WESTERN LAKE ERIE BASIN INITIATIVE

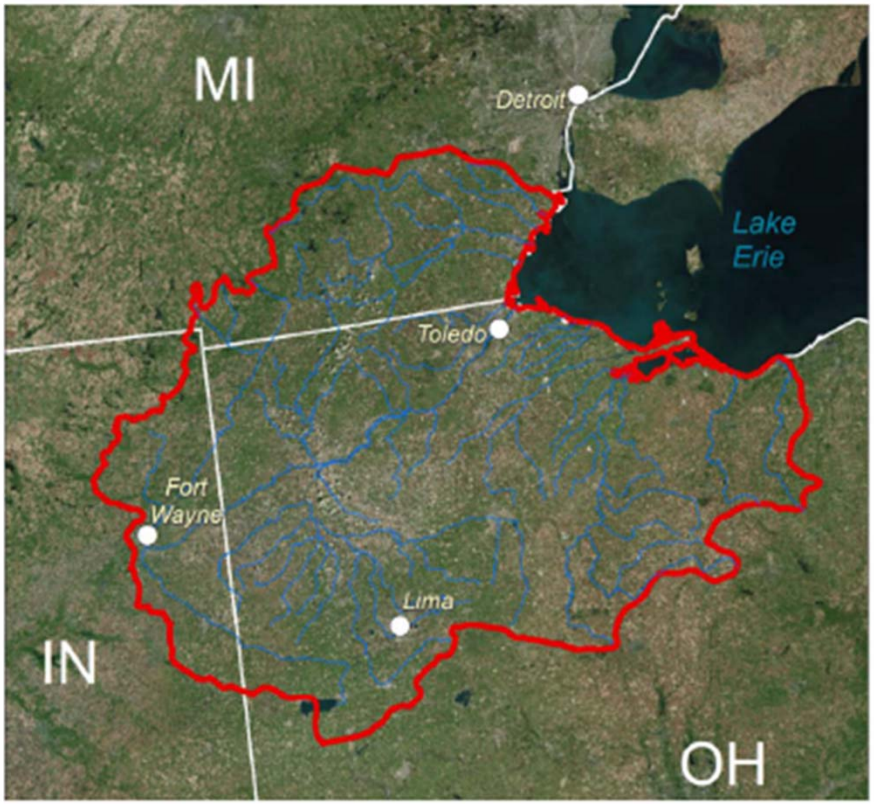
OVERVIEW AND UPDATE

USDA Natural Resources Conservation Service

Indiana – Michigan - Ohio

USDA United States Department of Agriculture

WESTERN LAKE ERIE BASIN INITIATIVE



3 Year Investment

$77 Million in Financial & Technical Assistance to Farmers

- **Apply conservation plans on about 870,000 acres**
- **Reduce edge-of-field total phosphorus losses by 640,000 lbs. annually, 174,000 lbs. of which is DRP.**

PRINCIPLES OF WLEB INITIATIVE

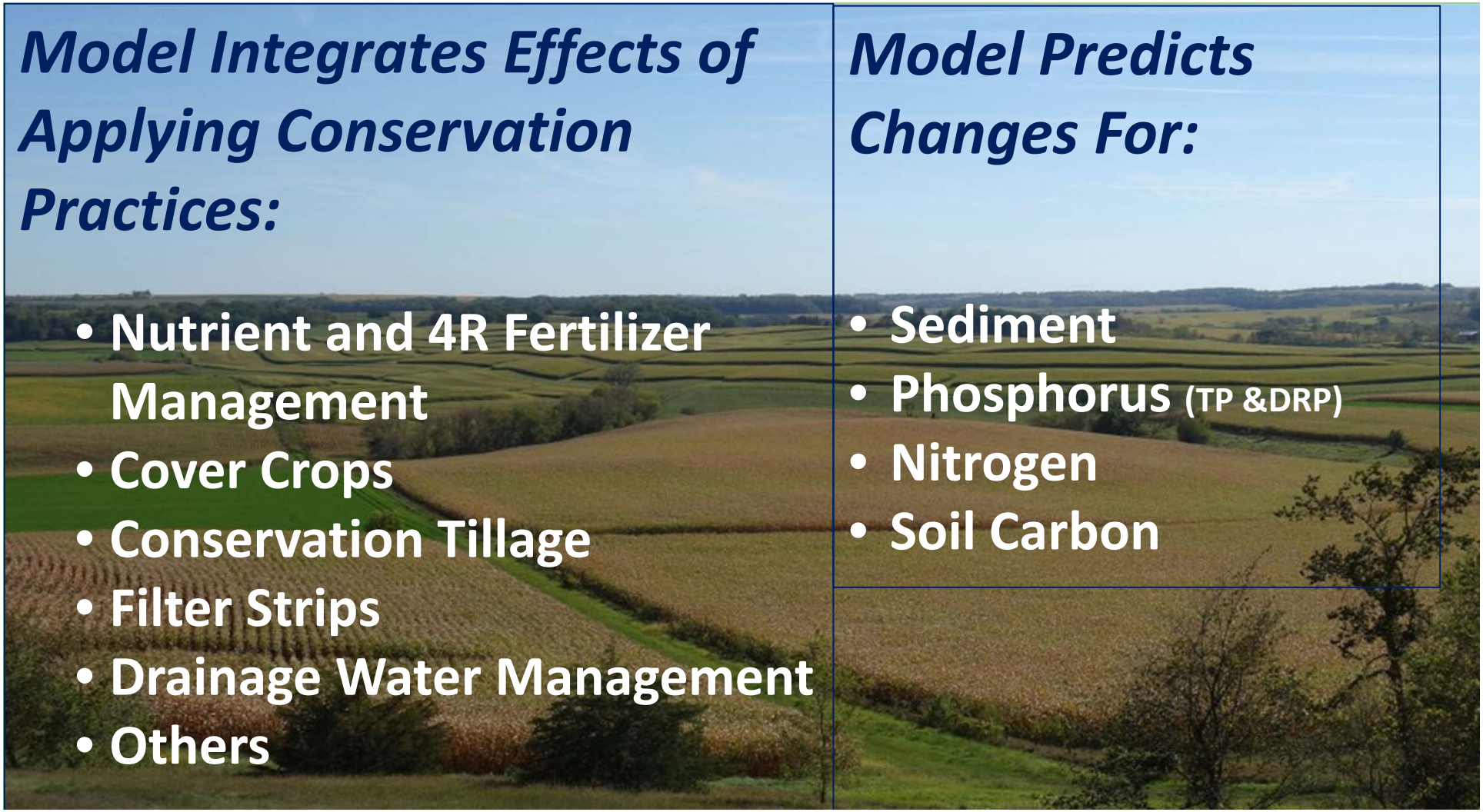
- *SCIENCE/RESEARCH BASED & TARGETED*
- *STAKEHOLDER AND PARTNERSHIP DRIVEN*
- *MULTI-STATE*
- *MULTI-FACETED*
- *ACCOUNTABLE*
- *COMPLIMENTARY TO OTHER PARTNER EFFORTS*

SCIENCE BASED PRINCIPLE
EDGE OF FIELD/P INDEX WORK

Natural Resources Conservation Service and Agricultural Research Service

SCIENCE BASED PRINCIPLE - CEAP STUDY

FIELD SCALE APEX MODEL USED TO DETERMINE BMP'S AND PROJECT BENEFITS:



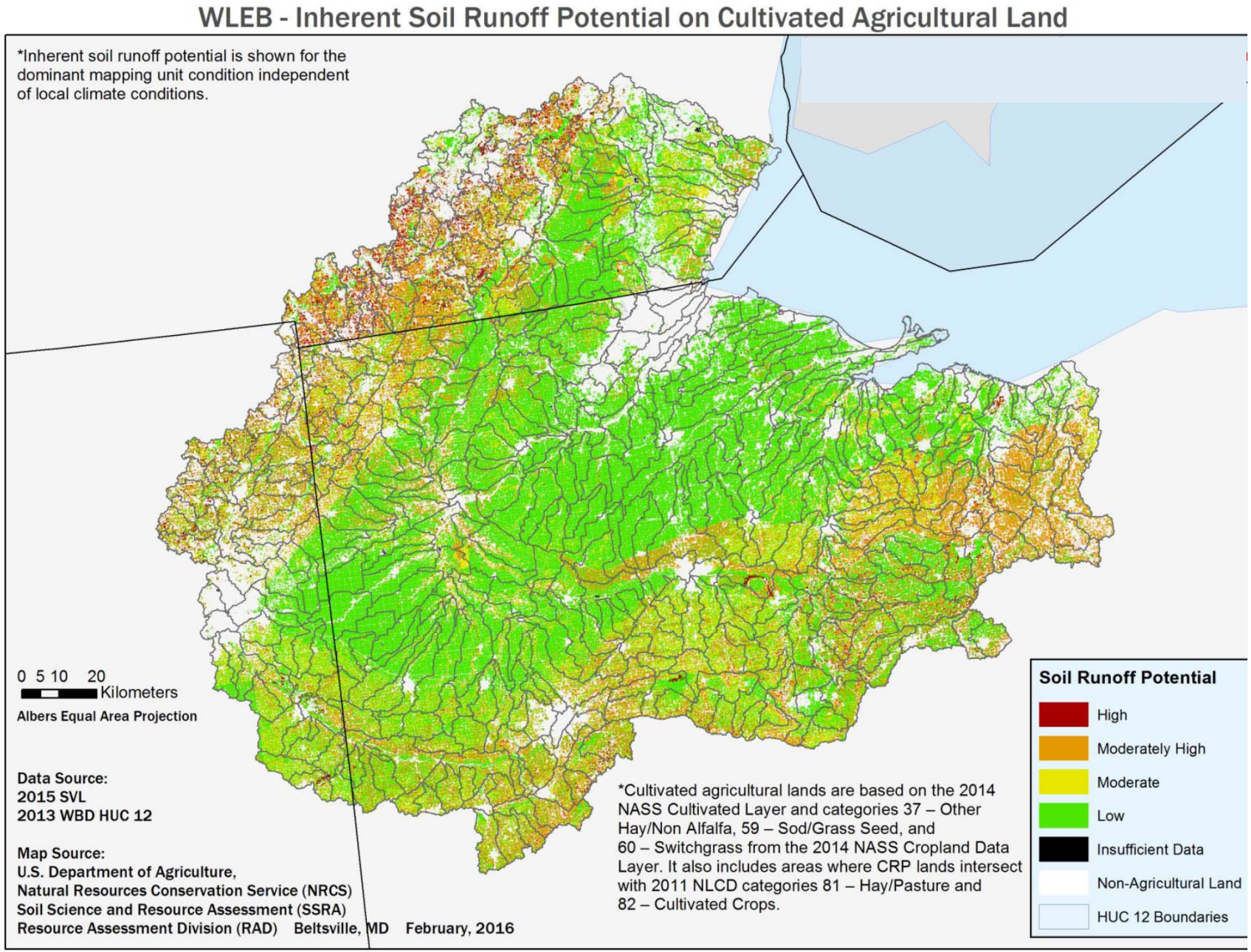
Model Integrates Effects of Applying Conservation Practices:

- Nutrient and 4R Fertilizer Management
- Cover Crops
- Conservation Tillage
- Filter Strips
- Drainage Water Management
- Others

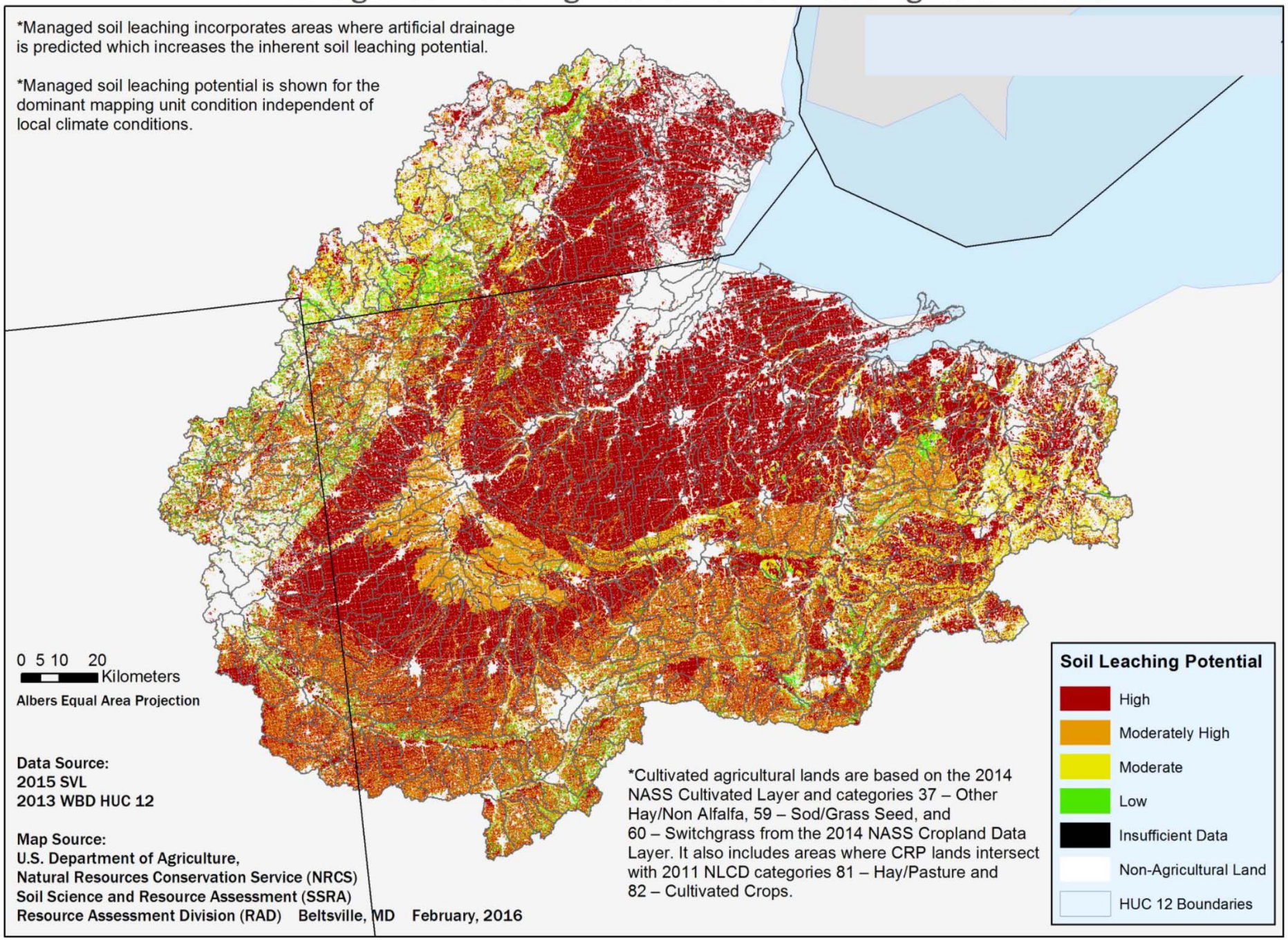
Model Predicts Changes For:

- Sediment
- Phosphorus (TP &DRP)
- Nitrogen
- Soil Carbon

SCIENCE BASED PRINCIPLE - TARGETING



WLEB - Managed Soil Leaching Potential on Cultivated Agricultural Land



Soil Erosion Vulnerability:

Focus on fields with ***high vulnerability to erosion and excessive rates of soil loss*** that contribute to sediment P losses

Surface Runoff Vulnerability:

Focus on fields with ***high vulnerability to surface runoff,*** that transport particulate and soluble P, to the streams and Lake Erie.

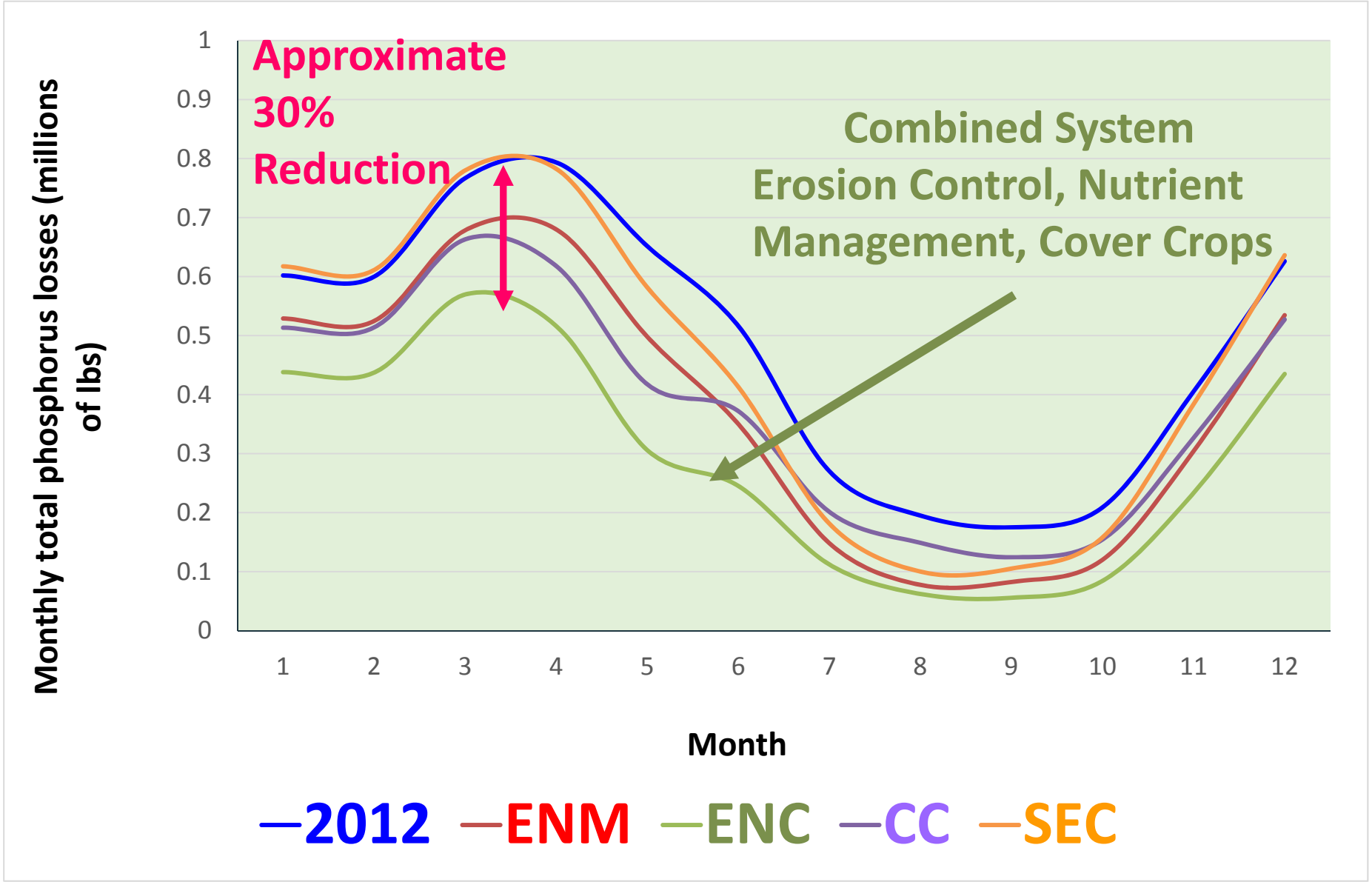
Soil Leaching Vulnerability:

Focus on fields and soils with ***high vulnerability to subsurface leaching.*** *Tile drainage transports soluble P losses (DRP).*

High Soil P Tests & Direct Discharges:

Focus on High P Soil Test Fields, Tile Risers, Catch Basins, and lack of filter strips

APEX Simulations of Seasonal Total P losses under various potential conservation strategies

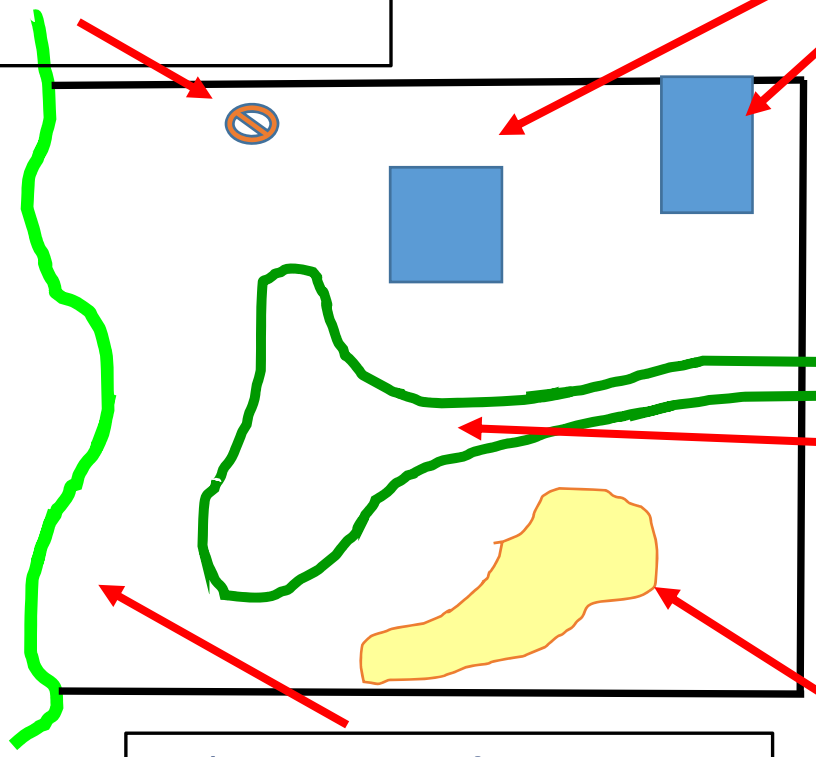


CEAP Calculation of Alternate Scenarios

			Leaching Loss Analysis						
		% Systems	$ By Systems	System Cost per Acre	System Acres	lbs/ac Total P Saved	Lbs. Total P Saved	Lbs. DRP Saved	Lbs. Total DRP
Cover Crop Only	CC	10.0%	4601328	182.79	25173	0.4	10069	0.3	7552
Erosion Control Only	EC							-0.1	-15255
Nutrient Mgt Only	NM							0.3	21402
Erosion Control + Nutrient Mgt.	EC + N							0.2	9722
Erosion Contro + Nutrient Mgt + Cover Crops	EC+NM C							0.5	44913
Drain Water Management	DWM	10.0%	4601328	27.60	166715	0.6	100029	0.5	83357
Drain Water Mgt + ENW	DWM+EC +NM	5.0%	2300664	122.26	18817	0.6	11290	0.5	9409
Waste Structure + Nutrient Mgt	WS+NM	10.0%	4601328	539.00	8537	0.7	5976	0.8	6829
Totals		100%	46,013,280		581,566		261,597		167,928

Spreadsheet Calculation of benefits of various scenarios!

Targeting of High Risk Field Areas



Risk 5 – ***Catch Basin*** –**Edge of field Surface Inlet at County Road Ditch**

Risk 1 – ***High Soil Test Levels*** - **Two small areas - livestock lots and disposal fields next to old barn long removed.**

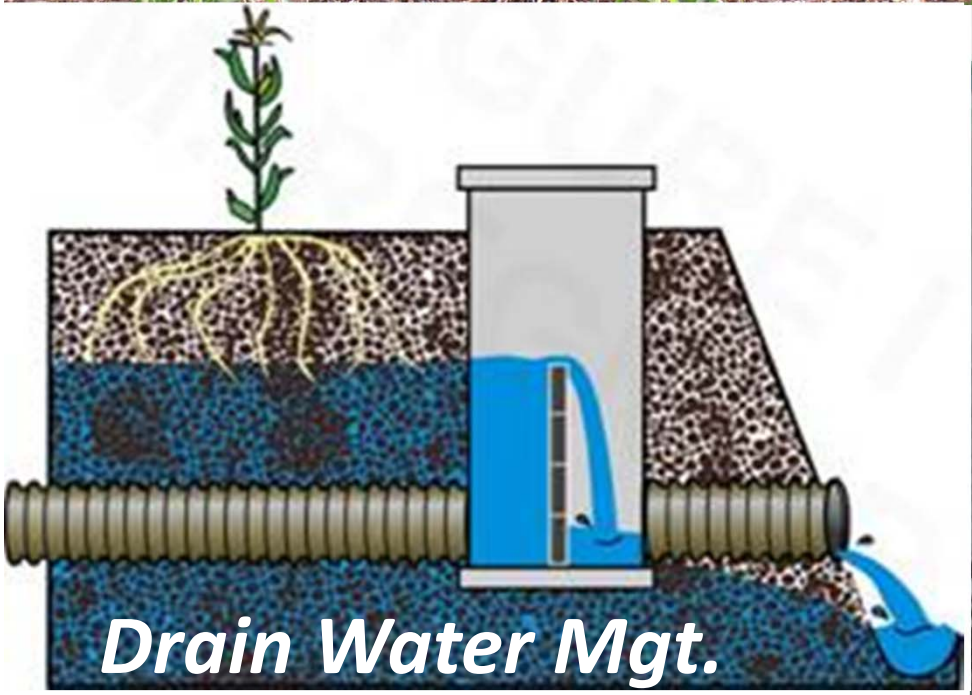
Risk 2 – ***Tile drained soils*** **subject to leaching.**

Risk 3 – ***Steep slopes*** **and area subject to erosion**

Risk 4 – ***Open drainage ditch/stream*** **receiving unfiltered cropland runoff**


No-Till

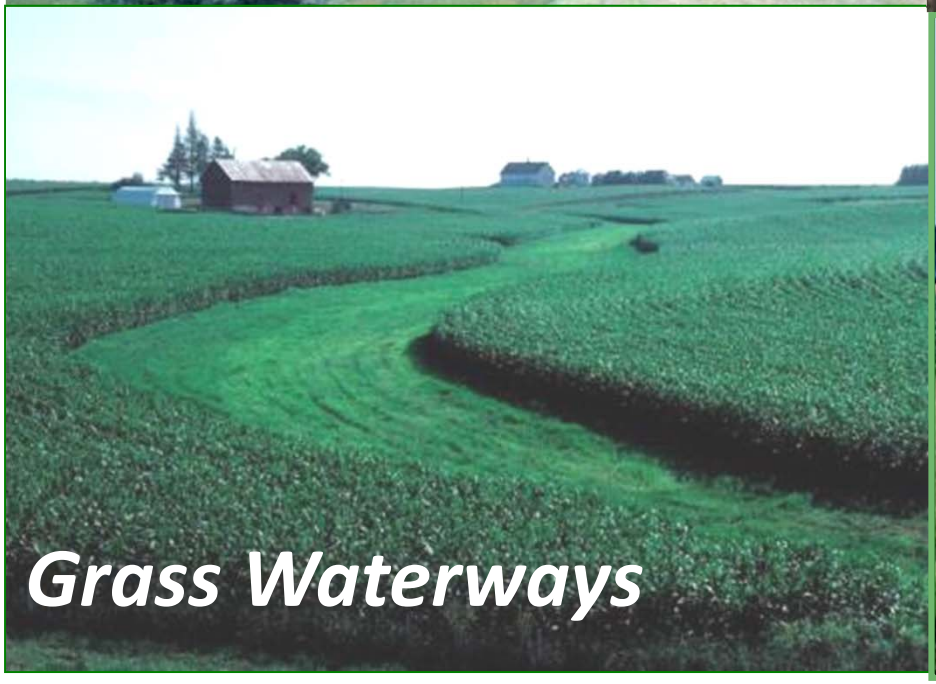

Cover Crops


Drain Water Mgt.


Precision Ag / 4R's


Buffers


Wetlands


Grass Waterways


Filter Strips

EXAMPLE EQIP RANKING QUESTIONS Based on Science and Targeting

- **Percentage of acres High or Moderately High for leaching? Percent for surface runoff?**

- **What are the soil test phosphorus levels?**

- **Will contract improve water quality on land adjoining a designated "impaired water body"? (TMDL, 303d listed waterbody, or other State designation)**

SAMPLE RANKING QUESTIONS

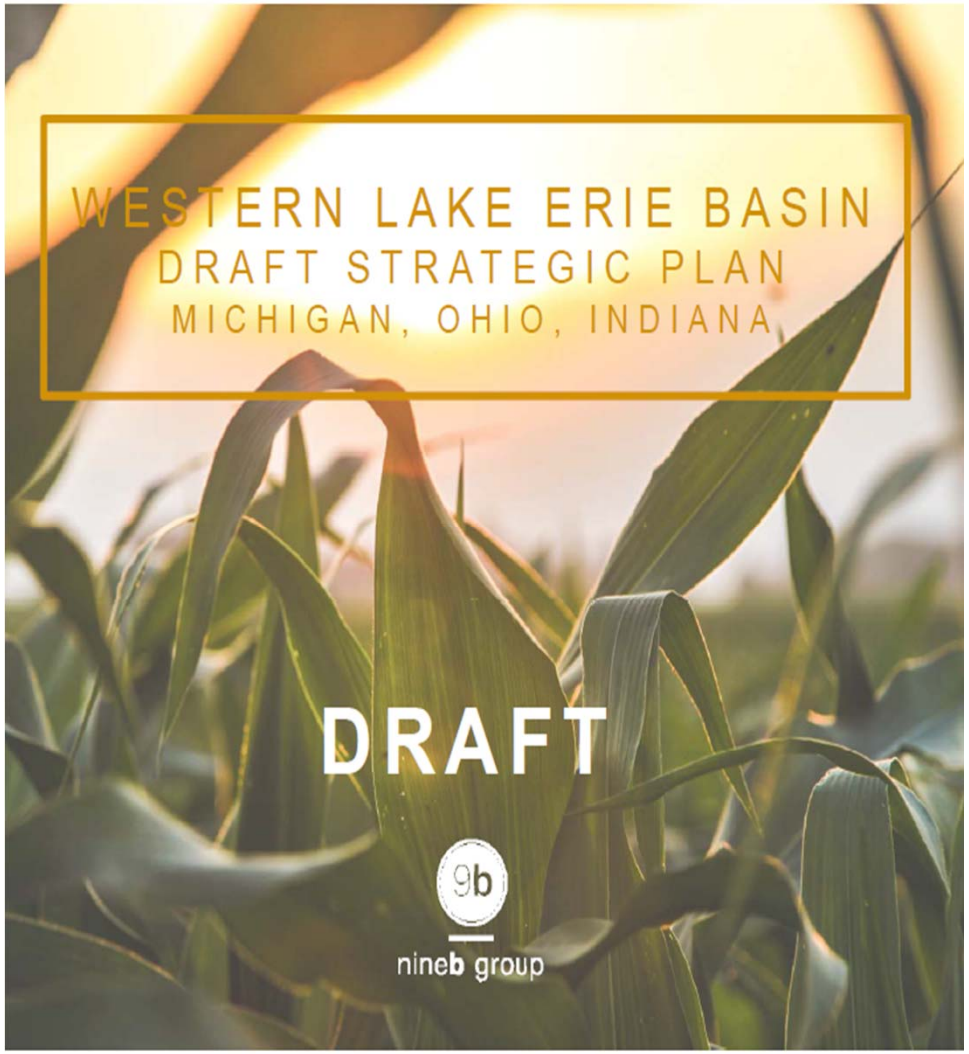
Are there tile risers/catch basins/tile blow holes ? Award points under 19-22 for the any/all practices that will be implemented	
19. Blind inlets meeting the 620 standard ?	1.5X Points
20. The drainage area will be managed using annual no-till/strip-till + cover crop	2X Points
21. I ?	2X Points
22. A d	.5X Points
Which of majority applicati	
23. I cove	6X Points
24. I crop seeded?	4X Points
25. P will be injected/banded at planting?	3.2X Points
26. P will be injected/banded in the spring prior to planting?	2X Points
27. P will be injected during fall strip tillage operations?	.8X Points
28. P will be broadcast and incorporated within 48 hours ?	.4X Points
29. None of the above	0 Points

Ranking Form consists of 116 lines of questions!

STAKEHOLDER DRIVEN PRINCIPLE

In Response to Toledo Water Crisis NRCS Leadership Held 12 Small Group Farmer Input Meetings in Different Locations Across The Basin

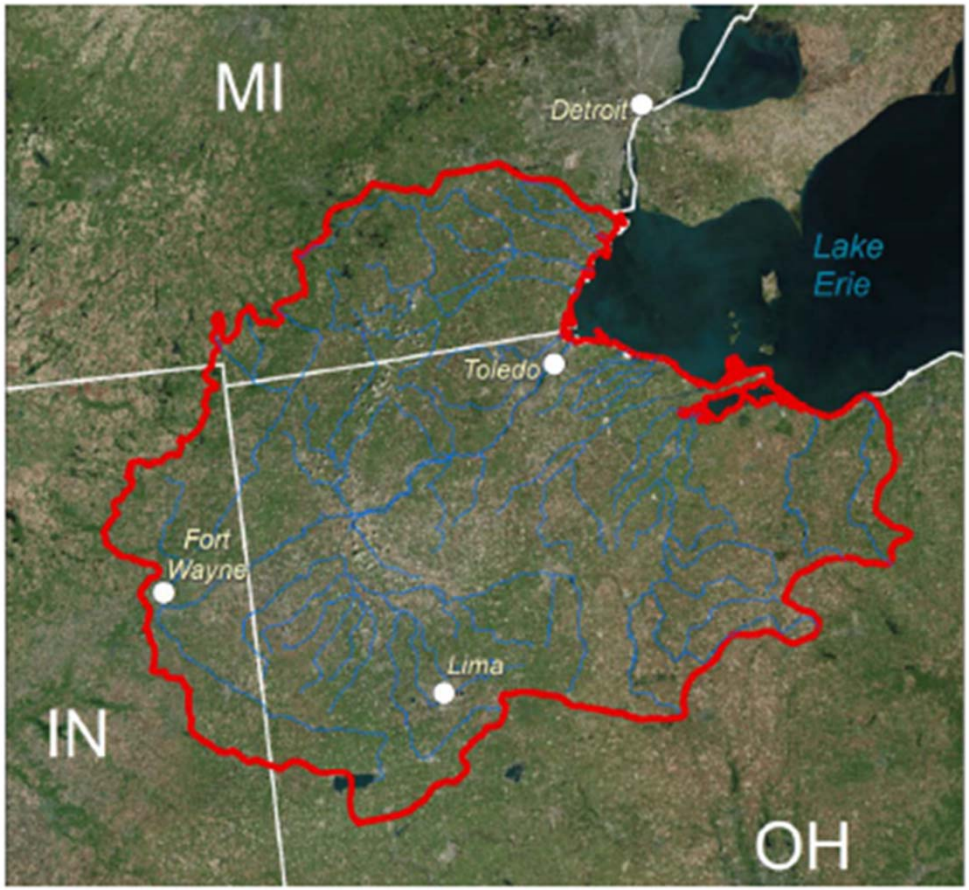
INITIATIVE SOLICITED PARTNERSHIP INPUT



- **Outside Facilitator**
- **Input From More Than 70 Individuals Representing 46 Different Organizations**
- **Multiple Meetings and Individual Phone Interviews.**

MULTI-STATE BASIN BASED PRINCIPLE

- **Alignment of EQIP Program Ranking Sheets**
- **Alignment of Program Sign-up Dates**
- **When possible, alignment of Standards & Specs**



MULTI-FACETED PRINCIPLE

1. **TECHNICAL ASSISTANCE**
2. **FINANCIAL ASSISTANCE**
3. **INFORMATION AND OUTREACH**

COMPONENT 1 - TECHNICAL ASSISTANCE

- **Additional Technical & Information Staff**
- **Field Office Staff and Joint Funding Agreements with SWCD's**
- **Approximately 15 Total Additional NRCS &/Or SWCD Staff Positions In Three States**

COMPONENT 2 - Cost Share $

2016 - EQIP SIGNUP SUMMARY TODATE

WLEB Initiative

State	Contracts	Acres
Indiana	32	7,700
Michigan	16	4,400
Ohio	88	45,000
Total	*136*	*57,100*

Tri-State WLEB RCPP

State	Contracts	Acres
Indiana	5	2,100
Michigan	7	3,200
Ohio	31	3,500
Total	*43*	*8,800*

COMPONENT 3 - PUBLIC INFORMATION

Filmed Ohio WLEB Farmers and Conservation Partners for Promotional Video

COMPONENT 3 - PUBLIC INFORMATION

Outreach To Amish Farmers In Indiana

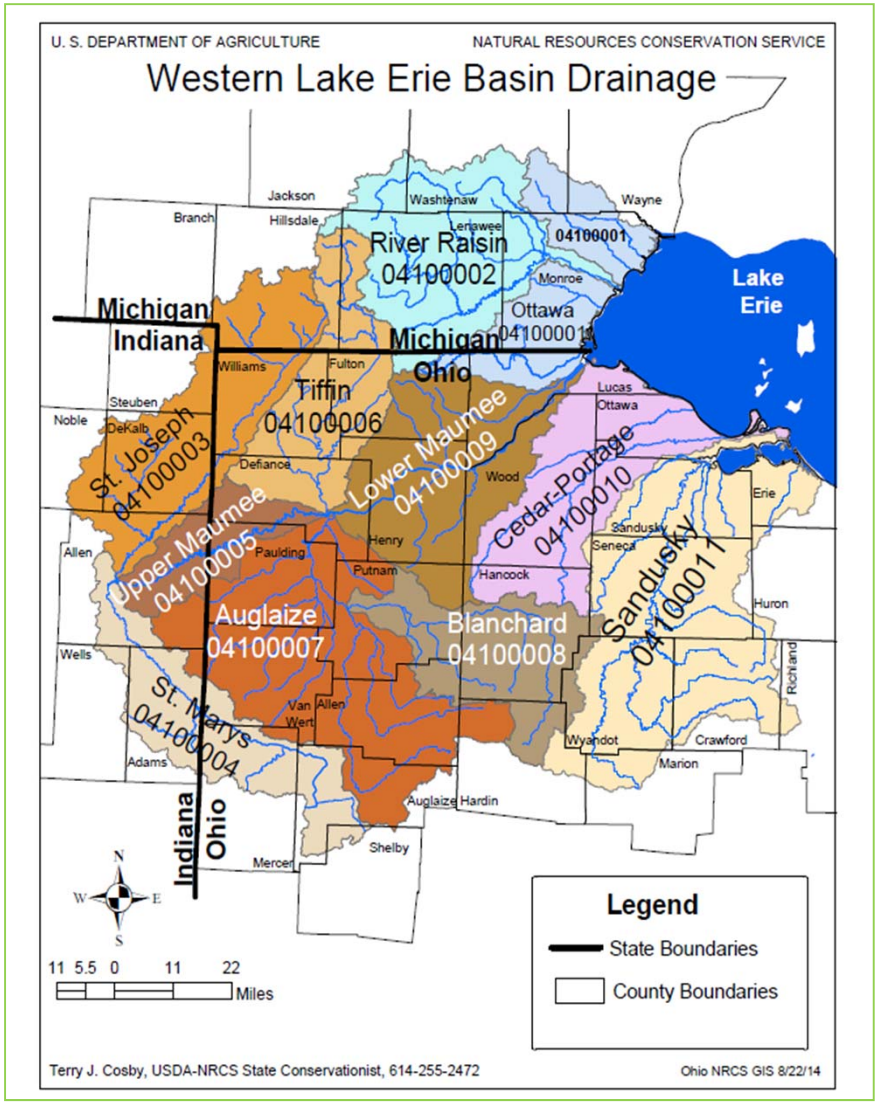
COMPONENT 3 - PUBLIC INFORMATION

Farmer Lake Erie Sails - Michigan MAEAP Program

ACCOUNTABILITY PRINCIPLE

CEAP STEPS

1. Landowner Survey
2. Cropland Assessment
3. Wildlife Assessment
4. Loading Report (SWAT)
5. Economic Assessment
6. Annual Reporting of Savings



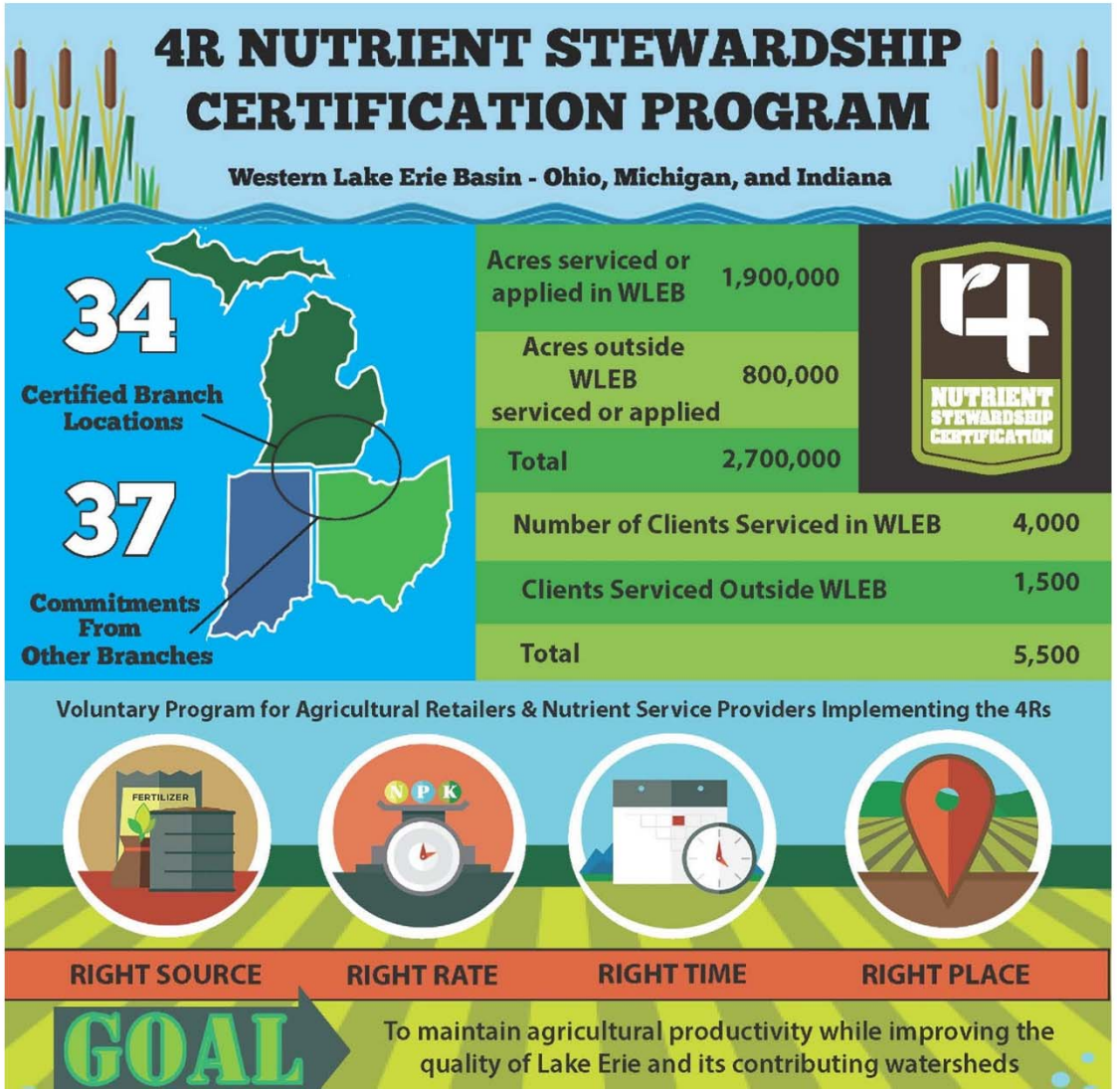
PRINCIPLE OF SUPPORTING OTHER PARTNERS WORK

- **3 Demonstration Farms In Partnership with Ohio Farm Bureau Federation**
- **$ 1 Million Investment (75% NRCS & 25% OFBF)**
- **NRCS Funding ARS $250,000 Edge-of-Field Research at Demo Farms**

Numerous Interagency Field Days Held at Demo Farms & Other Locations

196 People Attended First Field Day at Kurt Demonstration Farm

INITIATIVE LEVERAGES & COMPLIMENTS OTHER PARTNERS WORK



In Two Years Time…

- **Right Time, Right Rate, Right Place**
- **5650 Farms**
- **2.3 Million Acres**
- **Third Party Verified**

Working Together

The Key to Solving the Lake Erie Issues

The Andersons

MORRAL COMPANIES

Corn Marketing Program of Michigan
Michigan Corn Growers Association

CAP CONSERVATION action PROJECT

The Fertilizer Institute
Nourish, Replenish, Grow

The Nature Conservancy
Protecting nature. Preserving life.™

SOY OHIO
Ohio Soybean Council
www.soyohio.org

SOIL AND WATER RESOURCES
Ohio Department of Natural Resources

INDIANA CONSERVATION PARTNERSHIP

IPNI INTERNATIONAL PLANT NUTRITION INSTITUTE

MABA

AGRIbusiness Council of INDIANA

Ohio AgriBusiness Association

Ohio Federation of Soil and Water Conservation Districts

USDA

Ohio

WESTERN LAKE ERIE BASIN PARTNERSHIP

Legacy Farmers Cooperative

EDF ENVIRONMENTAL DEFENSE FUND
Finding the ways that work

FB OHIO FARM BUREAU

FARMERS ELEVATOR

SANDUSKY RIVER WATERSHED COALITION

Nester Ag LLC

MAEAP

THE OHIO STATE UNIVERSITY
COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

MICHIGAN STATE UNIVERSITY

OhioCorn&Wheat Growers Association

AMERICAN SOCIETY OF AGRONOMY
CERTIFIED CROP ADVISER

THANK YOU AND QUESTIONS?