



NRCS

United States Department of Agriculture



## Agricultural Outlook Forum

*February 22-23, 2018*

*Arlington, VA*

*Dee Carlson, MRBI Coordinator*

# Mississippi River Basin Healthy Watersheds Initiative (MRBI)



# MRBI

Improve the health of small watersheds by connecting locally to agricultural producers and land

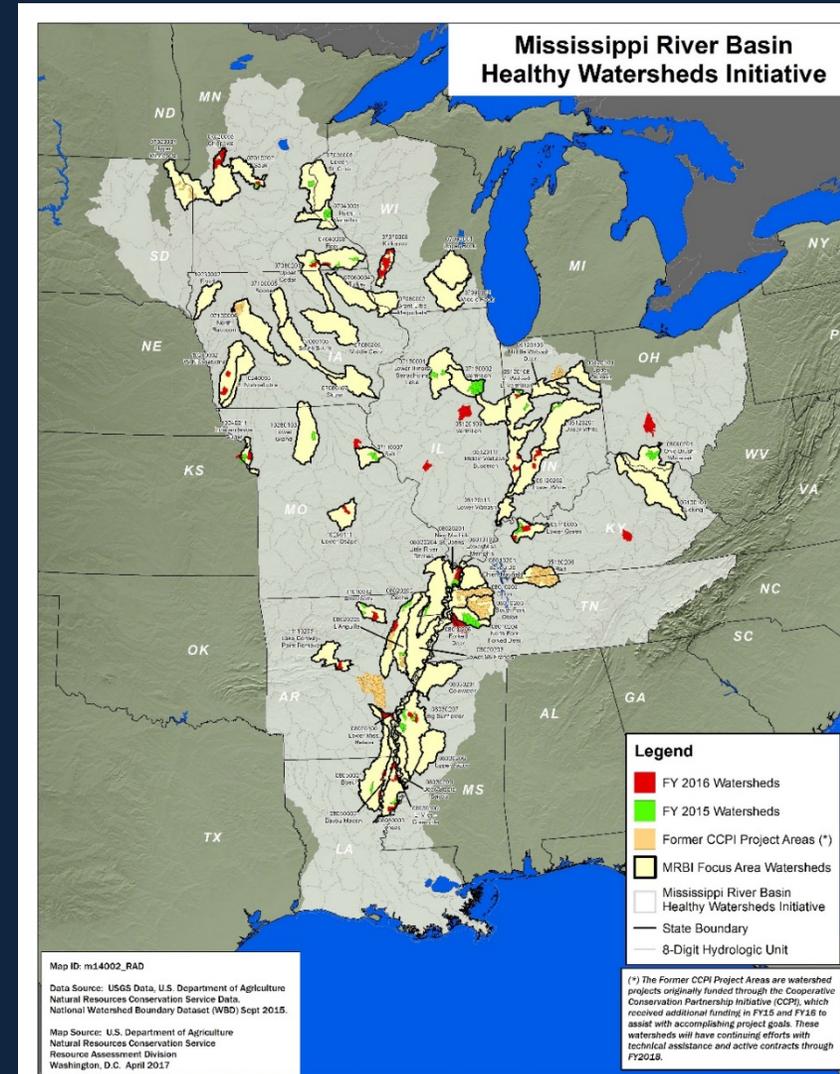
- Priorities
  - Reduce off-site movement of sediment and nutrients
  - Restore and enhance wildlife habitat and wetlands
  - Maintain agricultural productivity
- Use a Systems Approach
  - Conservation practices are used in combination for greater effectiveness
  - Right practices in the right location for maximum benefit



# MRBI

## 1.3 million acres treated across the Mississippi River Basin since 2010

- Currently 60 active projects in 12 states
- \$100 million dedicated in Environmental Quality Incentives Program from 2015–2018
- Additional funding opportunities through Conservation Stewardship Program (CSP), Agricultural Conservation Easements Program (ACEP), Regional Conservation Partnership Program (RCPP)



# Hypoxia Task Force

- A partnership of 12 states, federal agencies and tribes that works collaboratively to reduce nutrient pollution in the Mississippi/ Atchafalaya River Basin (MARB) and the extent of the hypoxic zone in the Gulf of Mexico
- State nutrient reduction strategies serve as the cornerstone for implementing nutrient reductions in each state



**Hypoxia Task Force**  
[Partnerships](#)

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**ABOUT THE TASK FORCE**

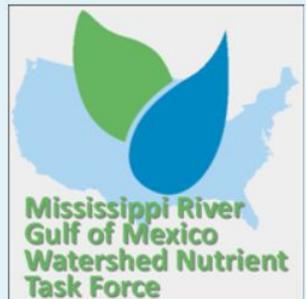
- [Current Members](#)
- [History](#)

**LEARN**

- [Hypoxia 101](#)
- [The Mississippi/Atchafalaya River Basin](#)
- [Hypoxic Zone](#)
- [Gulf Hypoxia in the News](#)
- [Learn More about Nutrient Pollution](#)

**MOVING FORWARD**

- [2008 Action Plan](#)
- [Implementation](#)
- [Tracking Progress](#)
- [Land Grant University Partnership](#)
- [Success Stories](#)

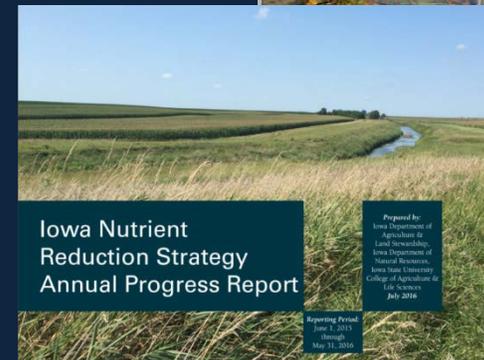
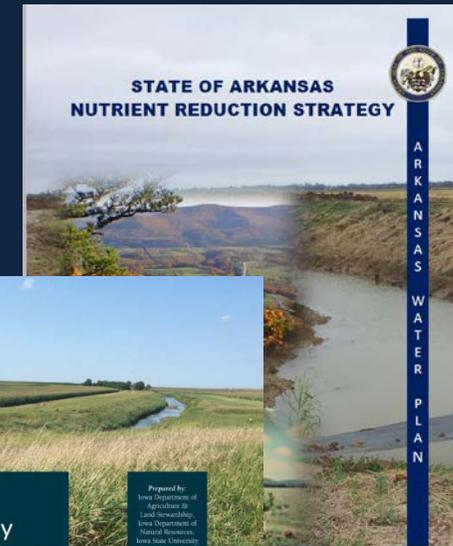
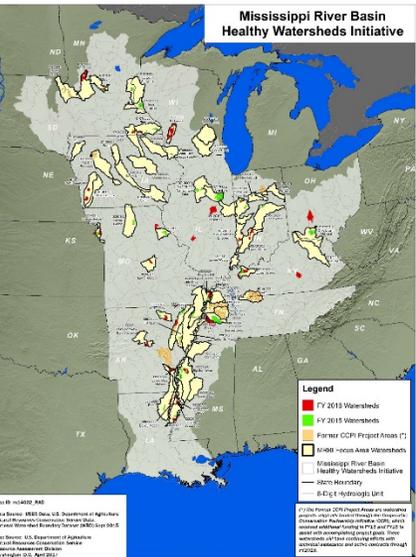


Mississippi River  
Gulf of Mexico  
Watershed Nutrient  
Task Force

# Alignment with State Nutrient Reduction Strategies

- NRCS and the state agencies confer on watershed priorities and geographies
- Leveraging of state and federal funds
- Many of the agriculture-related actions recommended in the strategies fit MRBI core water quality practices
  - Sheet, Rill and Gully Erosion Control
  - Wetlands, Drainage Water Management
  - Cover Crops
  - 4R Nutrient Management
  - Grazing Management

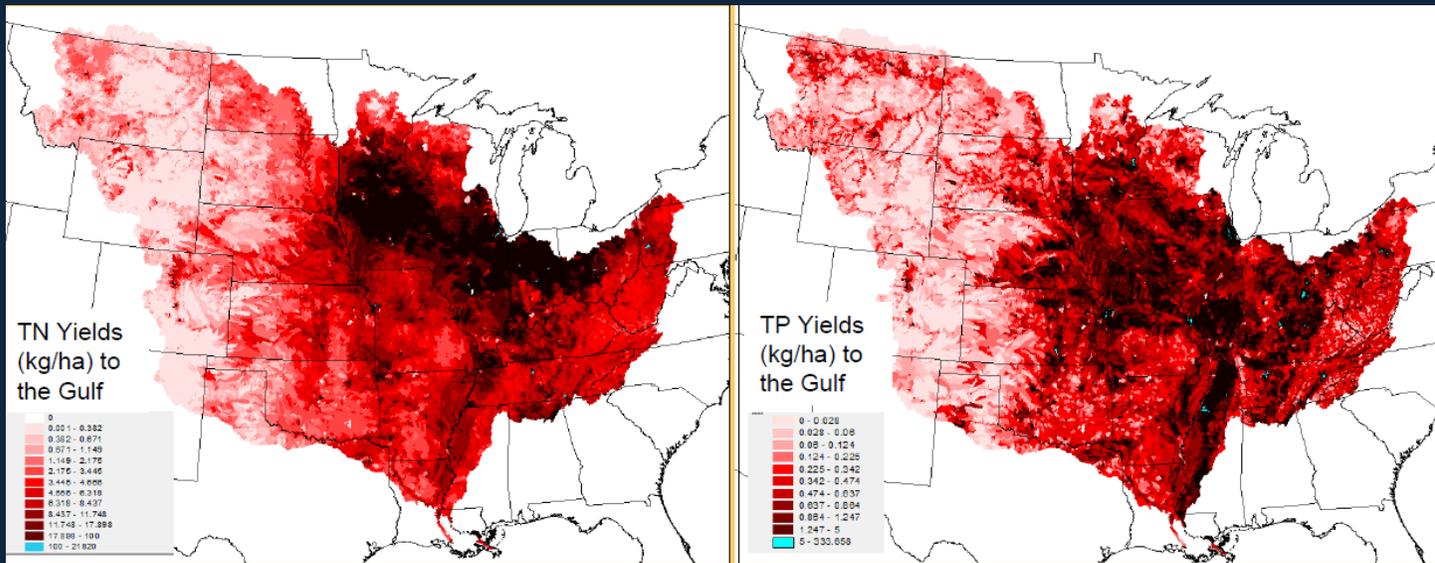
Priority Watersheds of the Hypoxia Task Force States



# Targeting - Selection of Focus Areas for MRBI

- In consultation with State Technical Committees
- 8-digit HUCs
- Utilized a consistent watershed evaluation process including:

- Information from CEAP
- SPARROW model
- State-level nutrient reduction strategies and priorities
- State-level water quality data
- Available monitoring and modeling of nitrogen and phosphorus management

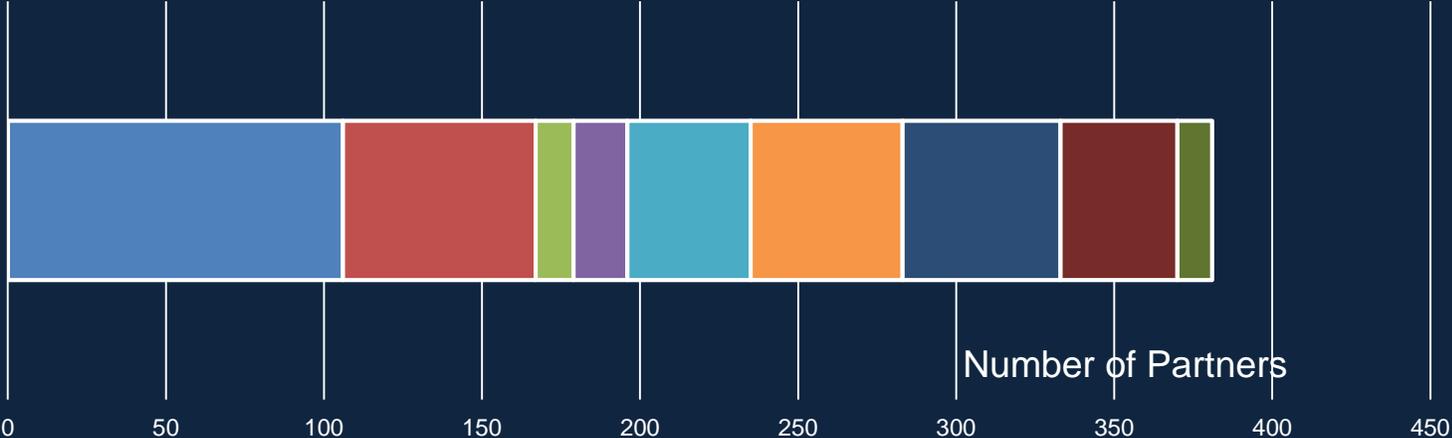


# Targeting – Small Watershed Approach



- Concentrate efforts in focus areas (high priority) at the small watershed scale (HUC12)
- Identify critical or vulnerable acres within the watersheds with the greatest need for practice implementation, using a variety of targeting tools

# Leveraging – Partnerships in Active Projects (2015-2018)



- Soil/Water Conservation Districts (SCD, SWCD)
- State Water Quality Agency
- State Fish/Wildlife Dept.
- State Agriculture Dept.
- Land Grant University/Extension
- Industry/Commodity groups
- Non-profit/NGO
- Local government/community
- Other federal agencies



# Using Conservation Systems to Reduce Impacts

## Avoid, Control, and Trap (ACT)



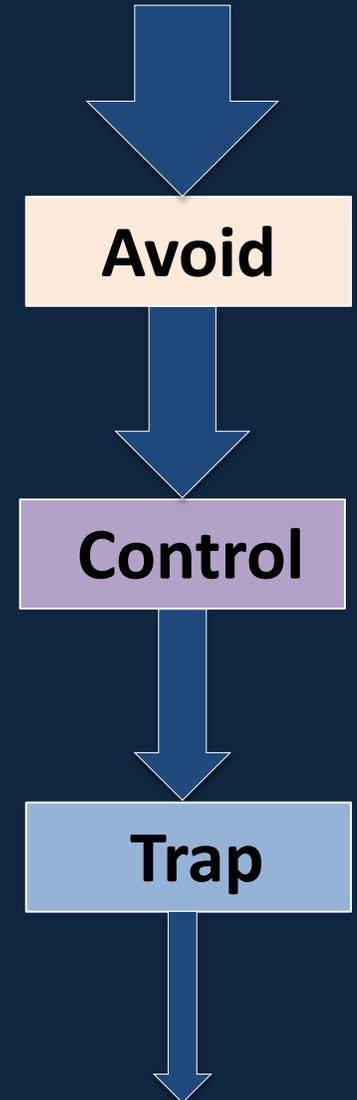
***Avoid*** point and non-point source contributions from agricultural operations



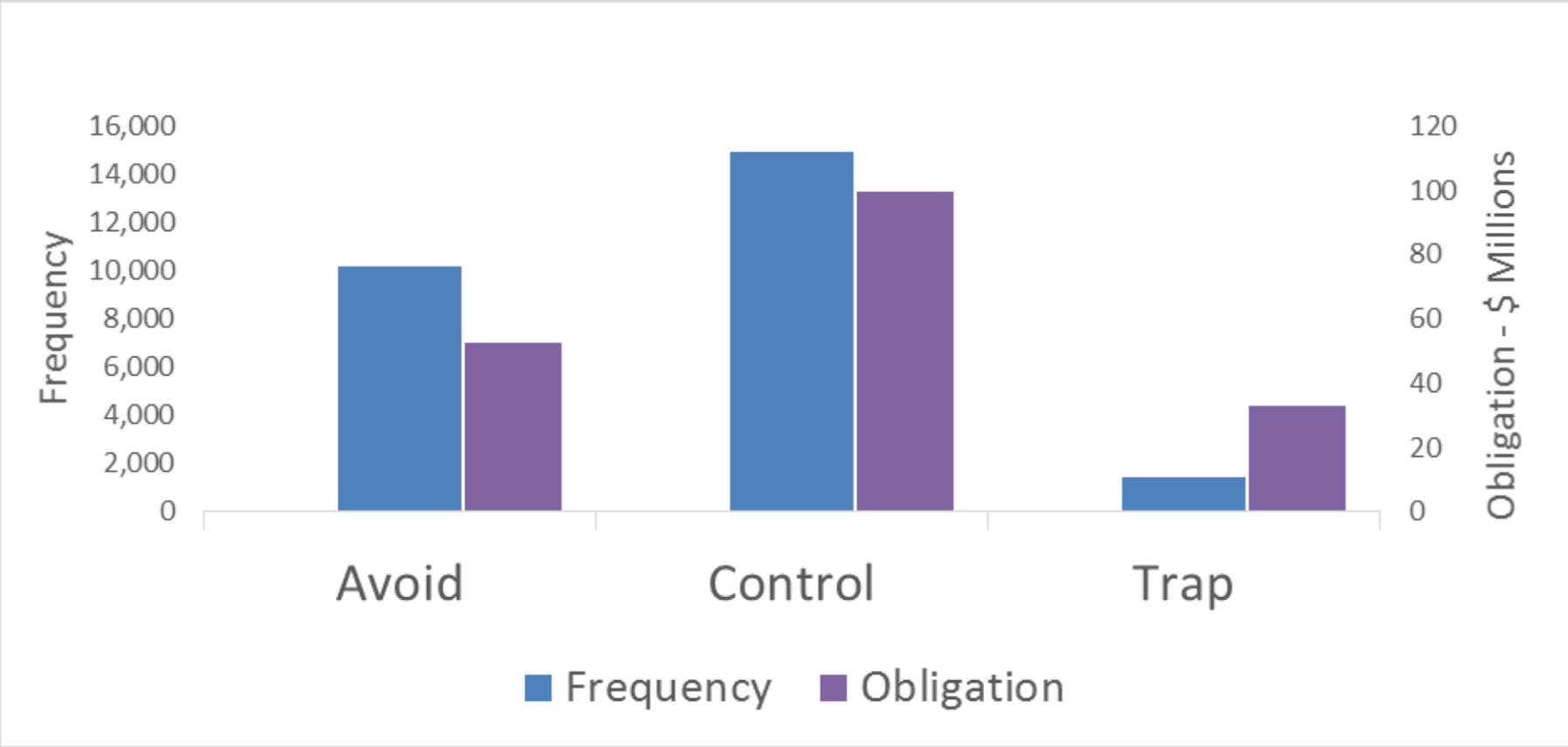
***Control*** runoff, erosion, and leaching to ground water



***Trap*** or physically stop contaminants before they can exit the agricultural landscape



# Applied EQIP Practices in MRBI Projects Since 2010



# Implementation Tracking

**2010 - 2017**

<u>State</u>	<u>Treated Acres</u>	<u>Obligation</u>
Arkansas	410,180	\$83,306,694
Illinois	25,313	\$32,20,754
Indiana	68,017	\$10,605,735
Iowa	155,075	\$27,087,976
Kentucky	50,774	\$6,776,389
Louisiana	47,216	\$6,399,386
Minnesota	76,733	\$6,421,133
Mississippi	142,419	\$53,886,457
Missouri	170,432	\$42,749,315
Ohio	30,744	\$8,354,042
South Dakota	28,189	\$1,693,568
Tennessee	70,221	\$11,200,929
Wisconsin	31,672	\$5,372,587

Practices:

Cover crop

Nutrient management

Irrigation water management

Irrigation system improvements

Tillage and residue management

Terrace

Grade stabilization

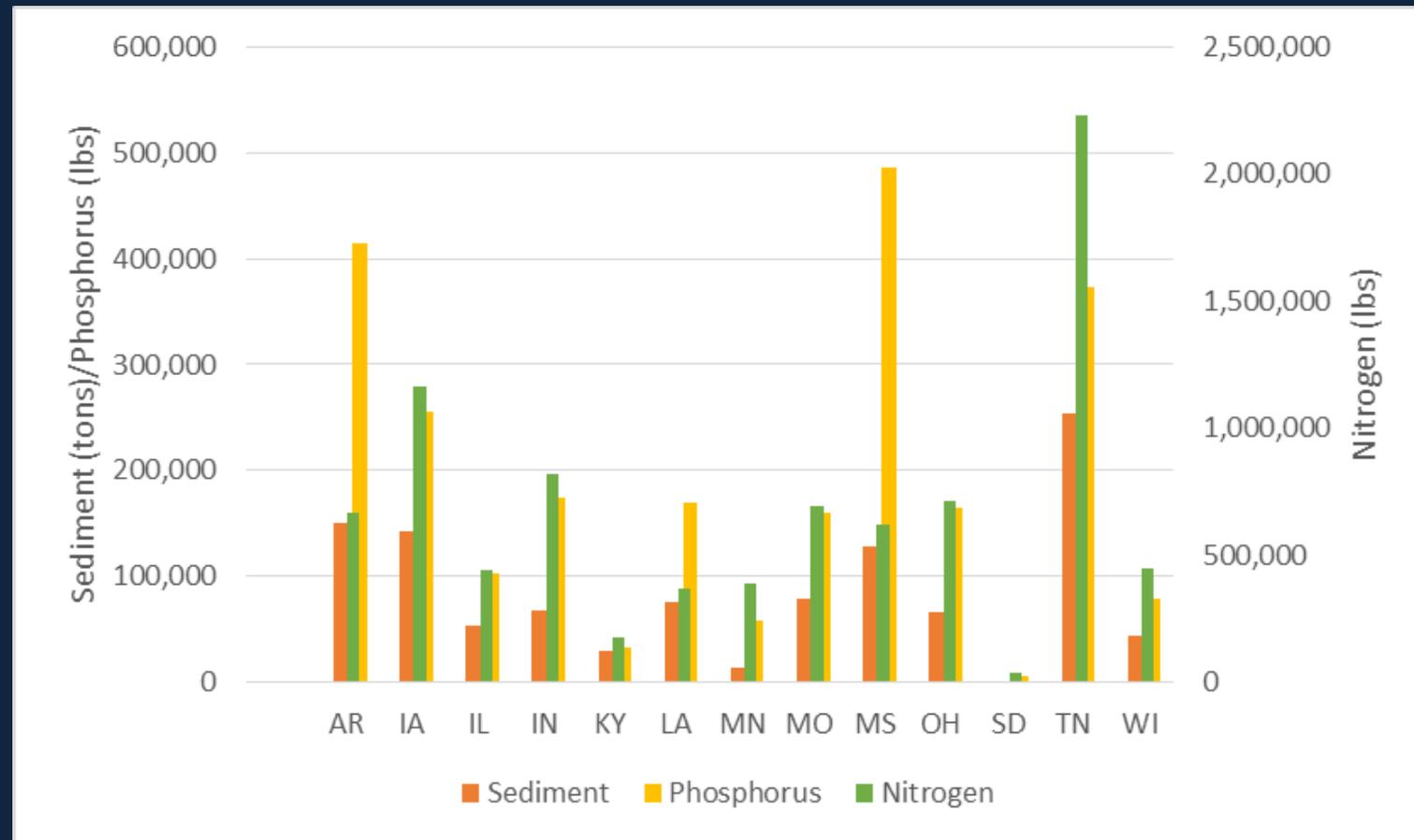
Waste storage facilities

The Hypoxia Task Force is working to develop a measurement framework to track progress towards reaching the interim nutrient reduction goals

# Assessing Outcomes

- Estimating edge of field reductions - modeled using the CEAP framework
- Individual project metrics
  - Measuring edge of field reductions – monitoring
  - Estimating pollutant load reductions – modeled (partners)
  - In-stream monitoring (partners)

Reduction in Pollutant Loss from MRBI Cropland – 2010-2017

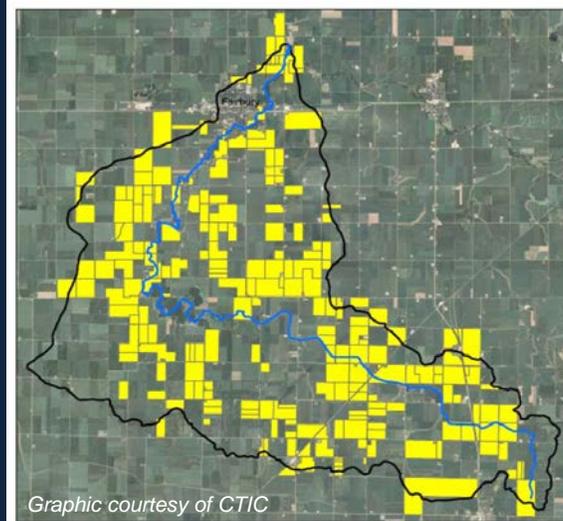


# Focused Implementation of Conservation Practices Leads to Meaningful Progress on Water Quality Goals...



## St. Francis River, AR

In 2014, following years of focused conservation work, two segments of the St. Francis River were removed from the state's impaired waters list because water quality had improved



*Graphic courtesy of CTIC*

## Indian Creek, IN

Large number of participating producers and concentration of practices implemented has contributed a positive impact on nutrient losses within the region, as indicated from recent instream monitoring



*Photo courtesy of Jill Reinhart*

## Flowers Creek, IN

As part of efforts in the Middle Eel watershed to target resource concerns and leverage partner assistance, water quality in Flowers Creek has improved (recommended delisting)



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