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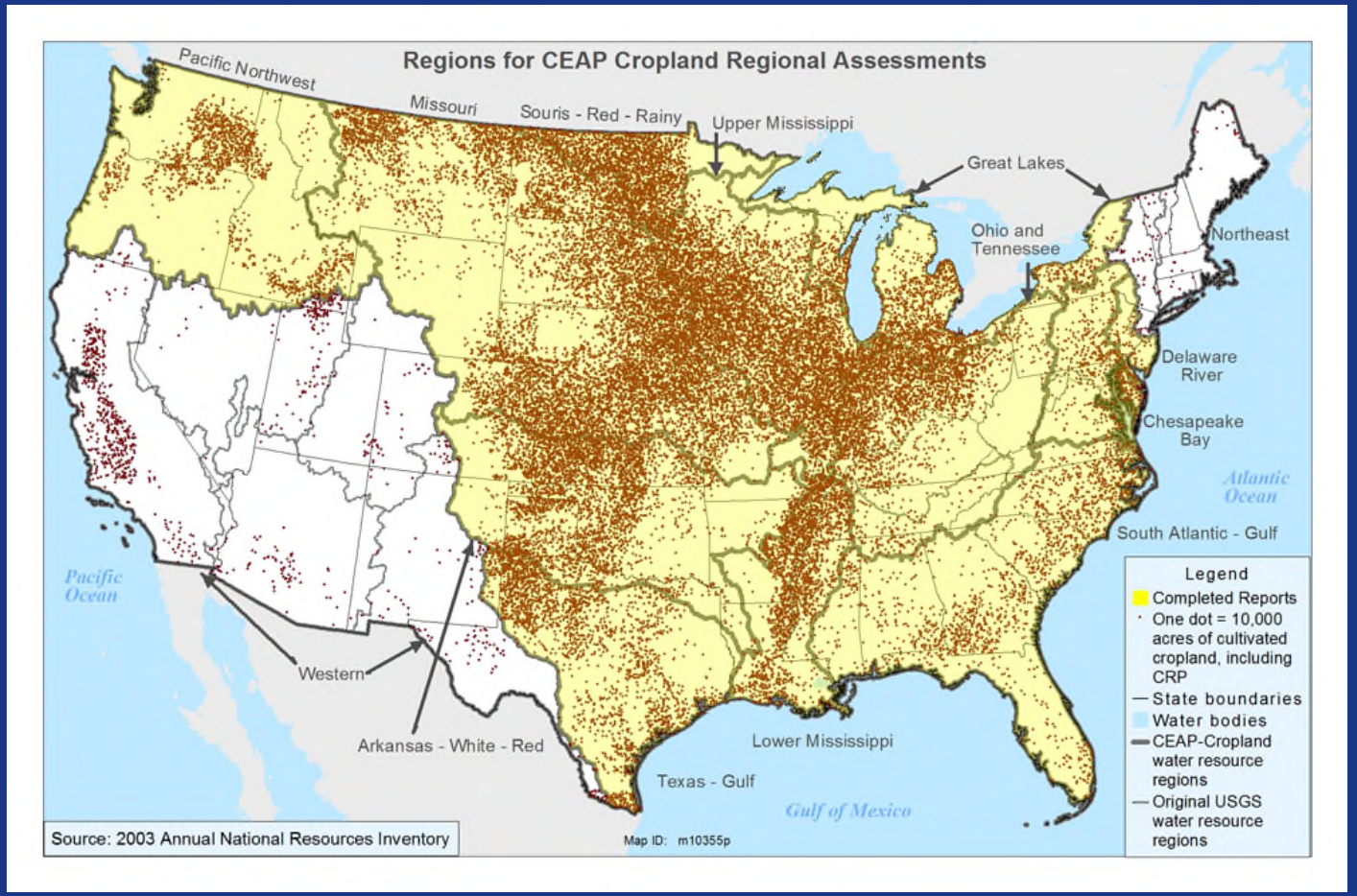
Mississippi River Basin Healthy Watersheds Initiative

NRCS Landscape Initiatives

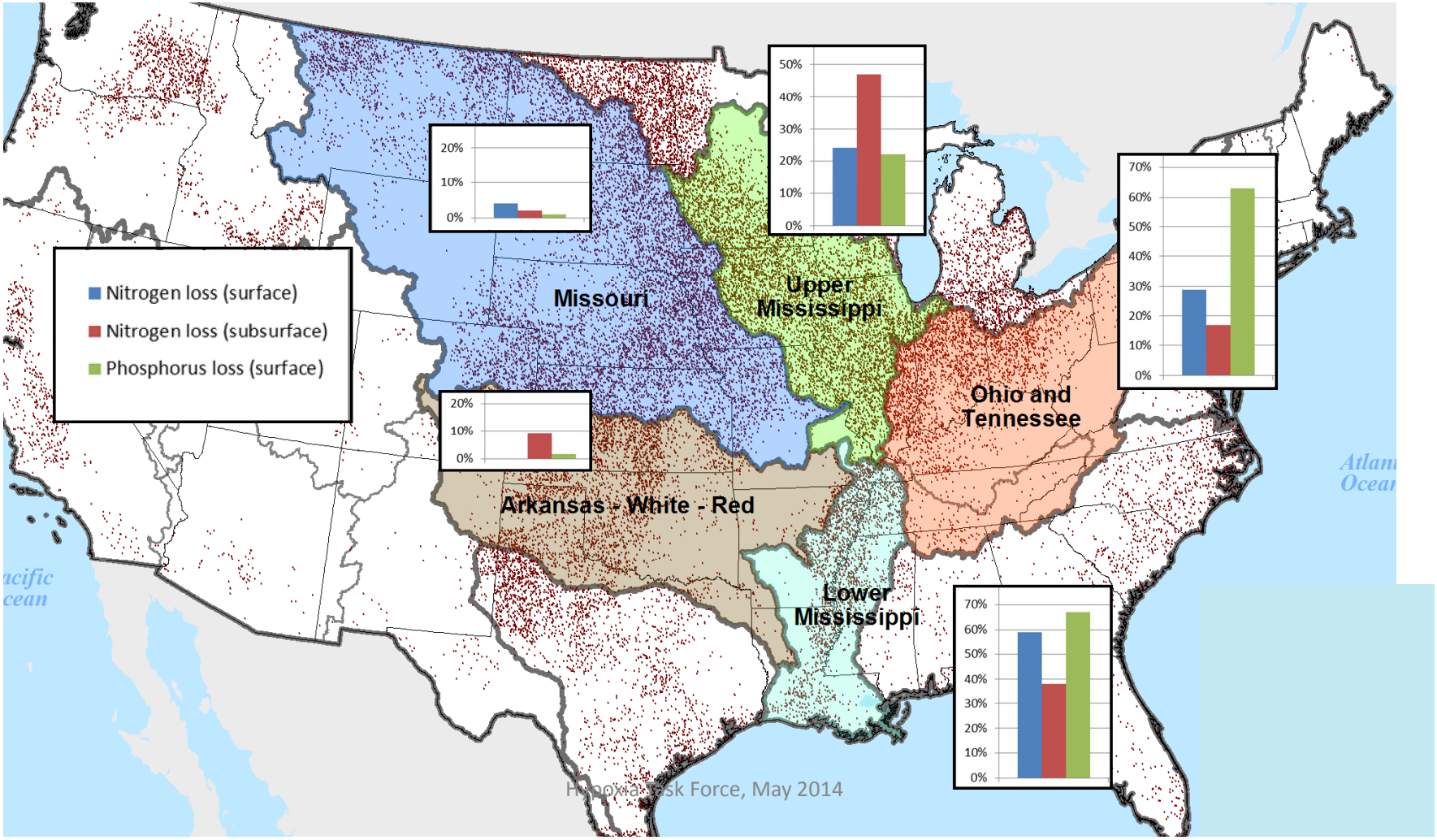
- Initiatives have national significance and focus on critical resource concerns at the landscape level
  - Build on existing locally-led efforts and are partnership driven
  - Dedicated funding to accelerate implementation
  - Science-based
  - Assessment of performance and environmental outcomes

CEAP - Cropland Regional Assessments

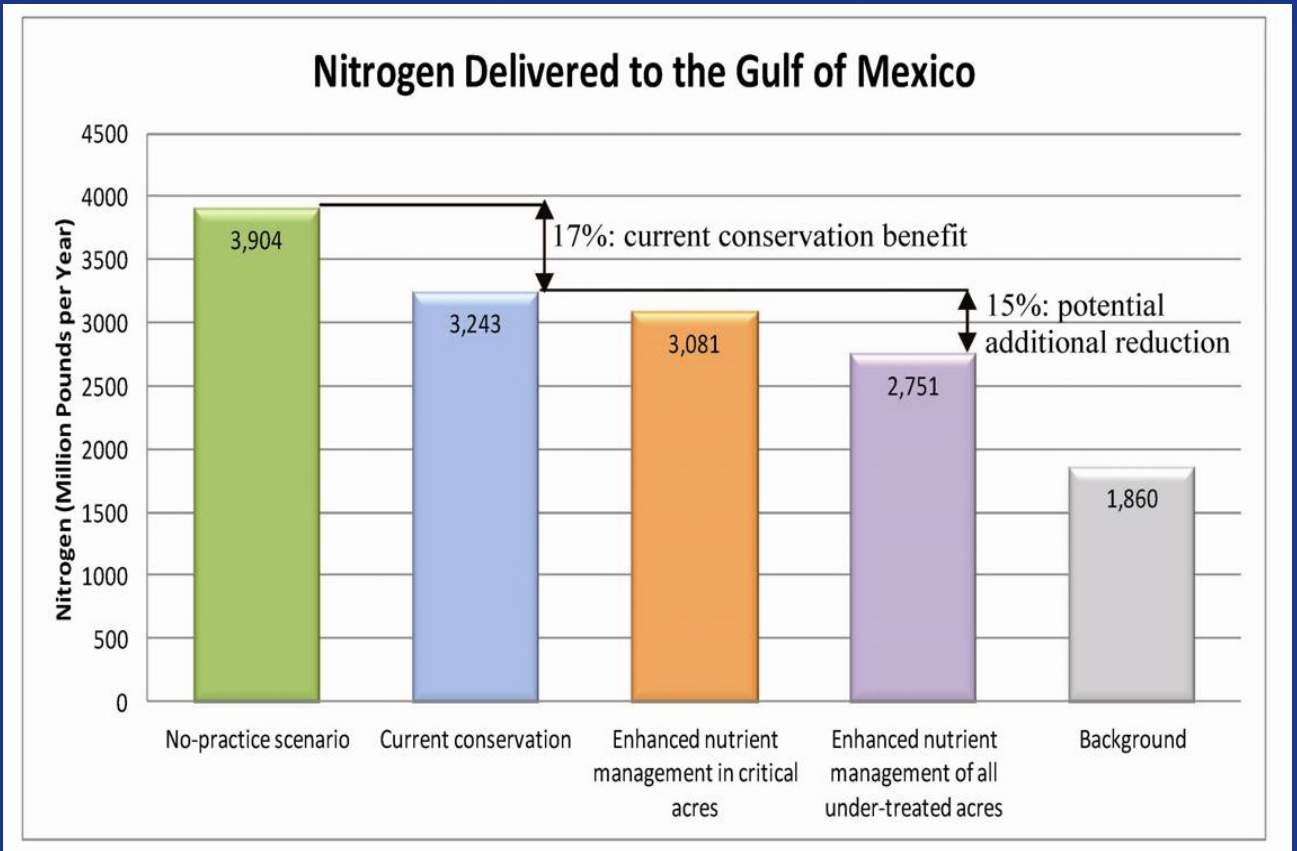


Key Findings of the CEAP Cropland Assessments

Percentage of Cropland with High or Moderate Treatment Need for N and P



CEAP: Benefits of Conservation on Cultivated Cropland in the Mississippi River Basin



Key Findings of the CEAP Cropland Regional Assessments

- The voluntary, incentives-based conservation approach is achieving results.
- Opportunities exist to further reduce sediment and nutrient losses from cropland.
- Comprehensive conservation planning and implementation are essential.
- Targeting enhances effectiveness and efficiency.
- Full treatment of the most vulnerable acres will require suites of conservation practices because no single practice is a universal solution.

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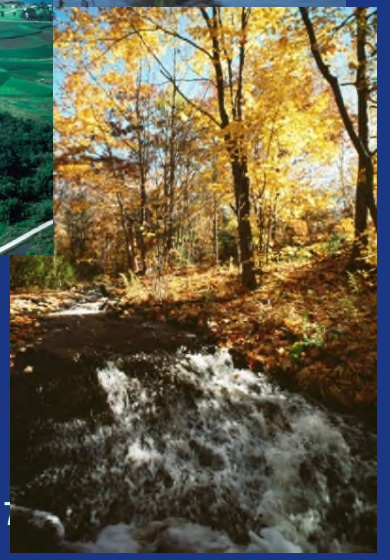
Mississippi River Basin Healthy Watersheds Initiative Initial Roll-Out

- **Objective**
  - Improve the health of small watersheds by supporting locally driven projects connected to agricultural producers and land
- **Priorities**
  - Reduce nutrient runoff
  - Restore and enhance wildlife habitat and wetlands
  - Maintain agricultural productivity
- **Use a Systems Approach**
  - Conservation practices are used in combination for greater effectiveness
- **Examples of Conservation Practices**
  - Nutrient management
  - Conservation tillage
  - Cover crops
  - Erosion control structures
  - Management of agricultural drainage water

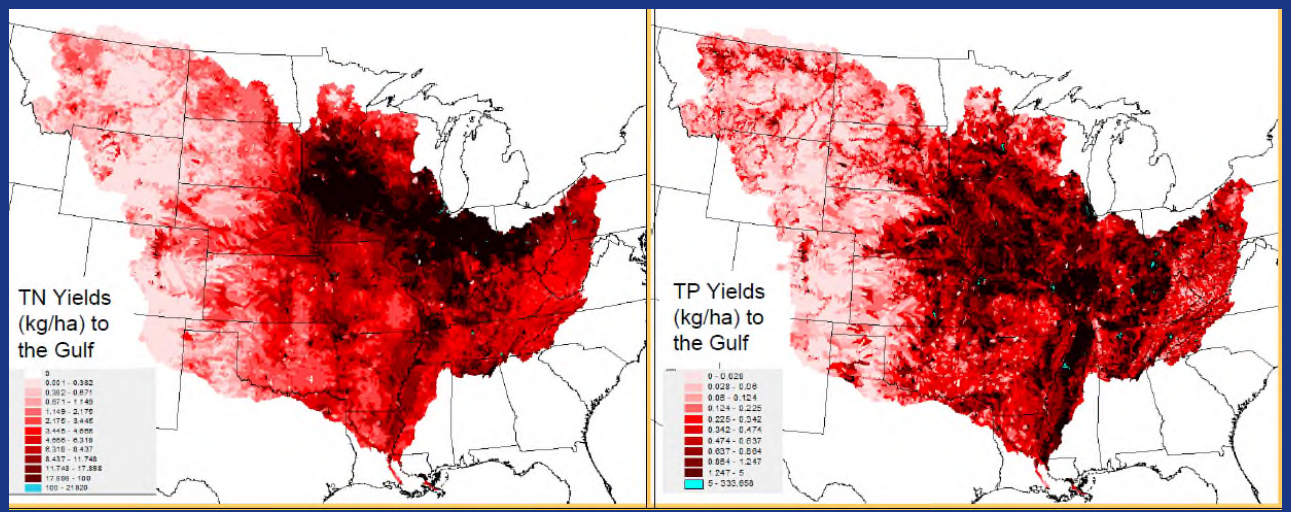


MRBI 2015–2018

- Continue targeted approach with approximately five priority watersheds (12-digit HUC) per state
- Criteria for new watershed include:
  - Identified on state nutrient reduction strategy or other state or regional plan
  - Local and regional water quality concerns (nutrients and sediments)
  - Ability to track outcomes through geospatial analysis, modeling, or monitoring
  - Committed partners to leverage funding and resources . . .

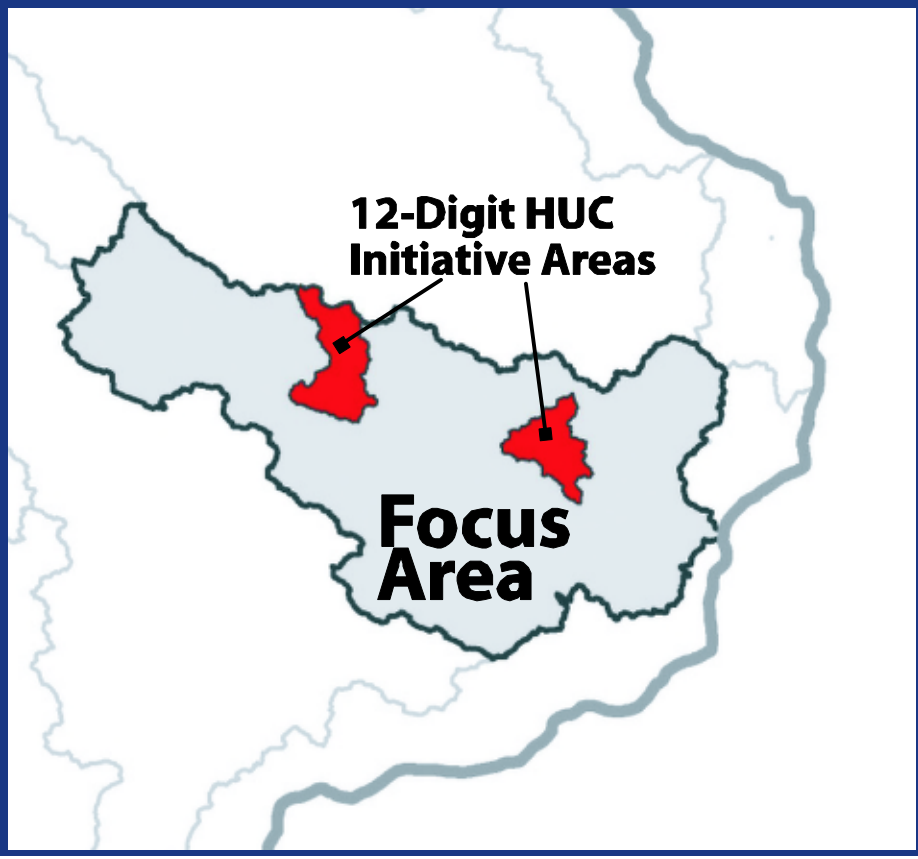
Selection of Focus Areas

- 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



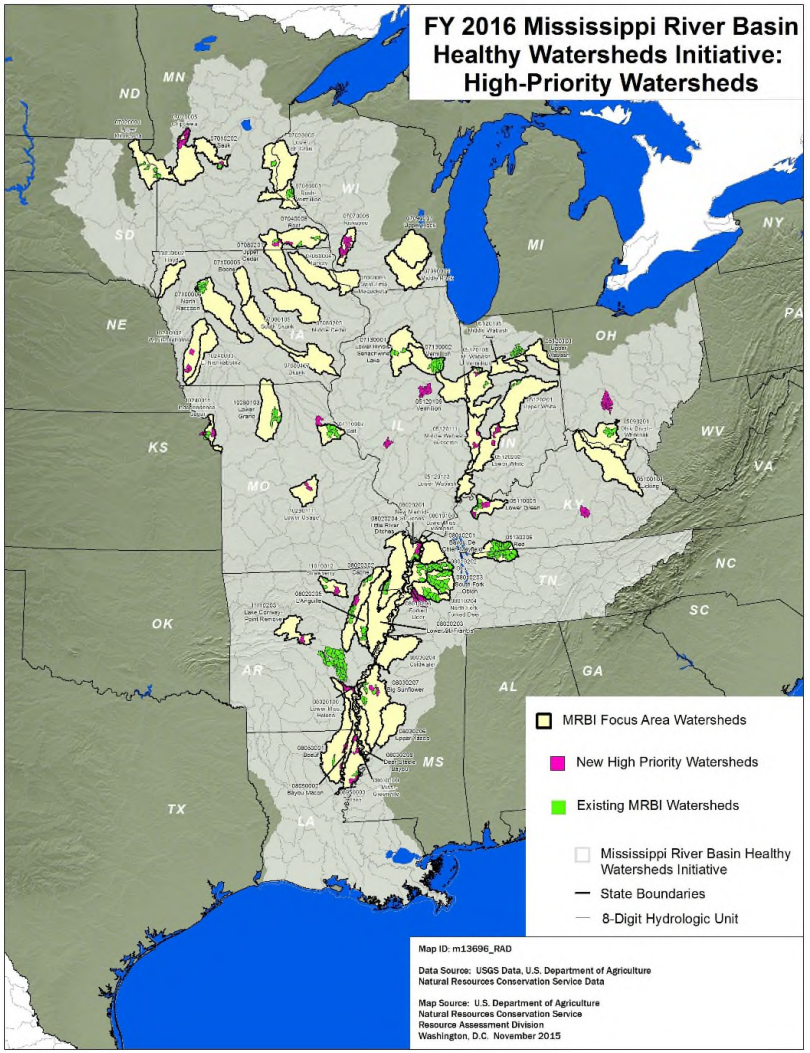
MRBI: Targeted Approach to Conservation

1. Concentrate efforts in focus areas (high priority) at the small watershed scale (HUC12)
2. Identify critical or vulnerable acres within the watersheds with the greatest need for practice implementation



Project-Specific Geographic Targeting

- Majority of projects used additional targeting within the watershed. Common tools for identifying targeted areas included:
  - Watershed management plans
  - 303(d) list
  - Distance to streams
  - Partner input
  - Local datasets
- Farms within targeted areas ranked higher for assistance

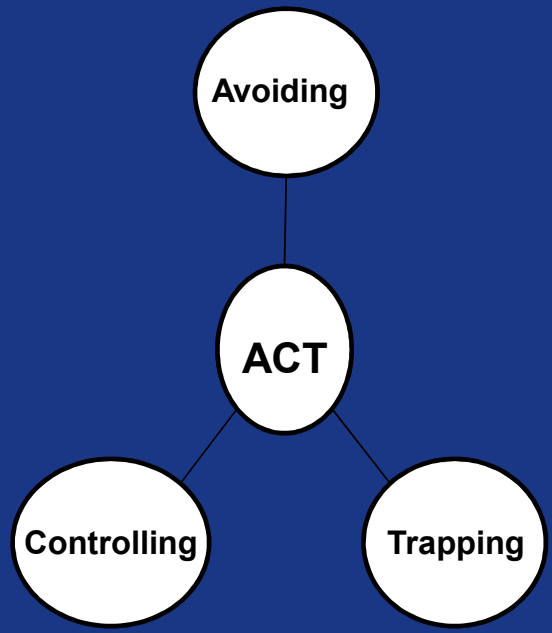


Conservation Systems Targeting: Avoid, Control, Trap (ACT)

Avoiding
- Nutrient management
  Rate, Timing, Form, Method

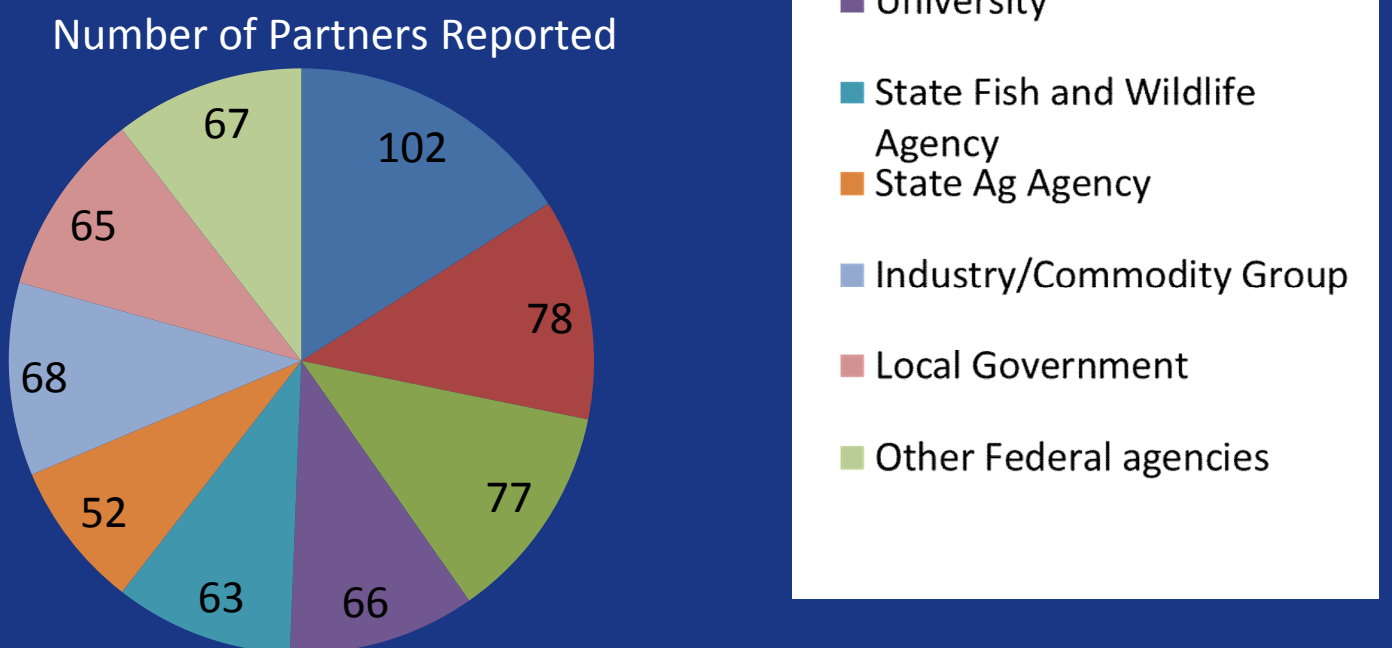
Controlling
- Residue and tillage management
- Drainage Water Management

Trapping
- Buffers
- Wetlands designed for nutrient removal



Partnerships

- Partnerships were integral to the design of MRBI
- **638 active partners reported** (average of 5 per project)
- Partners contributed more than **500 FTEs** and approximately **$20 million in financial assistance and in-kind services**



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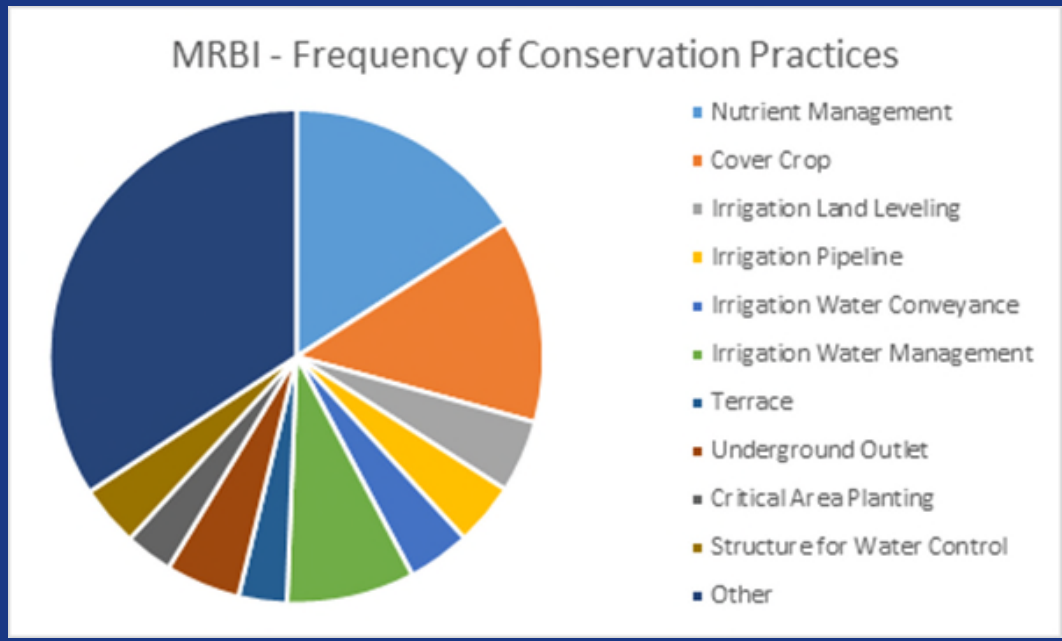
Measuring Outcomes- Implementation Tracking

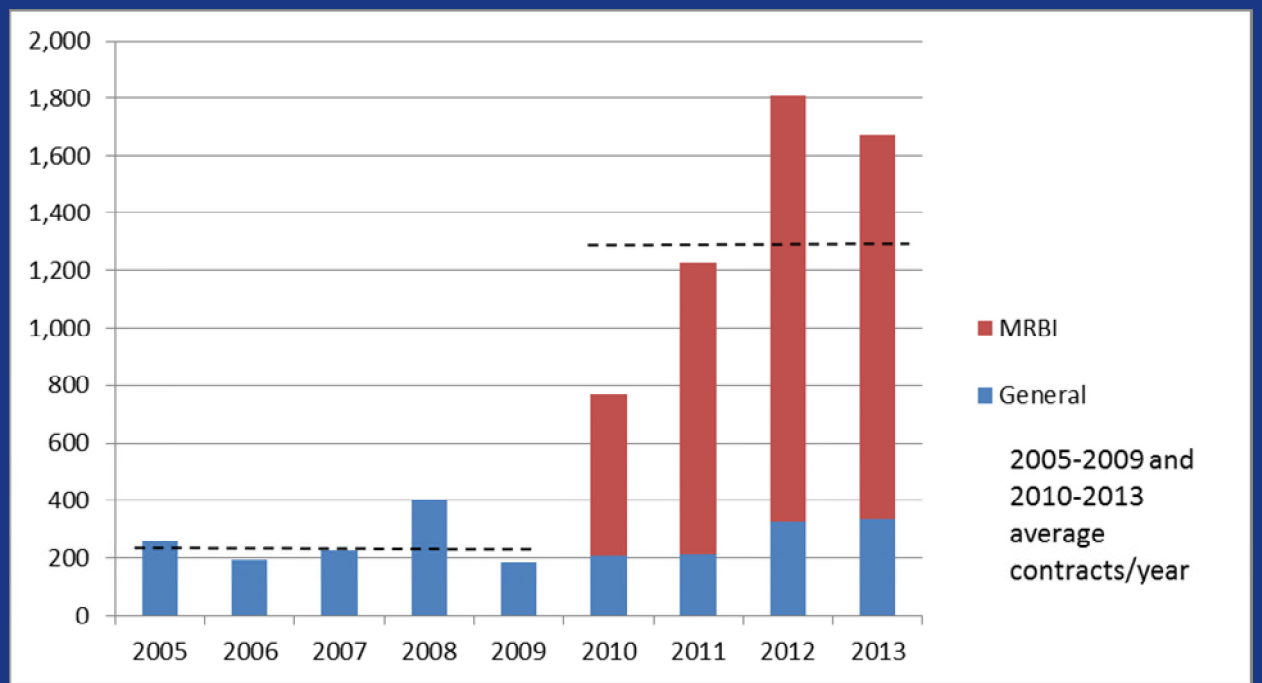
2010 - 2015

State	Contracts	Treated Acres	Obligation
Arkansas	1,664	389,808	$78,096,762
Illinois	114	15,100	$1,525,242
Indiana	170	56,399	$8,728,601
Iowa	855	145,447	$26,579,189
Kentucky	216	38,276	$4,608,607
Louisiana	86	23,526	$2,359,240
Minnesota	245	71,072	$5,470,356
Mississippi	804	122,974	$45,599,488
Missouri	1,421	145,863	$41,517,397
Ohio	152	14,253	$7,400,028
South Dakota	61	23,249	$1,883,999
Tennessee	305	33,317	$4,772,743
Wisconsin	96	19,963	$1,768,362



Acceleration of Conservation Through EQIP

Number of contracts with at least one MRBI core practice in MRBI watersheds, 2005–2013



Measuring Outcomes- Edge of Field Monitoring

- Originally rolled out as Interim PS 799
- 2013 – new requirements for Activity 201/202
- Currently 15 201/202 sites in the MRBI, numerous 799 sites
  - Example: Wisconsin
    - 2 EOF stations and a tile monitoring station (partner)
    - Continuous corn silage
    - Implementing grassed waterway, filter strip

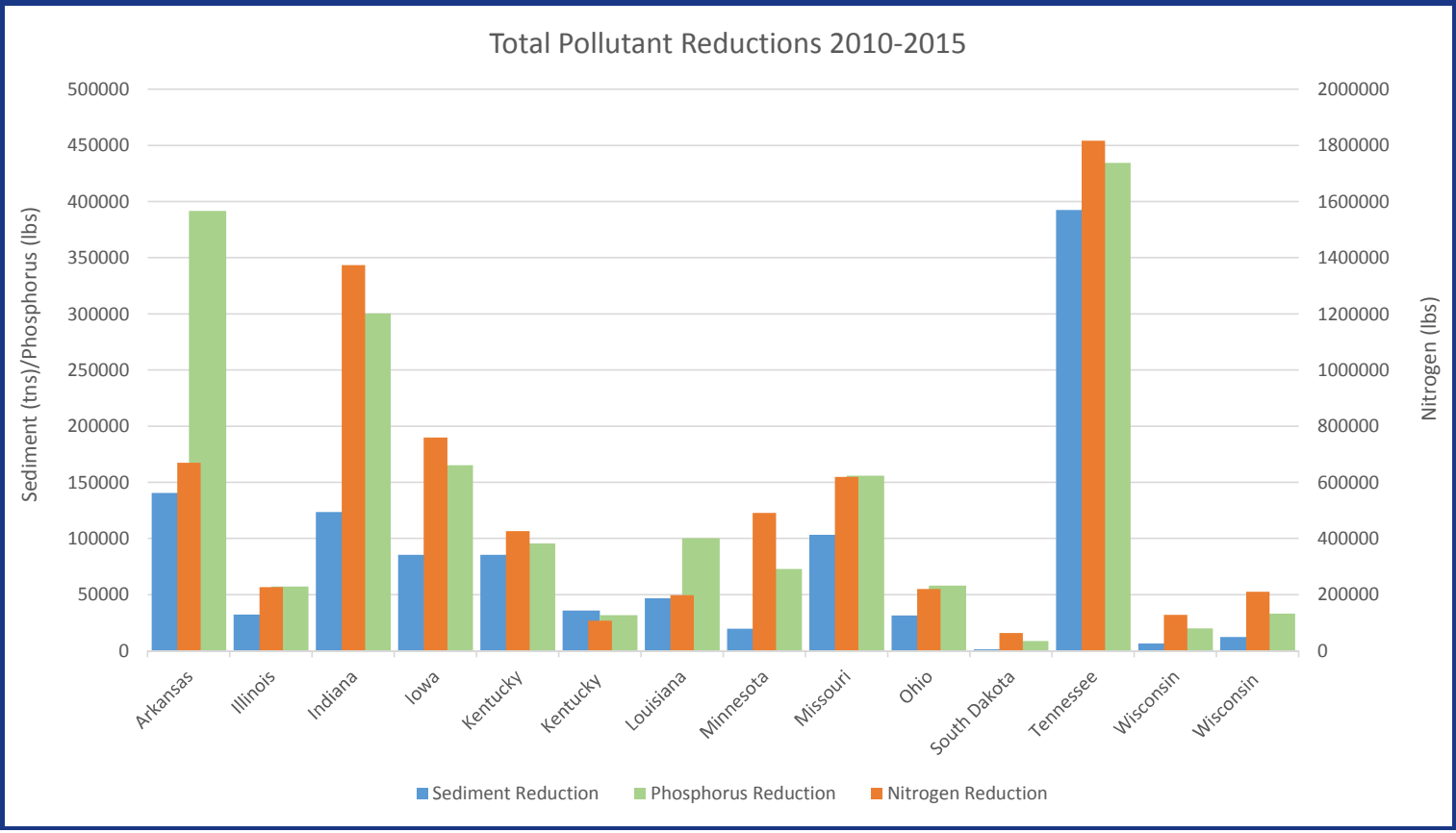
Measuring Outcomes- In-Stream Monitoring (Partners)

- NRCS supports edge-of-field monitoring and relies on other partners for in-stream monitoring and monitoring at the outlet of the HUC12 (or other water body)
- Where possible, EOF sites are located upstream of existing in-stream monitoring sites with available historical flow and water quality record to provide additional insight into water quality improvement

Measuring Outcomes- CEAP Framework

- NRCS used the Conservation Effects Assessment Program (CEAP) statistical framework and calibrated modeling system to estimate the amount of sediment, nitrogen and phosphorus reduced in MRBI small watersheds
- The modeling framework currently applies to cropland only and does not include some edge-of-field and instream practices that have a high conservation benefit

Measuring Outcomes- CEAP Framework - MRBI



Key Findings of the CEAP Cropland Assessments: **Benefits of MRBI** (Working Lands Programs)

Compared to NRCS's normal program activities, the **Mississippi River Basin Healthy Watersheds Initiative** enhanced per acre conservation benefits by:

1.7 times for sediment losses

1.3 times for nitrogen losses

1.4 times for phosphorus losses

Note: CEAP-modeled edge-of-field results.

MRBI Project Goals

MRBI 2010 – 2014 (110 projects)

- 51 had quantitative goals, the balance had more narrative goals
- 19 included monitoring, with 10 including edge of field monitoring
- Other goals included: acres treated, practices installed, #producers, outreach

MRBI 2.0 2015 – (33 priority watersheds)

- More quantitative metrics, but still room for improvement
- Alignment with State Nutrient Reduction Strategies

MRBI Project Goals

Type of Goal	Number of Goals in Category	Number of Quantifiable Goals (% of total goals in category)
Acres Treated	8	7 (88%)
Flood Mitigation	3	0 (0%)
Monitoring	19	3 (16%)
Number of Producers Reached	18	14 (78%)
Other	53	2 (4%)
Outreach/Education	43	16 (37%)
Practices Installed	41	19 (46%)
*Reduce Nutrients	147	65 (44%)
*Reduce Nutrients and Sediment	12	8 (67%)
*Reduce Sediments	52	26 (50%)
Wetland Creation	8	2 (25%)
Wildlife Habitat	23	0 (0%)
Grand Total	**427**	**162 (38%)**

Approximately half of the goals were related to reducing nutrients and sediment.

Self-reported Project Goal Status (March 2014)

Goal Status	Number of Goals (Percent of total)
Has been achieved	**61 (17%)**
Is on target to be achieved by planned target date	**183 (50%)**
Progress has been made but target date has been delayed	**81 (22%)**
Little progress has been made and goal is not expected to be achieved	**42 (11%)**

Conclusions

- Success
  - Partnership engagement
  - Acceleration of conservation practices
  - Overall modeled reductions
- Improvements needed
  - Watershed specific goals
  - Alignment with monitoring

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Questions?



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