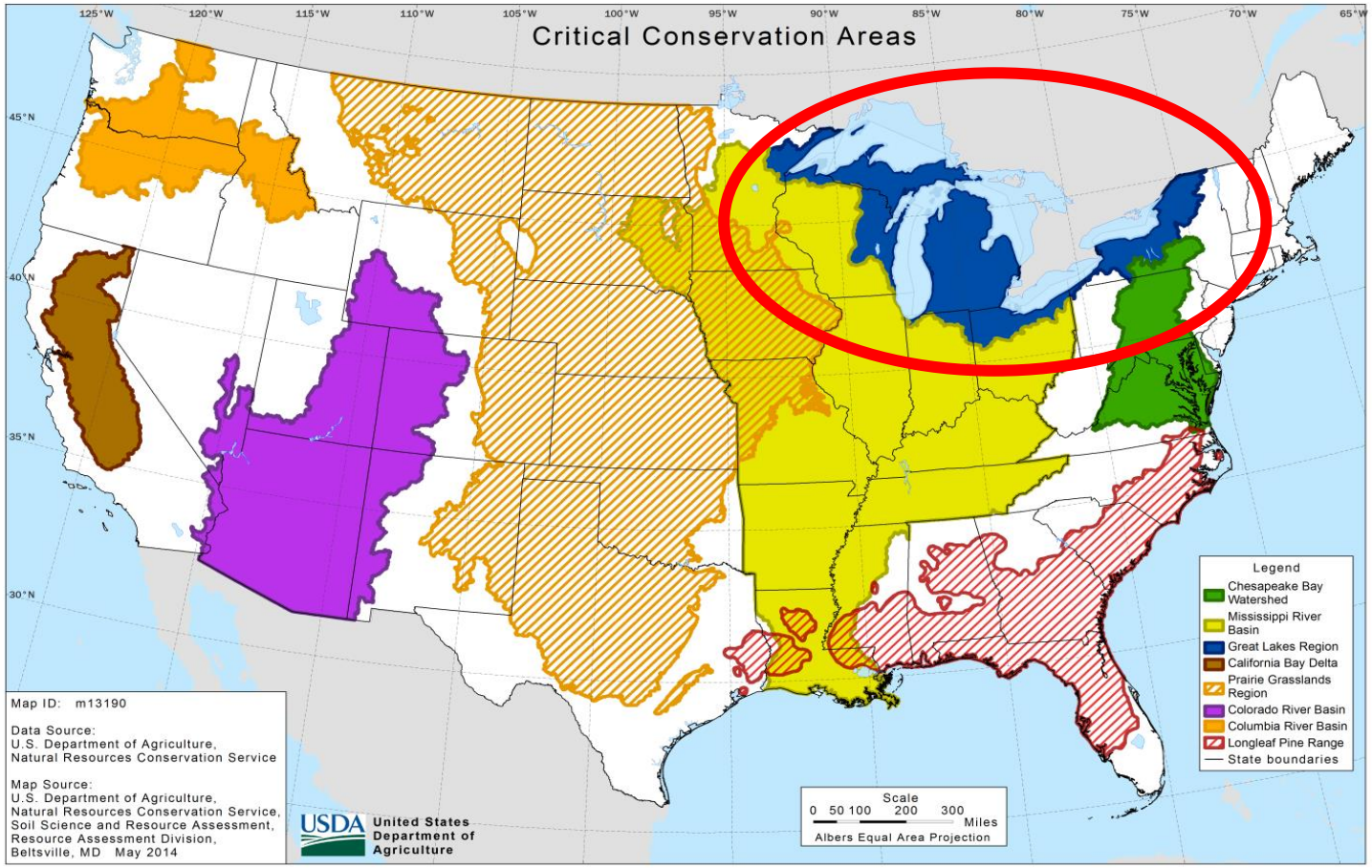
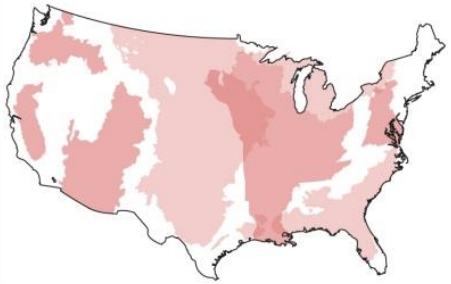
Regional Conservation Partnership Program (RCPP)

- Mobilizes **partnerships** to multiply investments to reach **common** conservation goals.



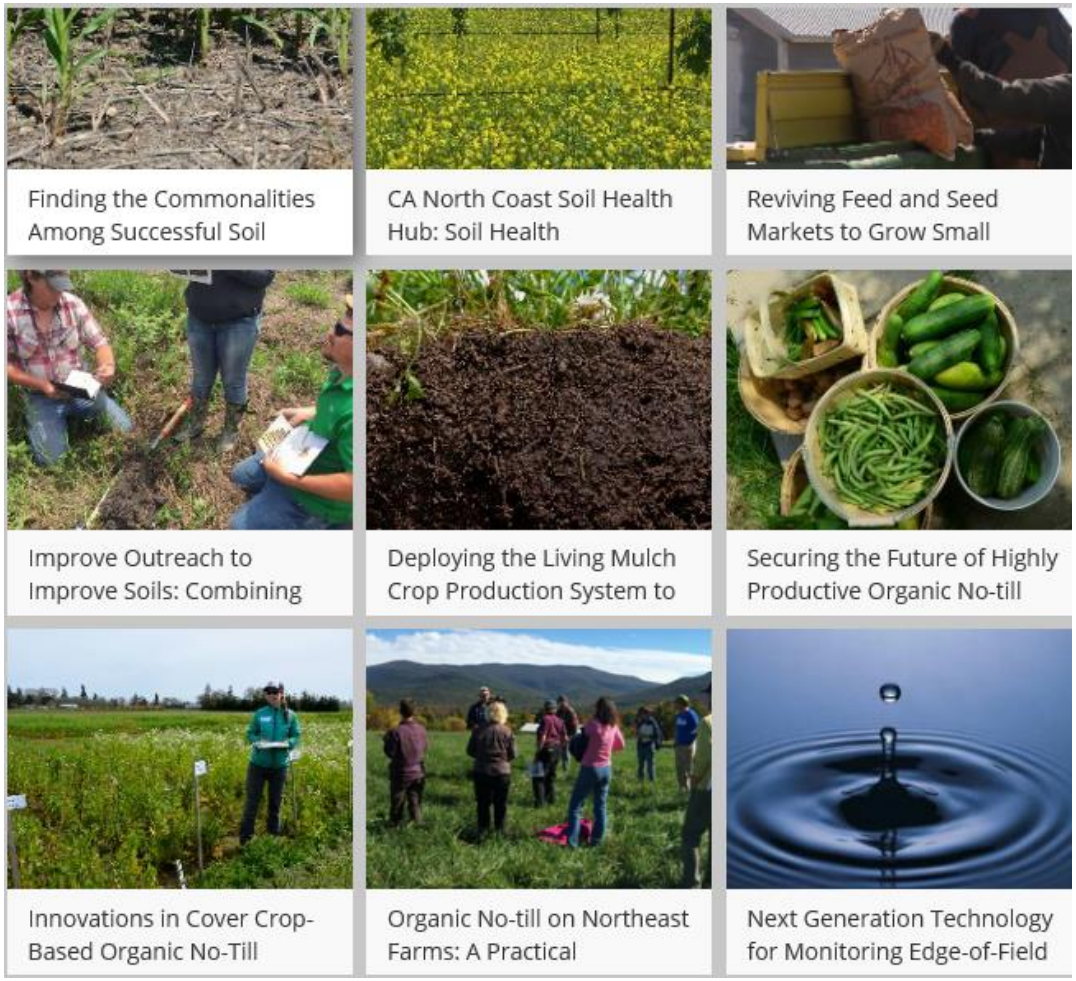


CRITICAL CONSERVATION AREAS

STATE

Conservation Innovation Grants (CIG)

- Competitive grants that drive **public and private sector innovation** in resource conservation.



Great Lakes Project Example:

- Hydrologic monitoring to support NRCS **practice evaluation and development** in the Great Lakes and Mississippi River Watersheds

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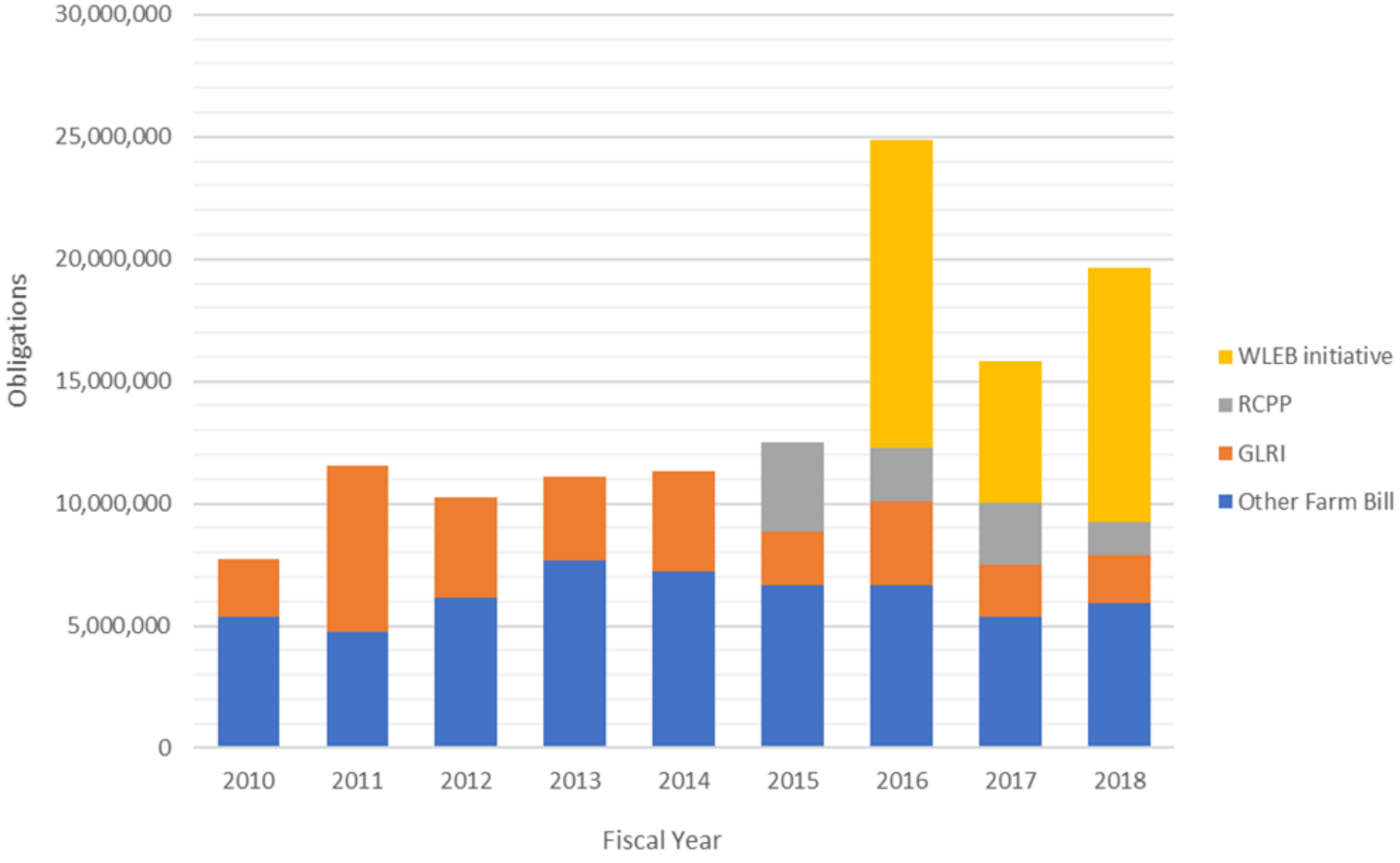
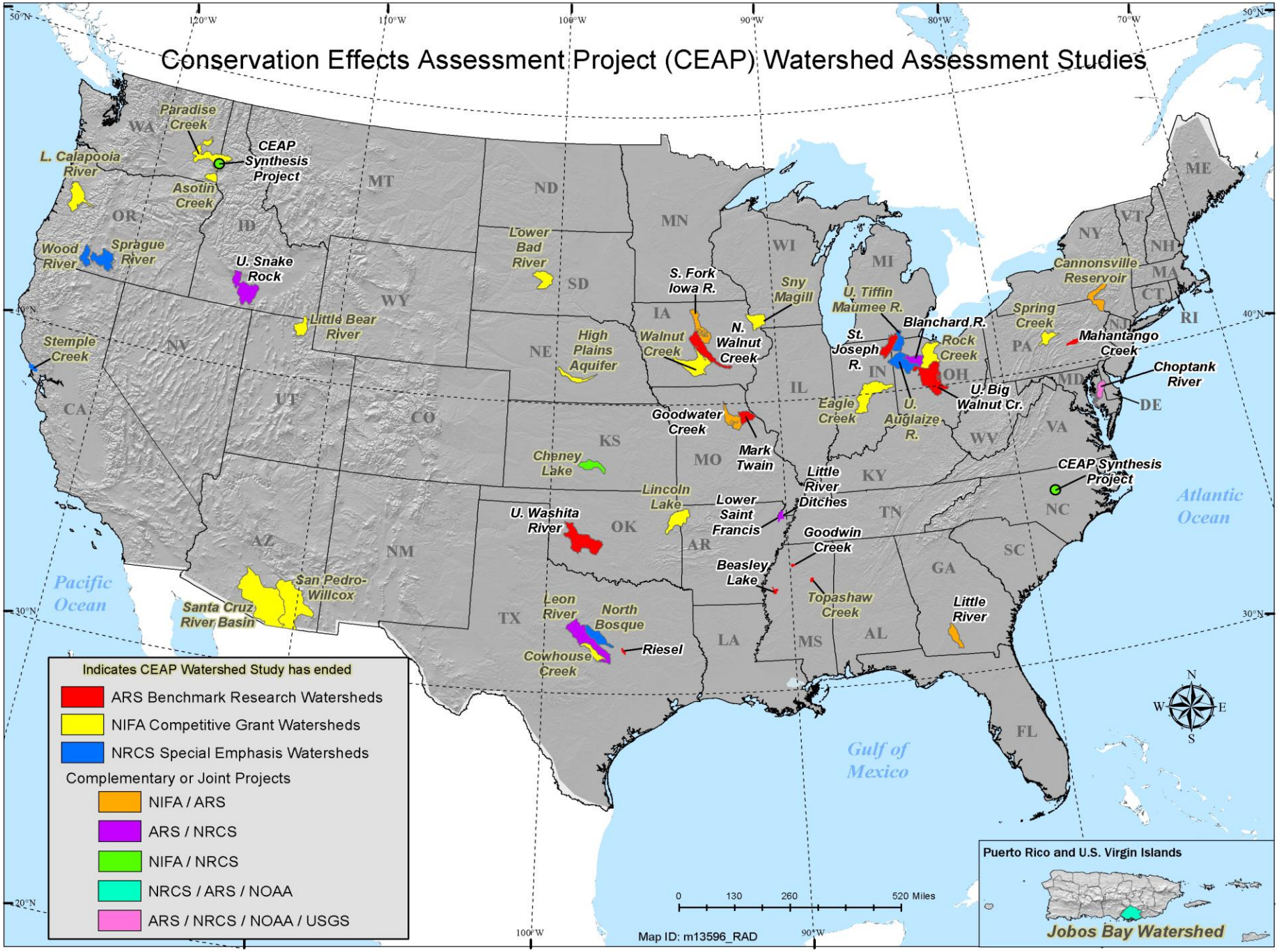
NRCS Financial Assistance in Lake Erie Watershed 2010-2018





Source: Duriancik, et al., 2008, JSWC Vol. 63, No. 6, pp.185A-197A.

Example of USDA NRCS Conservation Practices

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