

The Nature
Conservancy



Protecting nature. Preserving life.™

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WLEB



The Mission of The Nature Conservancy is to conserve the lands and waters on which all life depends



1 million
members



62 years of
conservation



More than **119 million**
acres of land protected



**Kitty Todd Preserve, Oak Openings Region of
Northwest Ohio**



Kayaking in the Apalachicola river system, Florida
©Richard Bickel

We work in more than 70 countries
and all 50 of the United States



We've protected more than 60,000 acres in Ohio!

TNC's efforts go beyond land acquisition and protection



Satellite image of 2011 algal bloom in the Western Lake Erie Basin

@MERIS/NASA; processed by NOAA/NOS/NCCOS

Focus Areas in Western Lake Erie Basin

Restore Coastal Wetlands

- ▶ Goal: Restore 40% of the basin to suitable habitat for shorebirds, waterfowl and warblers.
 - ▶ Restore 1% of Ag acreage to natural infrastructure: Wetlands, Riparian Corridors, Floodplain Restoration, ~56,000 acres.

Preserve Oak Openings

- ▶ Goal: Preserve 10% of the Oak Openings and restore natural communities to support migratory birds, rare plants, waterfowl, and stream health.



Focus Areas in Western Lake Erie Basin

Assist Agriculture

Goals:

- ▶ 3.2 million acres are using 4R Nutrient Management principles by securing agribusiness and industry buy-in by 2020. (Currently at 2 million acres)
 - ▶ Right Rate, Right Time, Right Source, Right Place
- ▶ Provide technical training on conservation practices
- ▶ Evaluate the efficiency and cost of new and innovative practices
- ▶ Deliver emerging data to nutrient service providers, drainage managers, and those advising growers
- ▶ Pilot new funding mechanisms
- ▶ Promote practices that trap and control water to provide multiple benefits

Promote practices that trap and control water to provide multiple benefits: flood damage reduction; channel protection; water quality



Systems Approach to Agriculture



In-Field

Productive, sustainable and equitable



Cover Crops



Turn surface water drains into blind inlets



Grassed Waterways



Residue Management

Edge-of-Field



Drainage water management



Phosphorus filter bed

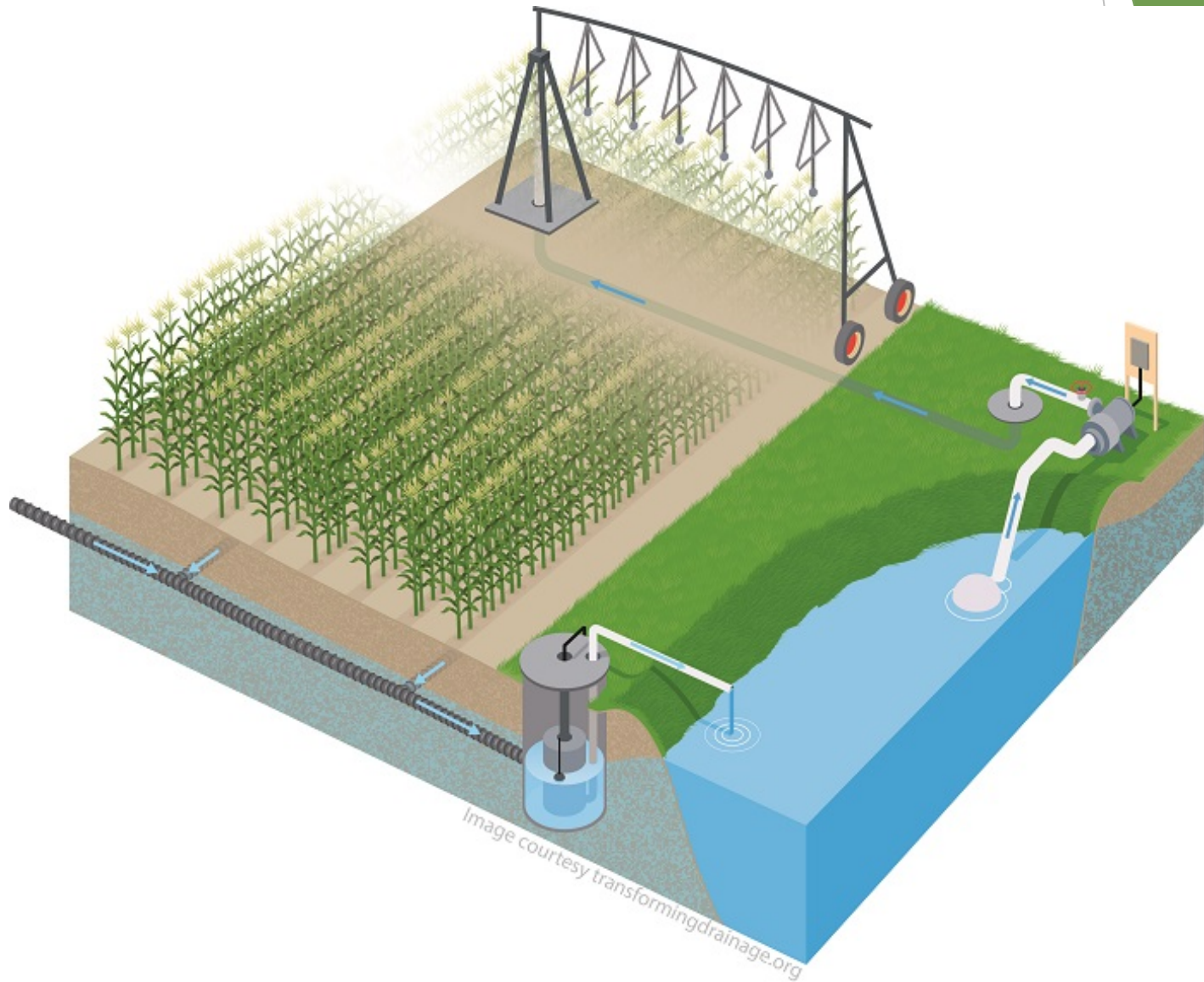


Filter Strips



Rock Chute

Edge-of-Field Drainage Water Recycling



Beyond-the-field

Storing water in the public drainage system for multiple benefits



Two-Stage Ditch

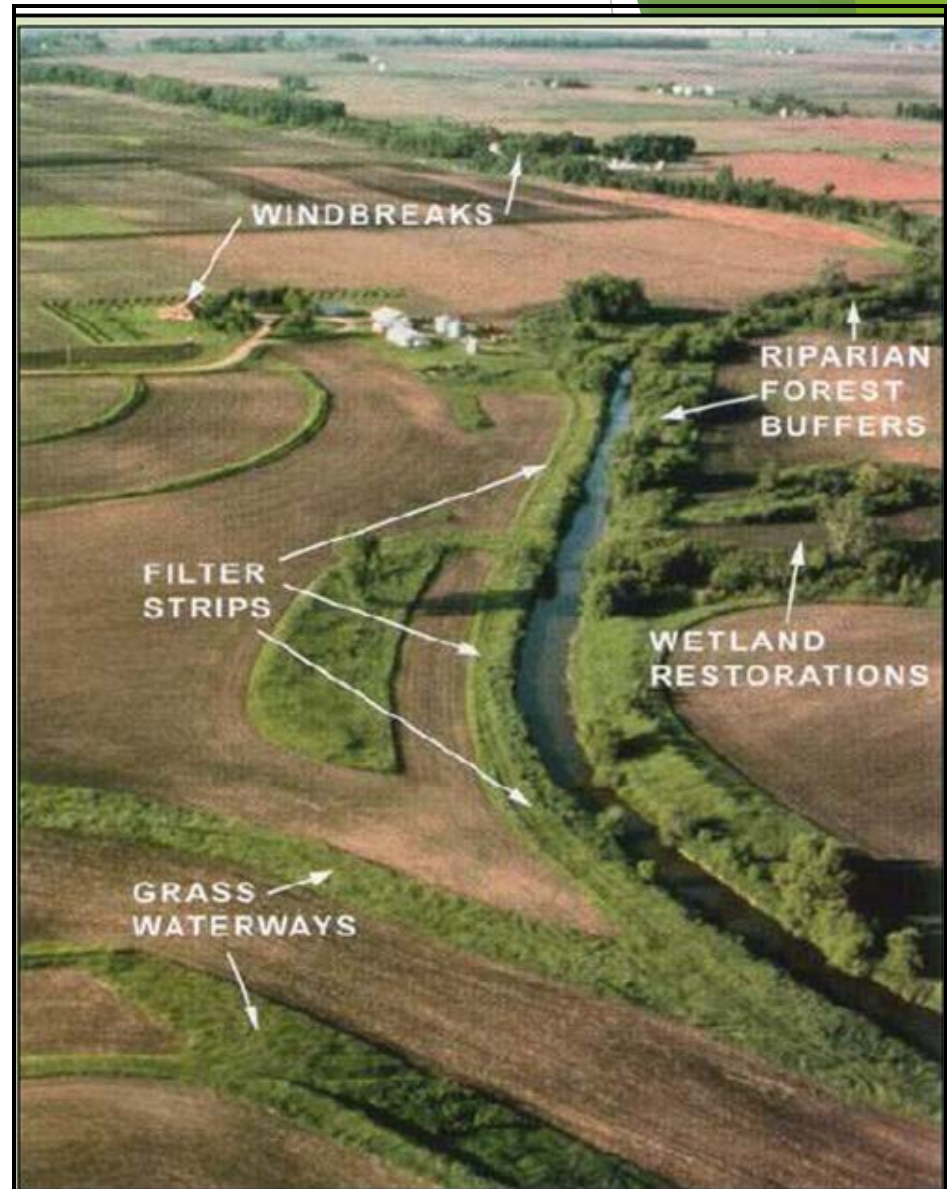


Defiance
Williams County
Watershed
Management
Project near
Bryan, OH

Conservation Effects Assessment Project

A suite of conservation practices including in-field and edge-of-field structural practices and nutrient management are needed in most instances to achieve measurable improvements in stream health

When this suite of practices are used, we can significantly improve stream health

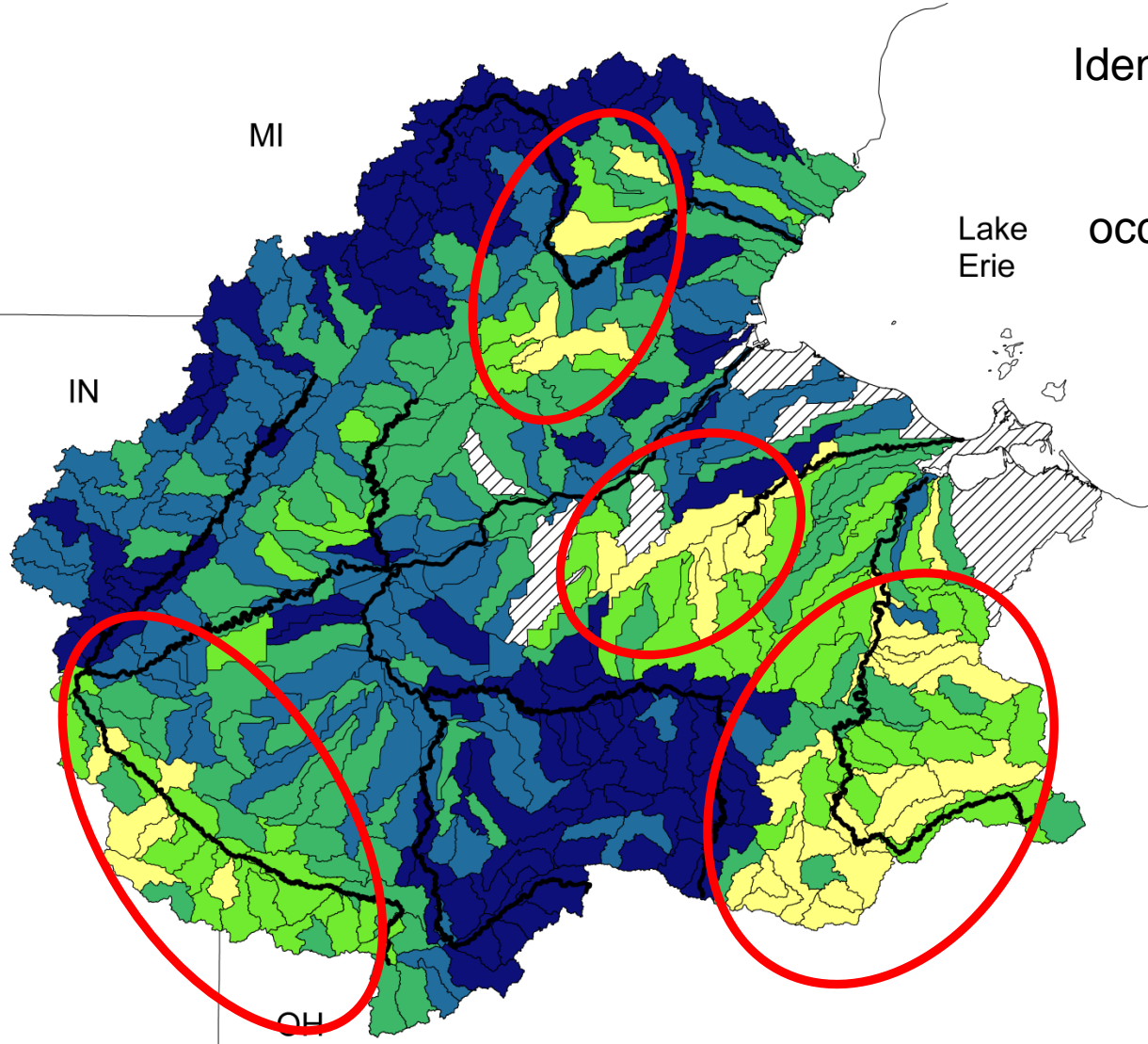


However...

Modeling results show that

- ▶ Widespread implementation of current conservation practices to meet phosphorus reduction goals is not enough. More emphasis must be placed on soil health
- ▶ Current farm bill funding is likely insufficient to achieve meaningful impacts on stream health across much of the WLEB
- ▶ Even if we meet the 40% targets for Lake Erie, many WLEB streams will likely still be impaired
- ▶ Nutrient Management is critical (4Rs)
- ▶ Subsurface P application appears to be effective at reducing P losses

How does TNC decide where to focus their efforts?



Identified watersheds where largest changes in biological conditions occurred & there is a large agricultural threat

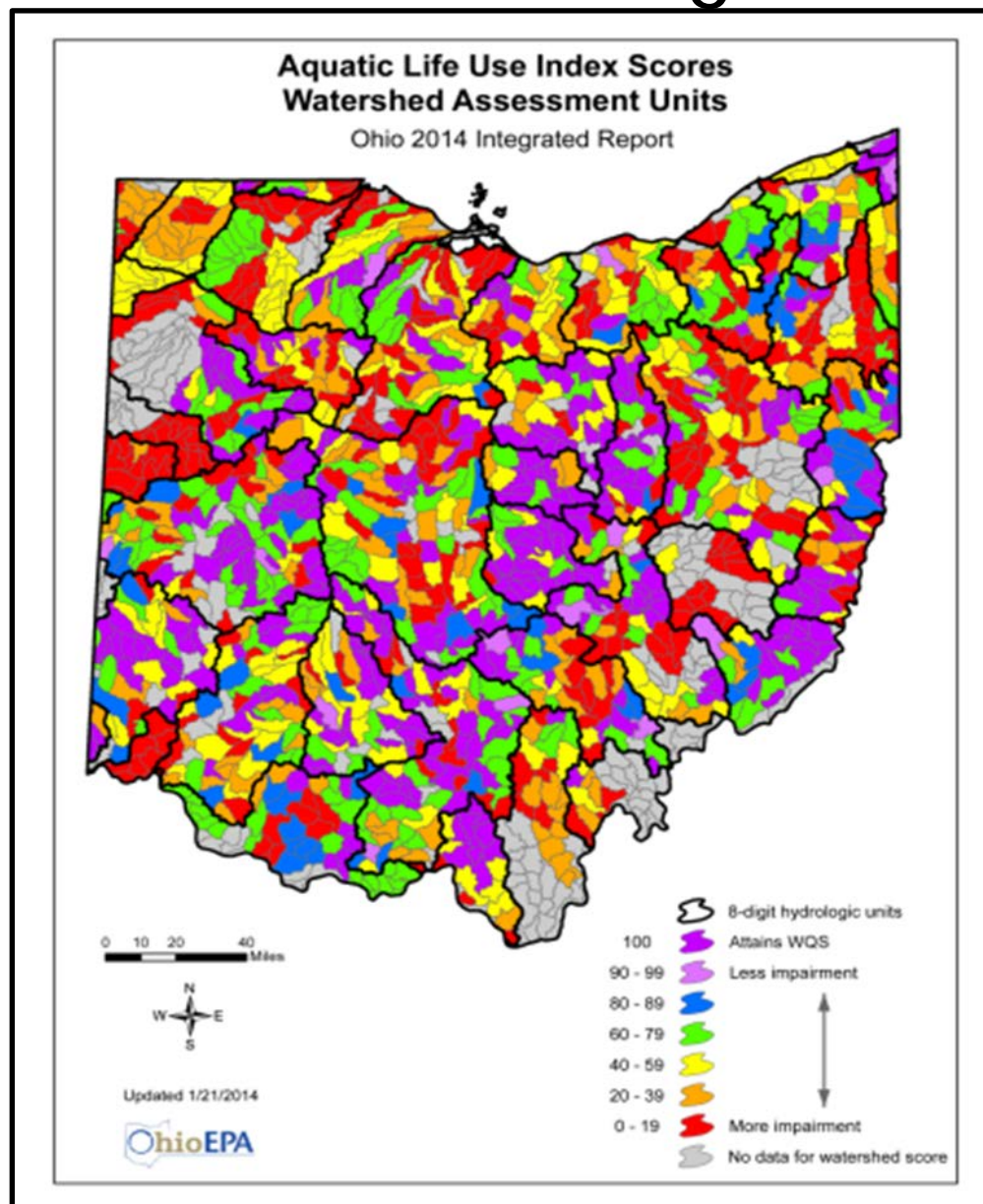
Avg. change in stream health

Small response

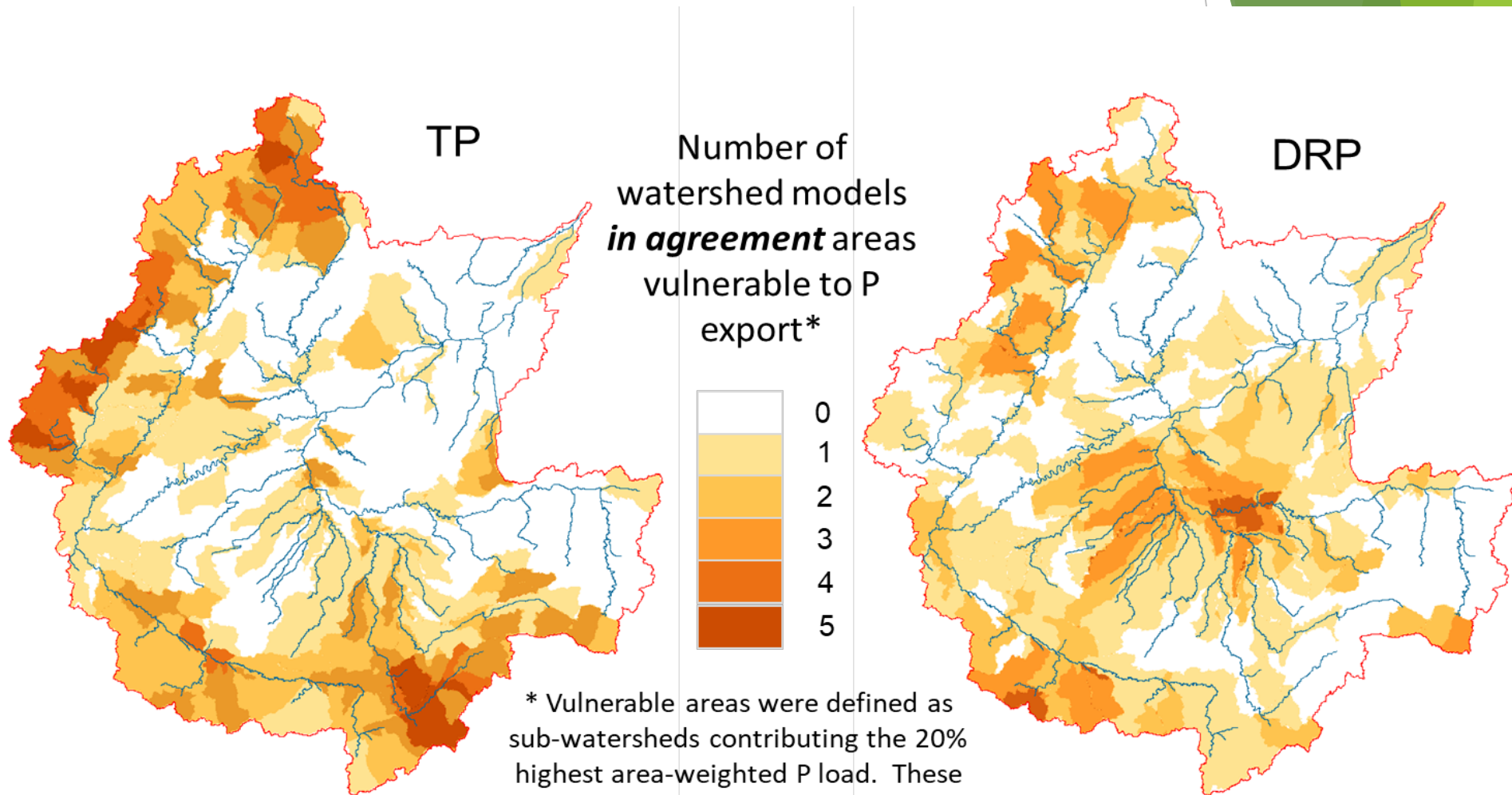
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No data

The resources we use to guide our work

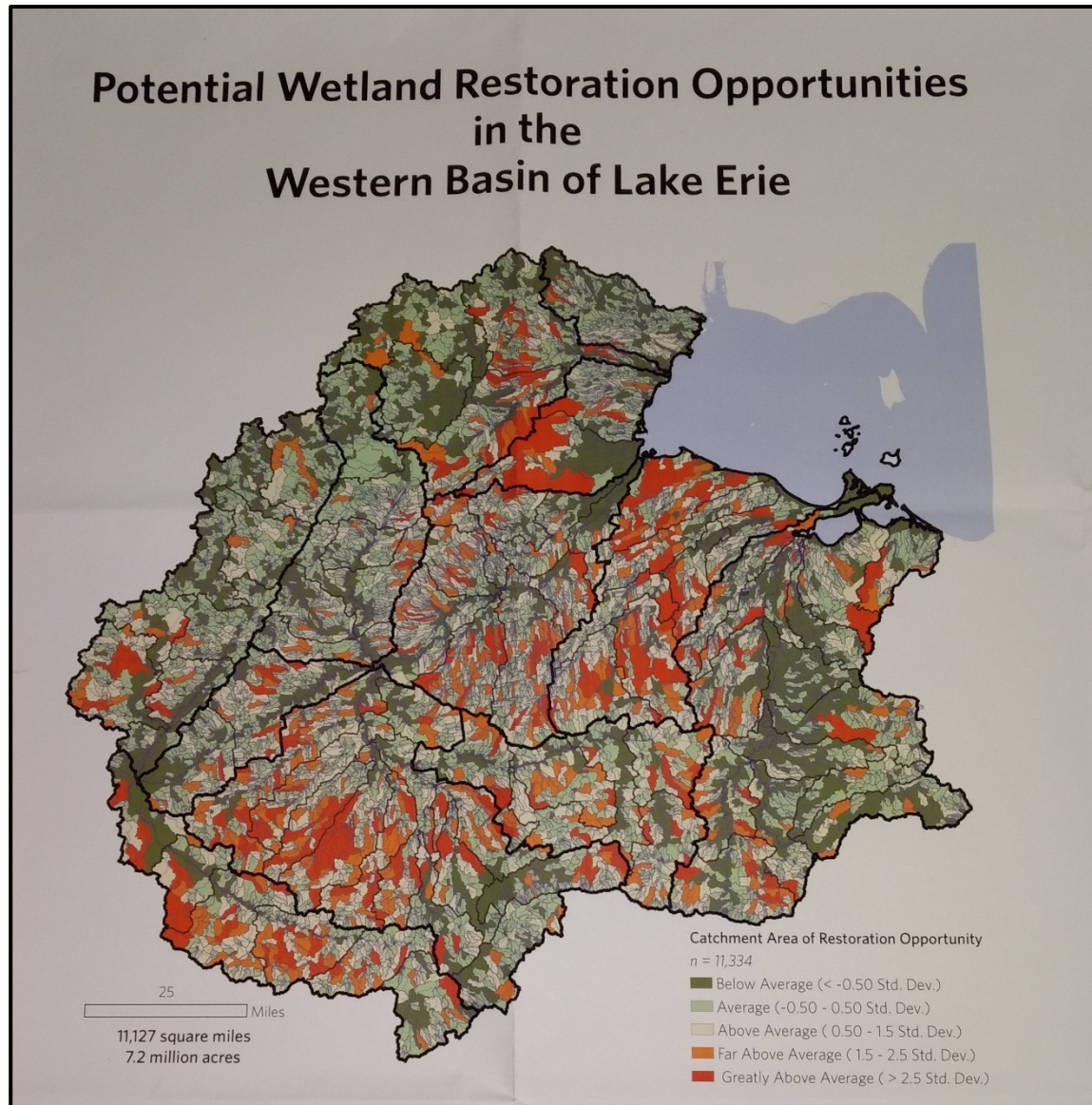


Combined Estimate of P Delivery to Lake Erie



* Vulnerable areas were defined as sub-watersheds contributing the 20% highest area-weighted P load. These areas are more vulnerable than neighboring lands to P losses if untreated by conservation practices.

The resources we use to guide our work



How can we work together?

- ▶ Ag BMPs
- ▶ Stream, Floodplain, & Wetland Restoration
- ▶ Connection with property owners
- ▶ Funding
- ▶ Modeling and Mapping

Thank you!



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