Great Plains-Midwest HABs Forum
§319 Program: HABs Prevention, Success, Partnerships

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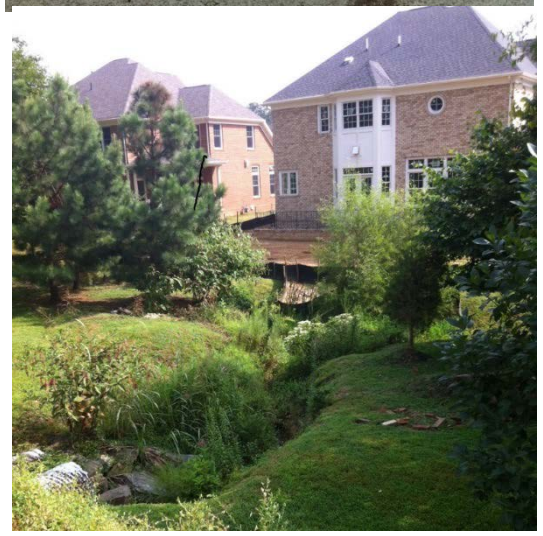
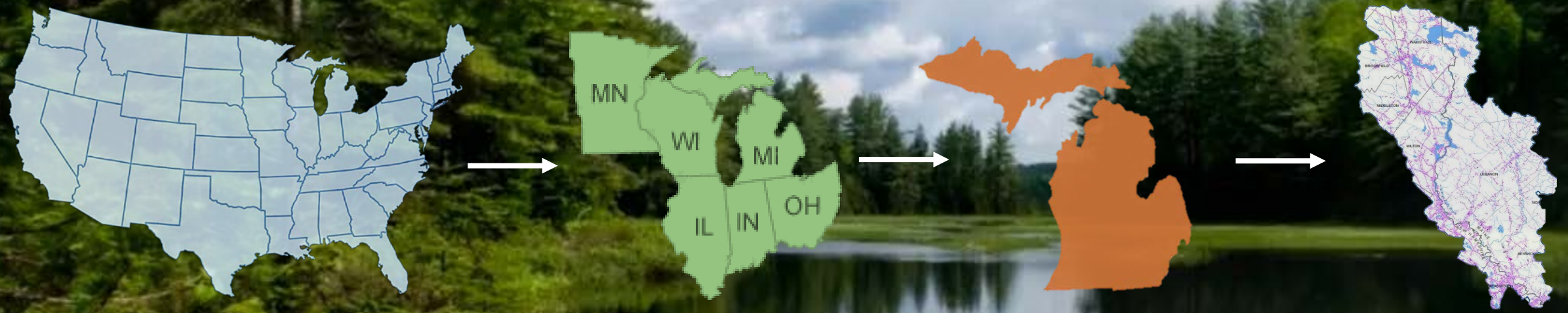
Nonpoint Source (NPS) Pollution is Diverse

- **Agriculture**
  - **Nutrients**, **sediment**, pathogens, pesticides, metals
  - Pollutant losses from row crop runoff, irrigation water, animal facilities
- **Onsite septic systems** – **Nutrients**, pathogens
- **Nonregulated suburban/urban runoff**
  - Pathogens, **nutrients** (e.g., fertilizer, pet waste), oil
  - Excess water volume scours streams – **sediment**
- **Acid mine drainage** (abandoned mines) – metals, pH
- **Forestry** – **sediment** (landslides, roads), temperature
- **Hydromodification** – dams, channel straightening
  - **Sediment**, temperature, habitat destruction



§319 is a National Program, supports State Programs, and Powers Local Watershed Projects

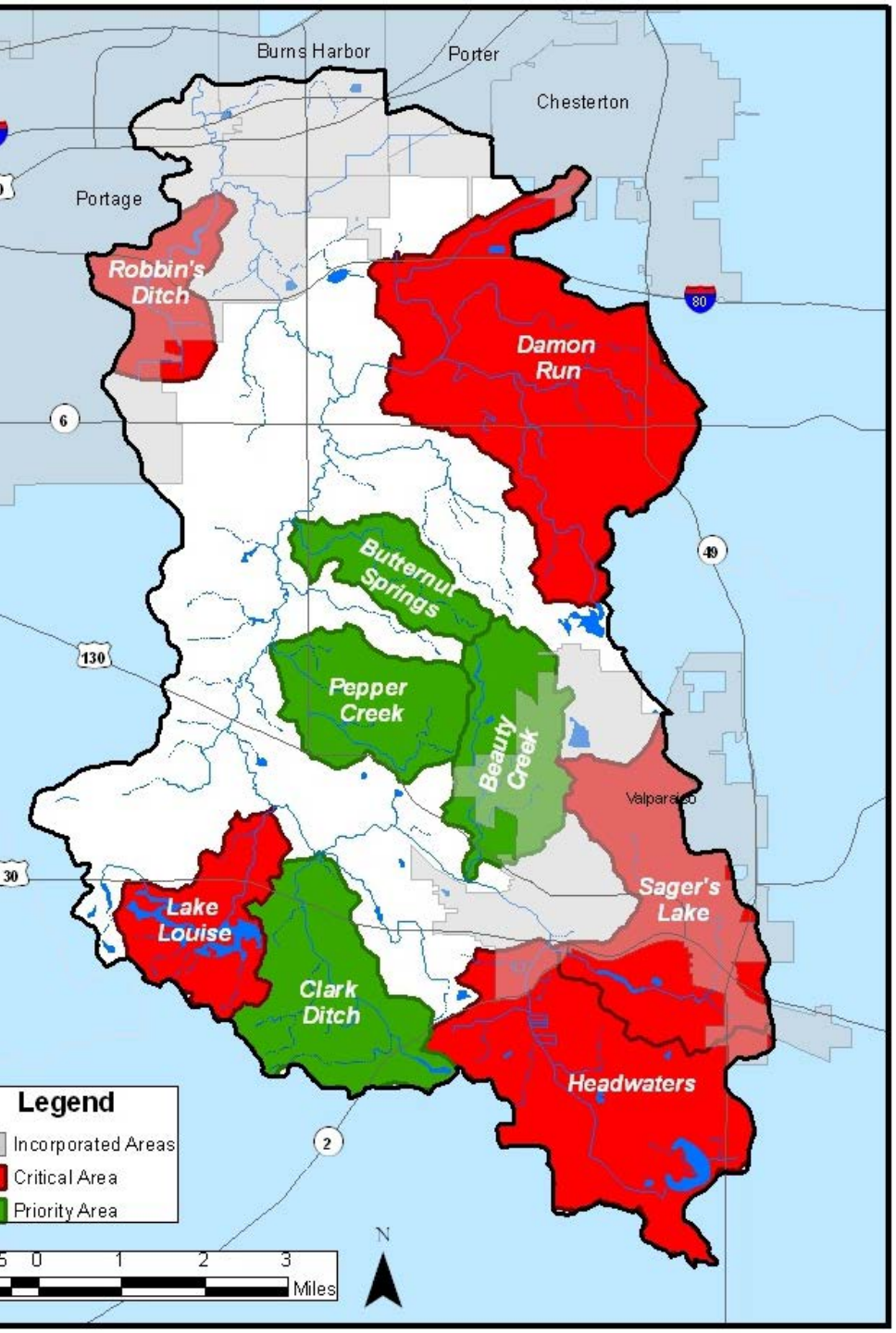


Funds are distributed to states annually based on formula

- In FY19 $168M distributed to states (Tribes 5%); ~ $1M to ~ $8.3M per state
- 40% non-federal match required

EPA Guidelines - Use of funds:

- **NPS management program** (staff, planning, monitoring, etc.)
- **Watershed projects** 50% of funds support on-the-ground projects



NPS Loads in a Watershed Vary Widely, *Must be Targeted* to Improve Water Quality

- A watershed approach considers all sources and prioritizes the most important control actions in **critical source areas**
- Watershed Plans provide **technical basis for water quality progress** related to pollutant loads, largest sources, critical areas and BMPs
- Watershed Plans are a **roadmap for engaging stakeholders** and landowners throughout the project. Local buy-in is essential.
- Any given Plan or critical area may include a few or many individual projects, landowner actions

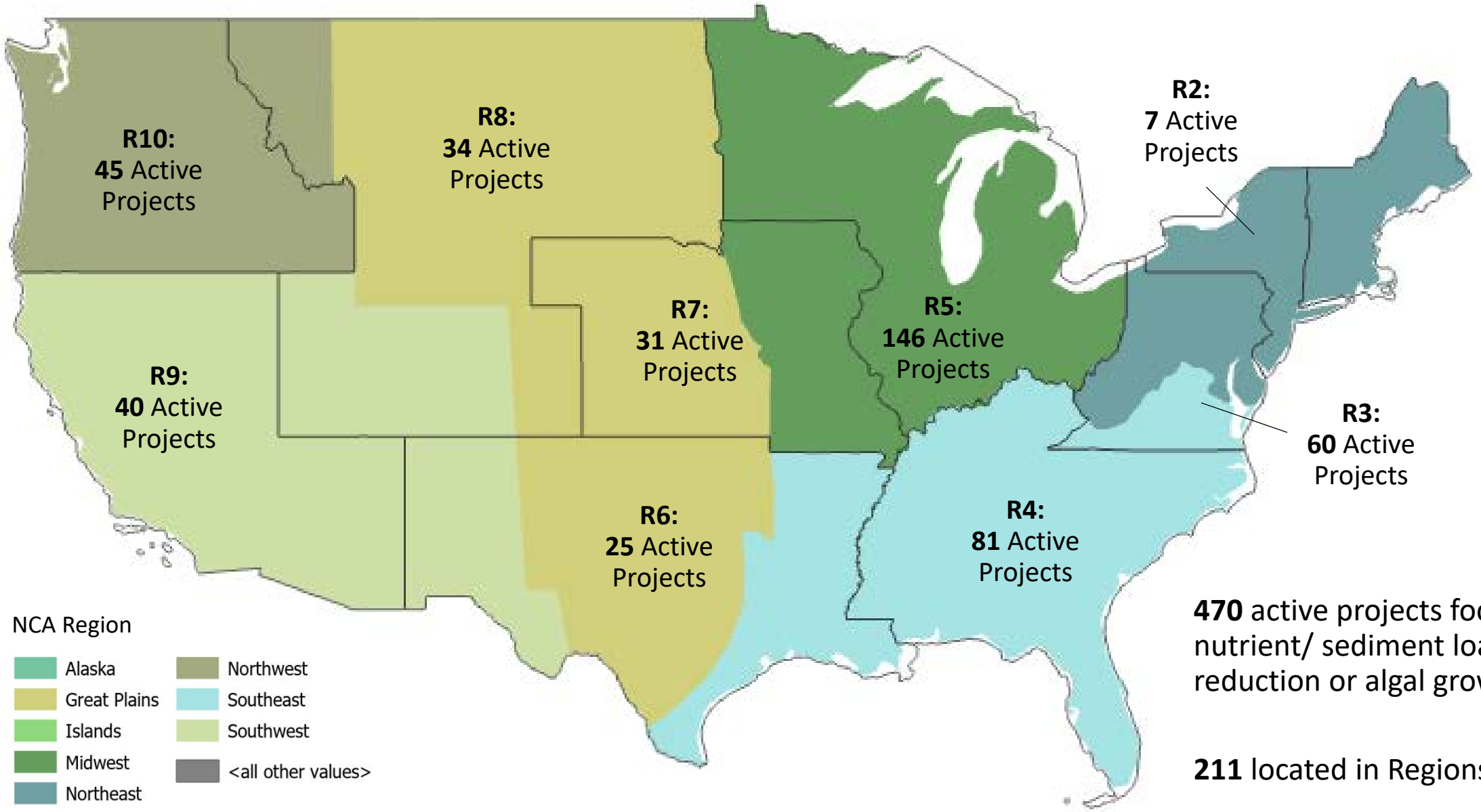
The role of §319 in HAB prevention

Recommended Actions for Jurisdictions to Take to Combat Harmful Algal Blooms

National Science and Technology Council Product *Harmful Algal Blooms And Hypoxia In The Great Lakes Research Plan And Action Strategy: An Interagency Report*

- **Reduce nutrients and sediment from non-point sources** within contributing basins and watersheds
- Continue and expand ongoing complementary programs that provide **planning, knowledge dissemination, tools, and technical and financial assistance** for nutrient and sediment pollution

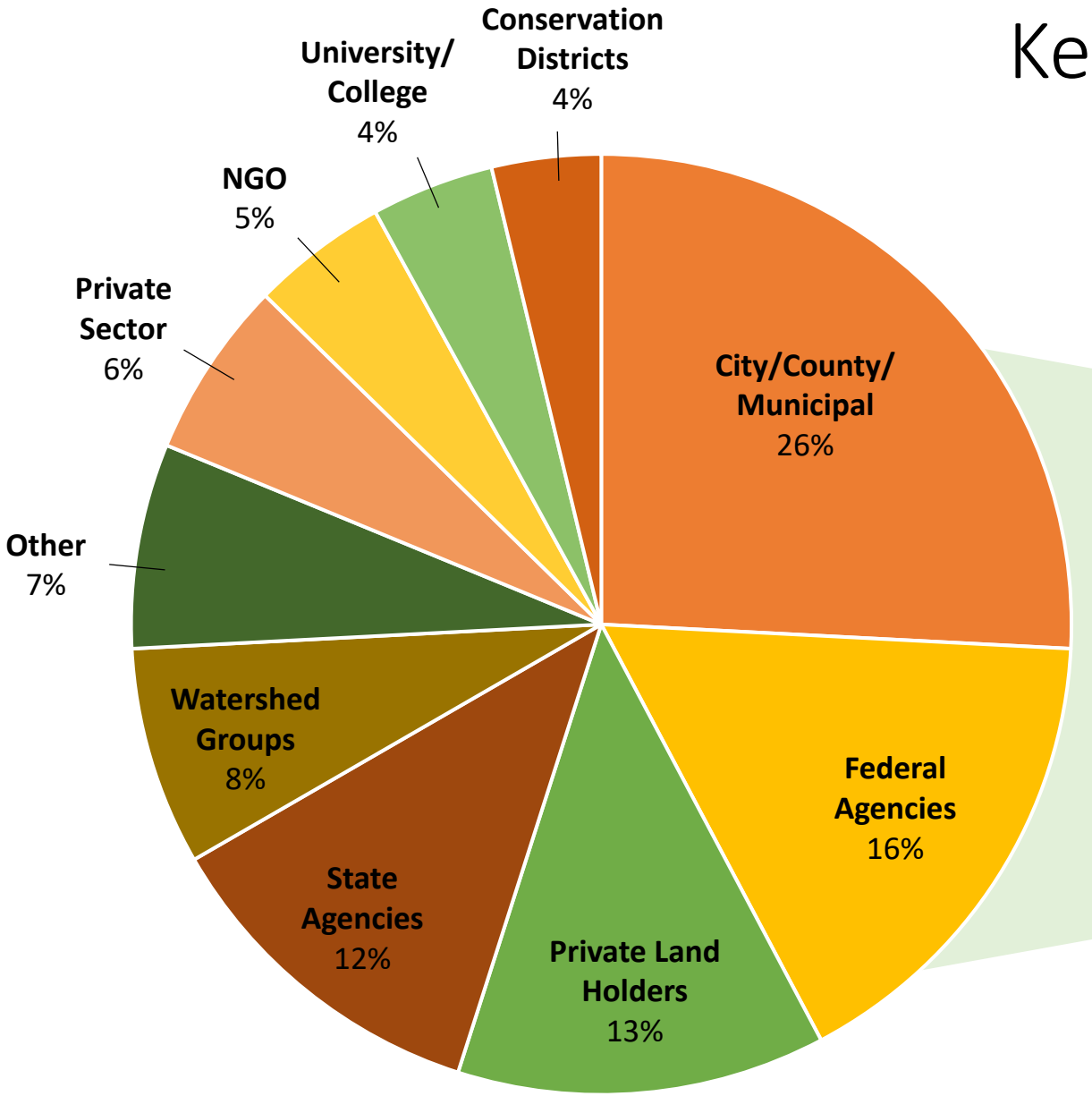
Active §319 Projects Focused on Nutrient, Sediment, and Algal Growth



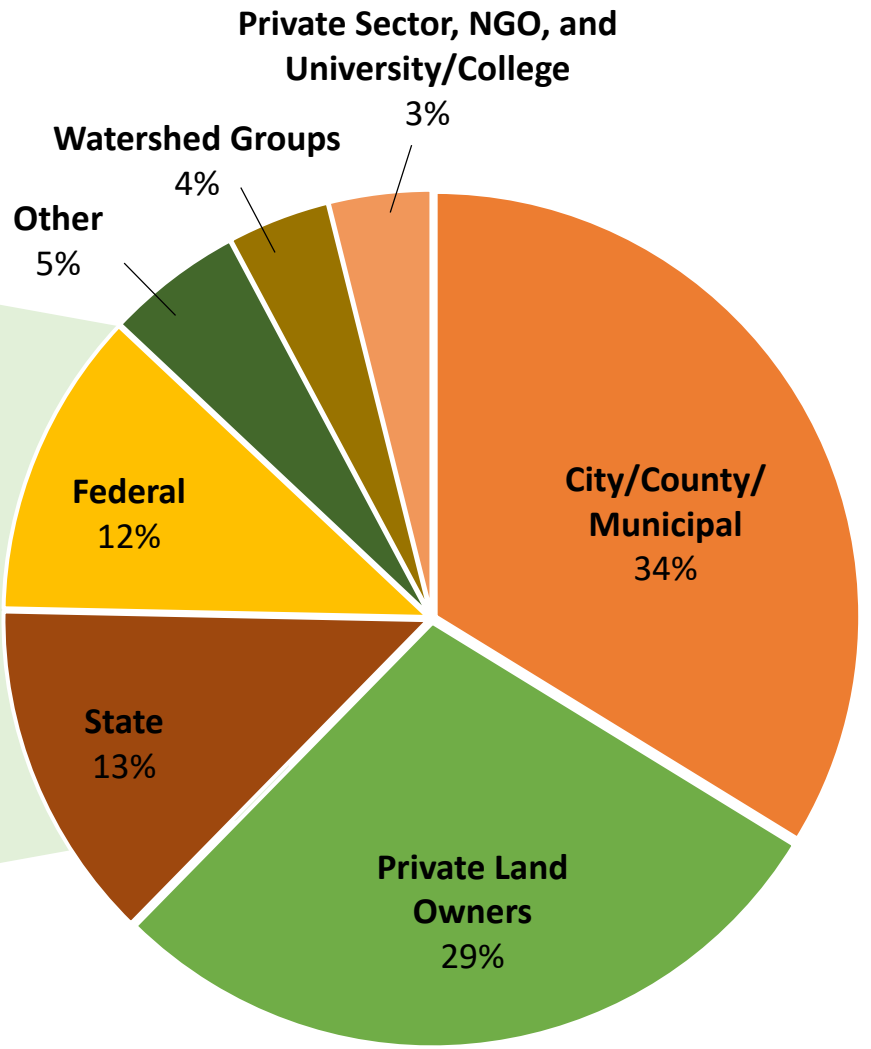
470 active projects focused on nutrient/ sediment loading reduction or algal growth

211 located in Regions 5, 7, and 8

Key Partners in Active Projects



All Active Projects (470)



Active Projects (211) in Regions 5, 7, and 8

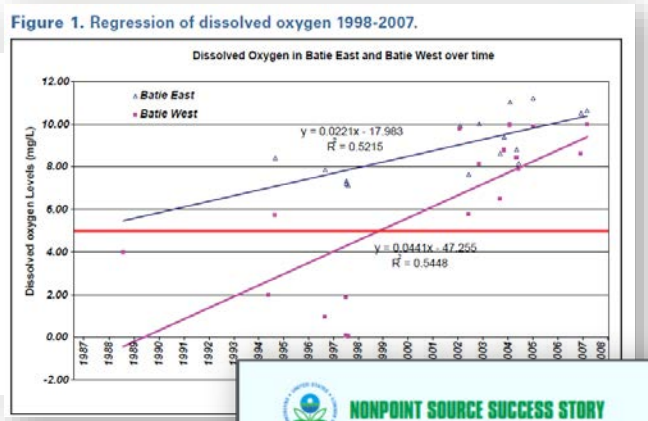
Section 319
NONPOINT SOURCE PROGRAM SUCCESS STORY

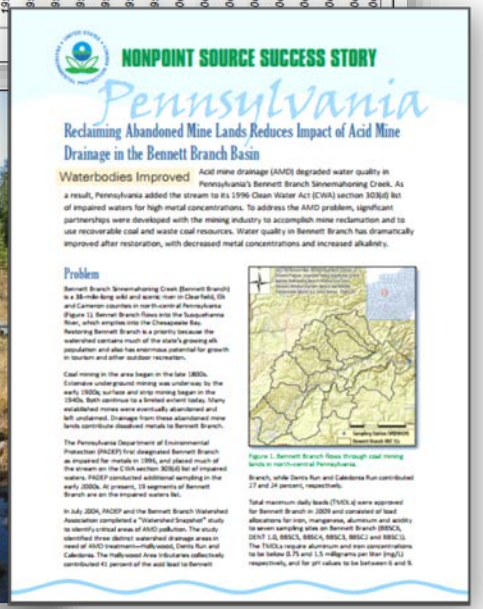
Read the Success Stories

This page features stories about primarily nonpoint source pollution-impaired water bodies, where restoration efforts have led to documented water quality improvements. To view the stories, either:

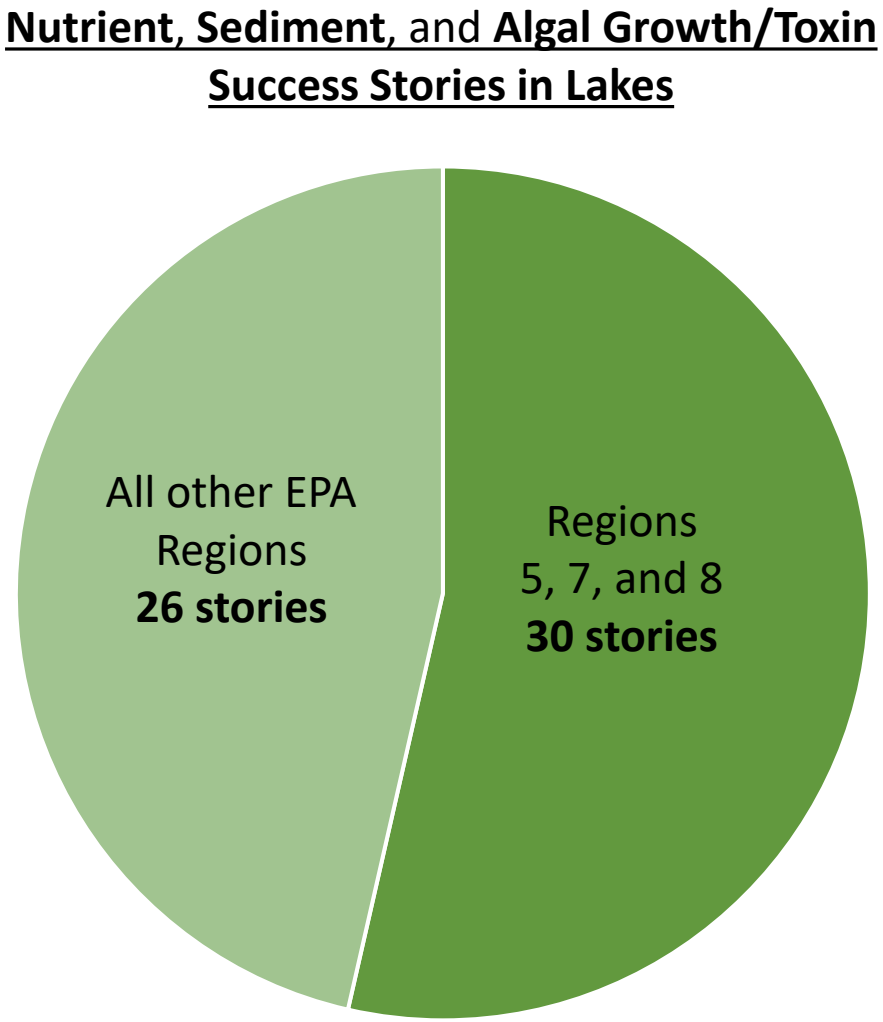
- choose a state from the map below, or
- use the table below.

Partially or Fully Restored Water Bodies
832



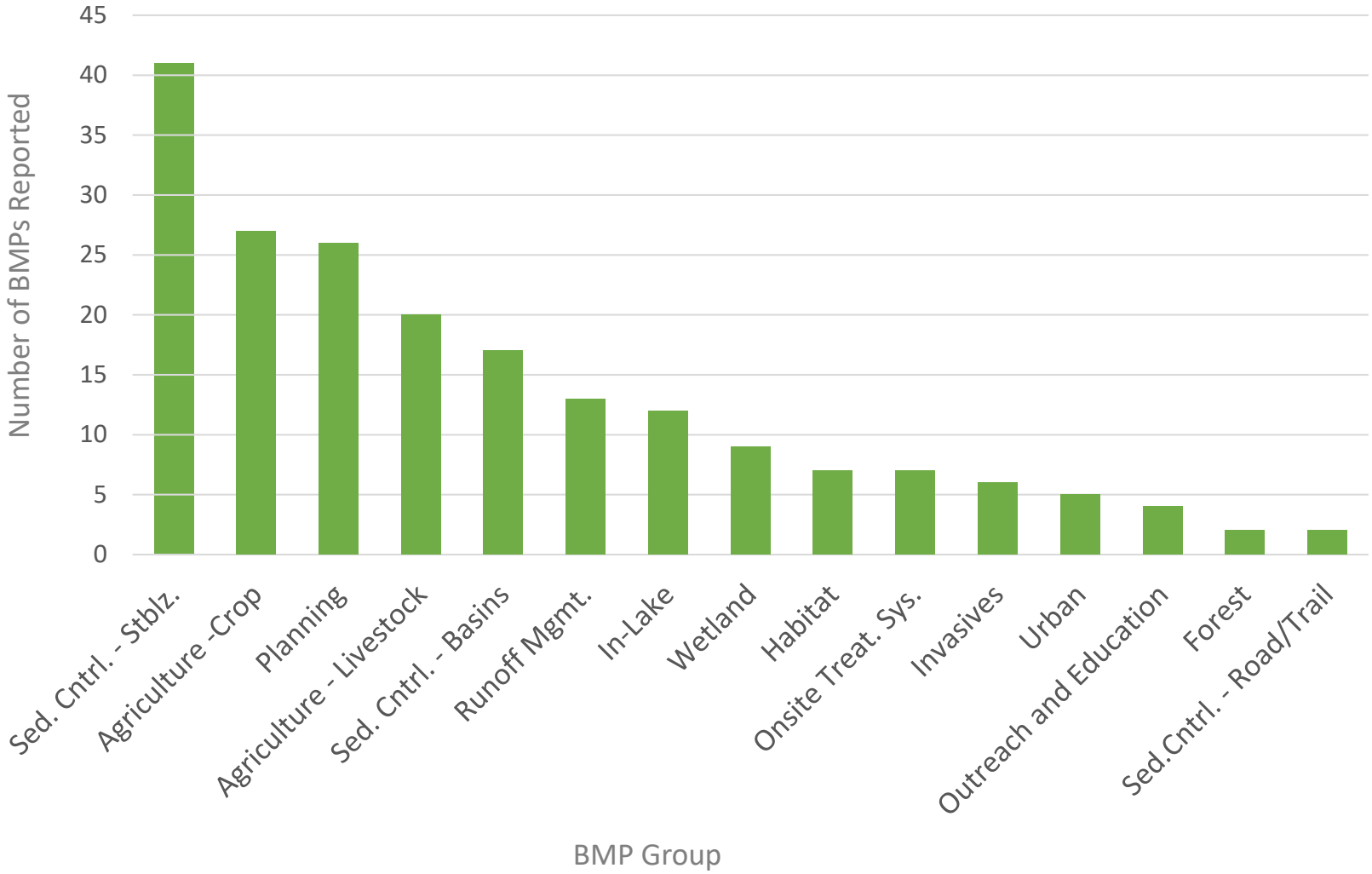


NPS Success in addressing Nutrients, Sediment, and Algal Growth/Toxins in Lakes



- 80 NPS Success Stories focus on waterbody improvements in lakes.
- **56** of these lake stories focus on **nutrient**, **sediment**, and/or **algal growth/toxin** reduction
- **30** successes are based in **Regions 5, 7, and 8**

BMPs adopted in Region 5, 7, and 8 Nutrient, Sediment, and Algal Growth/Toxin Lake Success Stories



- Five most frequently reported BMPs include **Sediment Control** (bank/shoreline stabilization and filtration basins) **Agricultural Practices** (both crop and livestock), and **Planning**
  - watershed plans, nutrient management plans, etc.

BMPs adopted: Tri-Regional Nutrient, Sediment, and Algal Growth/Toxin Lake Success Stories

Targeting management practices in the right places on-land prior to pursuing in-lake work is critical to enduring water quality results.

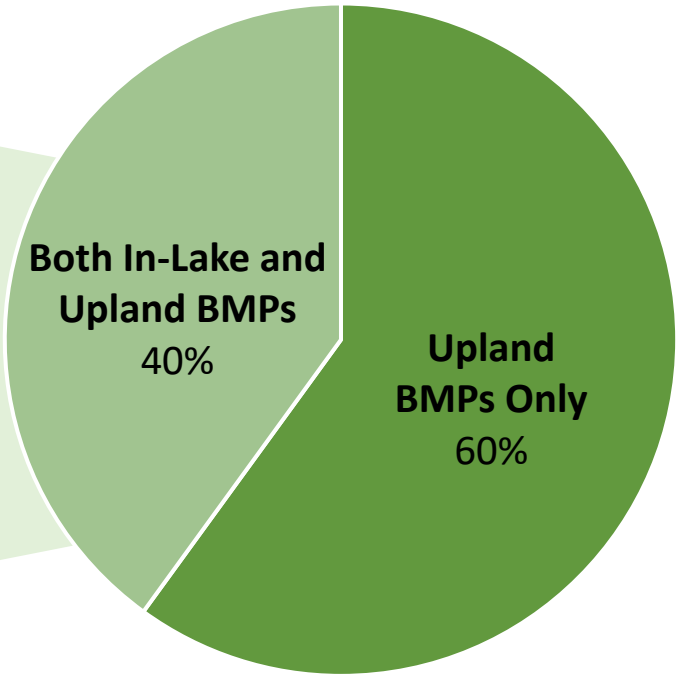
<u>Sequence of Upland and In-Lake Work in Region 5, 7, and 8 Success Stories</u>

- **5** stories adopted **upland BMPs first**
- **1** story adopted **in-lake treatment first**
- **6 did not report** on the sequence of upland vs in-lake work

The following in-lake BMPs were used:

- **Dredging**: 6 stories
- **Alum treatment**: 6 stories

<u>All Nutrient/Sediment/Algal Growth Lake Success Stories</u>



<u>Nutrient/Sediment/Algal Growth Lake Success Stories in Regions 5, 7, and 8</u>

Success Story Case Study – Big Indian Reservoir 11A, Nebraska

BMPs Implemented	
Cropland Practices	Conservation tillage (130 ac), cover crops (343 ac), grass waterways (6 ac), sediment and grade control structures, terraces (96,784 linear feet [ft] controlling 725 ac), and wetland rehabilitation (1 ac).
Pasture Practices	12 alternative water supply, exclusion fencing (21,014 ft), invasive species control (130 ac), and prescribed grazing (728 ac).
Stream Practices	Riparian zone grass planting (13 ac), three sediment/nutrient basins, riparian zone planting (400 ft), and wetland/floodplain reconnection (8 ac).
Shoreline Practices	Bio-engineered and rip-rap shoreline stabilization (570 ft), and nine shoreline breakwaters
In-Lake Practices	Sediment removal (277,490 cubic yards)
Other	On-site wastewater system upgrade, recreational area camper dump station

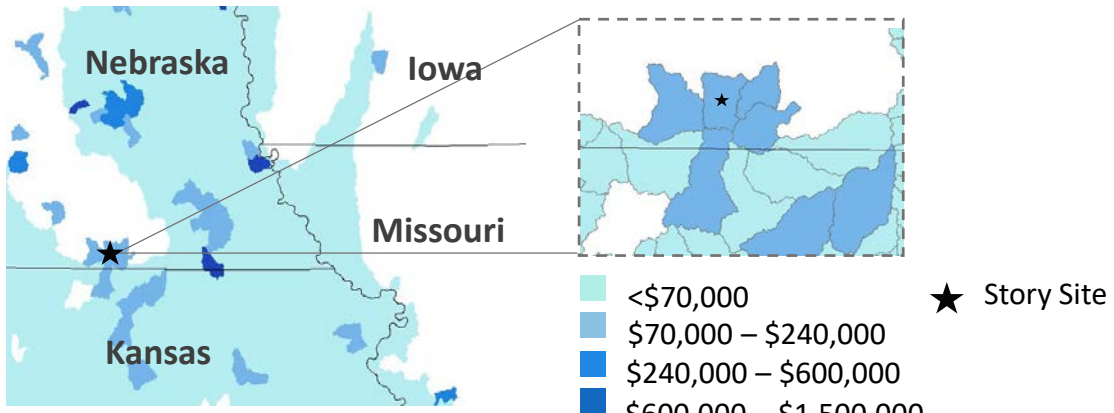
Waterbody Size: 76 acres
Pollutants Addressed: Phosphorus and Sediment-Siltation
Primary Impairment source: Agricultural Runoff
Year Delisted: 2016
Pollution Load Reductions:

- Phosphorus loading reduction: 3,146 lbs/year (71.1% reduction)
- Sediment loading reduction: 5,821 tons/year (72.3% reduction)

Partner Types:

- Federal: EPA §319; USDA EQIP
- State: NE Game and Parks Commission; Lower Big Blue Natural Resources District; Univ. Nebraska Cooperative Extension
- Other: NGO; landowners

Total Funding (§319 and other): $1,735,925



§319 funding for lake projects by HUC12 surrounding success story site

Partnership, Coordination, and Funds Leveraging

Given magnitude of NPS problems and limited resources, NPS programs build connections and leverage funding

- **USDA -** especially NRCS conservation programs
- **FEMA –** hazard mitigation planning and grants; nexus of water quality projects and reduced risk from natural hazards (drought, floods)
- **CWSRF and DWSRF -** has authorities for SRF-funded NPS projects and receptive to innovative NPS approaches

Water Quality and Hazard Mitigation Planning (HMP)

Basics of HMP

- States & localities prepare HMPs to be eligible for FEMA grants
- HMPs focus on all hazards including natural hazards (e.g., flood, drought)
- FEMA policies and grants now put more emphasis on **pre-disaster mitigation, resilience** and **nature-based approaches**
- Projects with “co-benefits” may compete better for FEMA funding

Growing recognition of HABs as a hazard in HMPs

- Some state HMPs include HABs
- H.R. 414 would explicitly include algal blooms as basis for ‘major disaster’ declaration and funds

Water Quality BMPs with Hazard Mitigation Co-Benefits

Opportunity for water quality BMPs and nature based solutions(e.g., GI/LID, soil health practices) to help achieve HMP goals, creating co-benefits

Significant co-benefits can garner hazard mitigation funding

HABs in state hazard mitigation plans

Some states have included HABs in their HMPs: **Michigan, Missouri, Ohio, Wisconsin**

- MI, MO, and WI include HABs in their **risk analysis**:
  - MI includes HABs as a Great Lakes shoreline hazard
  - OH and MO list HABs as a future risk that will be exacerbated by climate change

- WI includes HABs in **risk analysis and HMP action items**:
  - HABs included as a climate hazard
  - **Prioritizes green infrastructure** in evaluating local hazard mitigation grant applications

- Getting a hazard and associated water programs/actions in the HMP is first key step for potential funds leveraging

Connecting with your State Hazard Mitigation Program

Reach out to your State Hazard Mitigation Officer (SHMO)

Meet to discuss the NPS program/watershed planning, and the nexus of water quality programs and co-benefits in state HMP

Encourage the SHMO to include general information on water quality program/projects in state HMP

Connect with state agencies involved with hazard mitigation planning

Connecting with your State Hazard Mitigation Program

Points of Interest for your SHMO

Integrated planning processes – water quality and hazard mitigation – more efficient

Leveraging of FEMA funding with other funds

Water programs offer access to nature-based solutions to hazards

Adopted broadly, nature-based solutions can help reduce flood insurance rates

Resources: Integrated HMP, Watershed Planning

- 319 HMP Resources:
  - General Information
  - Planning Resources
  - Funding Resources

- Watershed Planning Resources

Summary

- With support from the §319 program, state NPS programs are actively working to address nutrient pollution and prevent HABs
- With partners and perseverance, success can be achieved
- NPS programs are well situated to leverage partners
  - FEMA is an important yet under-utilized partner for water quality programs
  - Planning processes, funds can be leveraged to achieve water quality goals including addressing HABs