

Speaker's Task Force on Water Quality

August 28, 2019

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ALLIANCE *for the*
GREAT LAKES



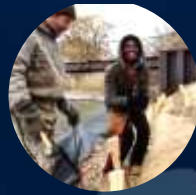
ALLIANCE *for the*
GREAT LAKES



People

Policies

Places

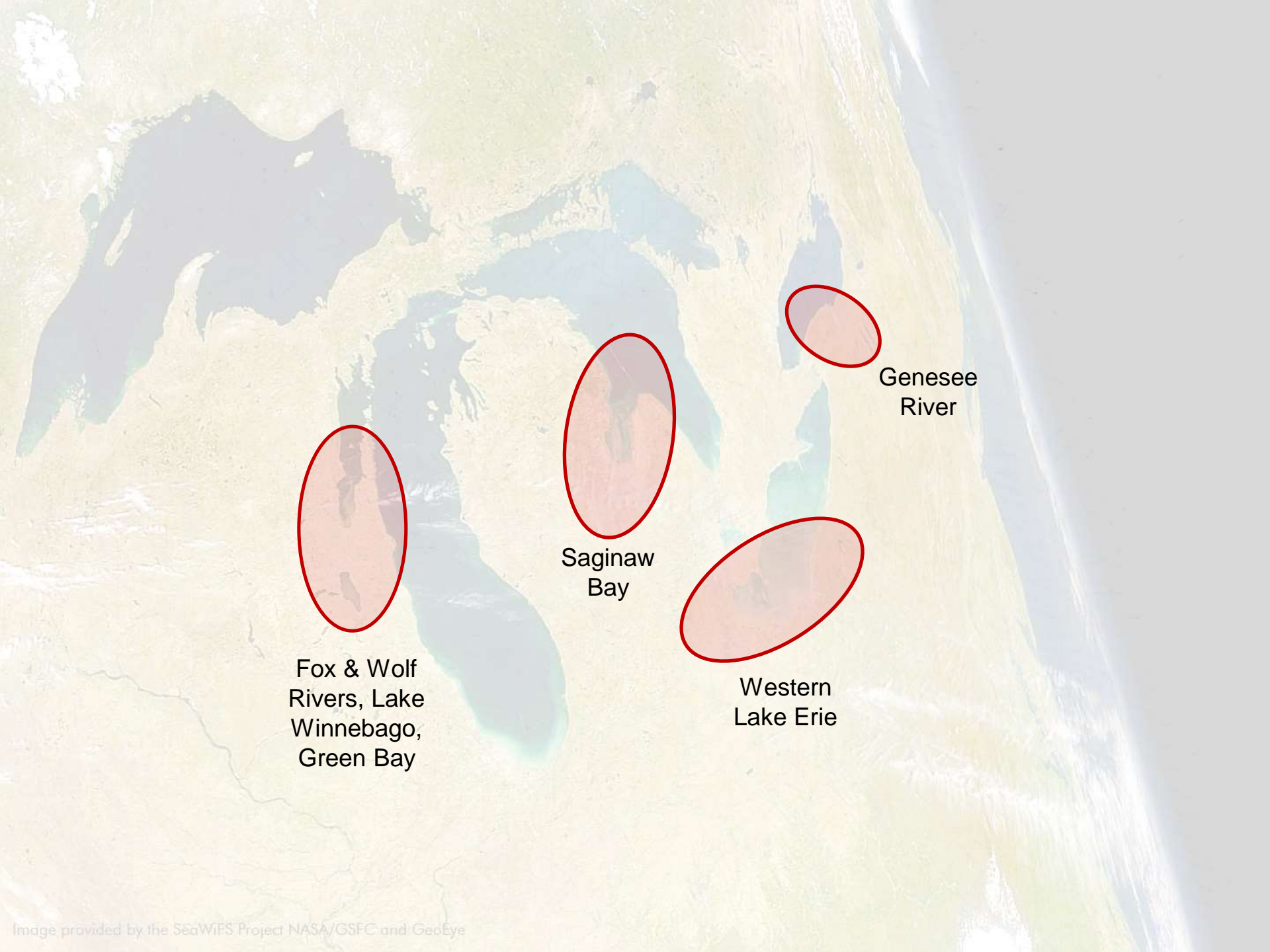




TOXIC ALGAE

CONSEQUENCES



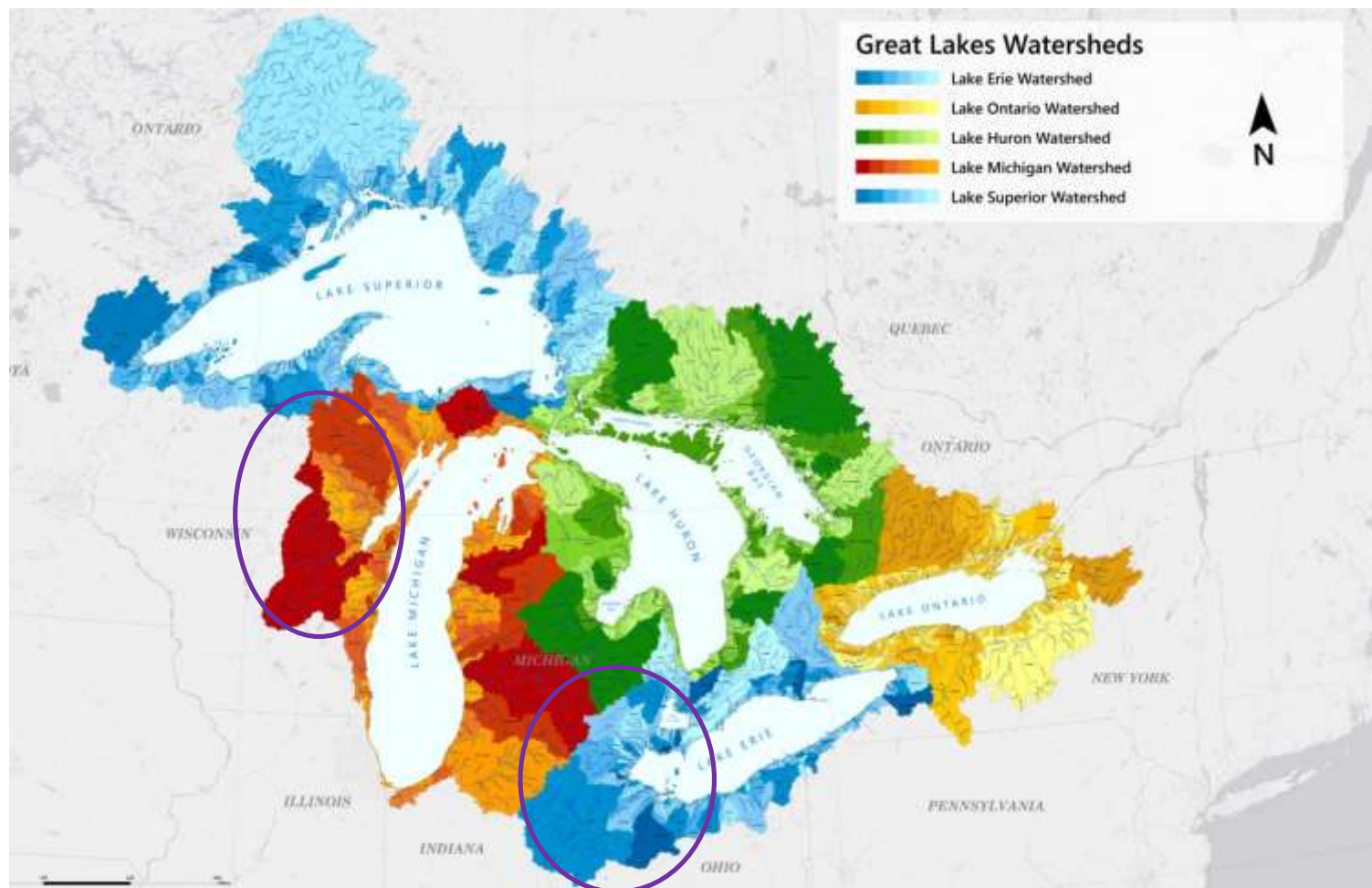


Fox & Wolf
Rivers, Lake
Winnebago,
Green Bay

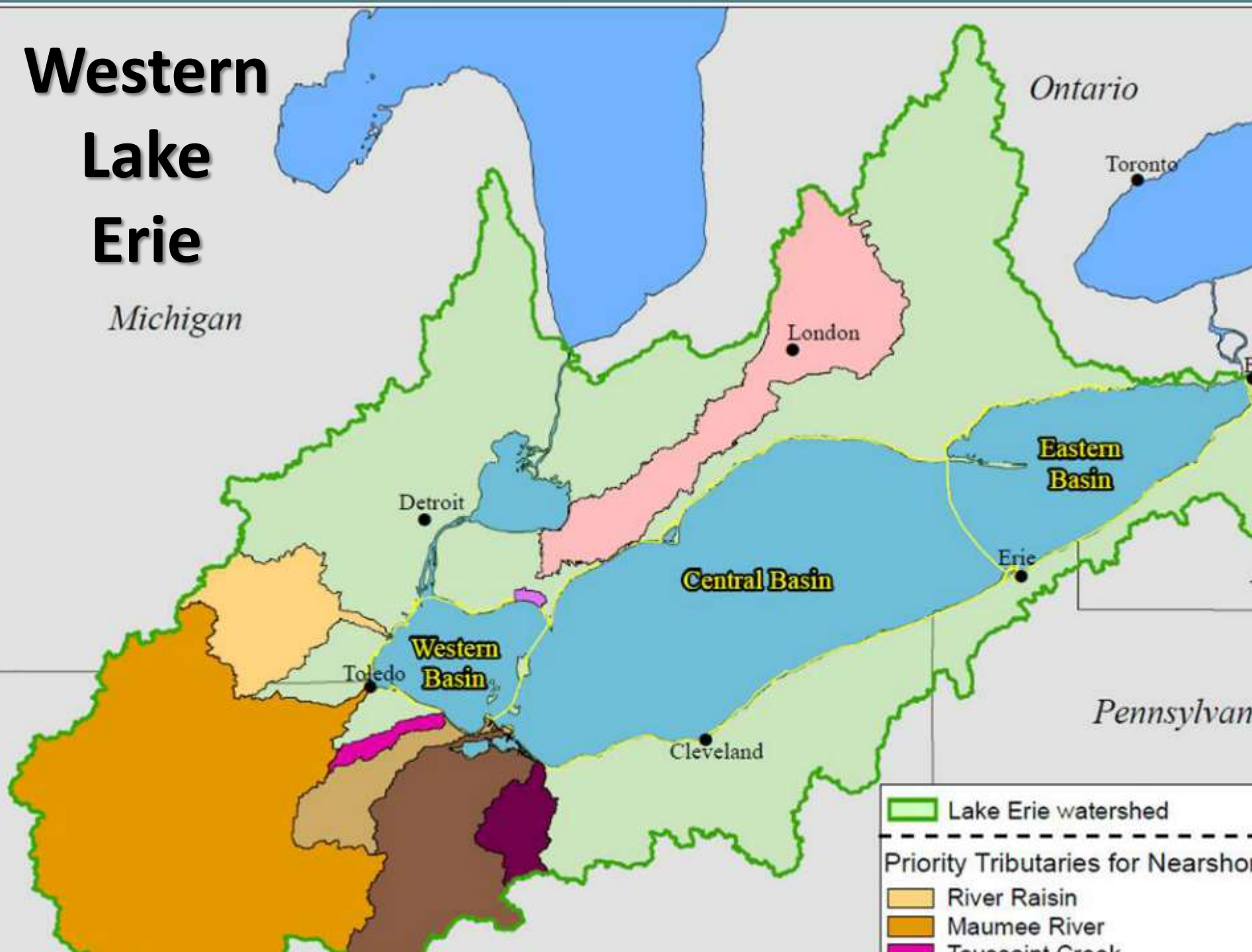
Saginaw
Bay

Western
Lake Erie

Genesee
River



Western Lake Erie



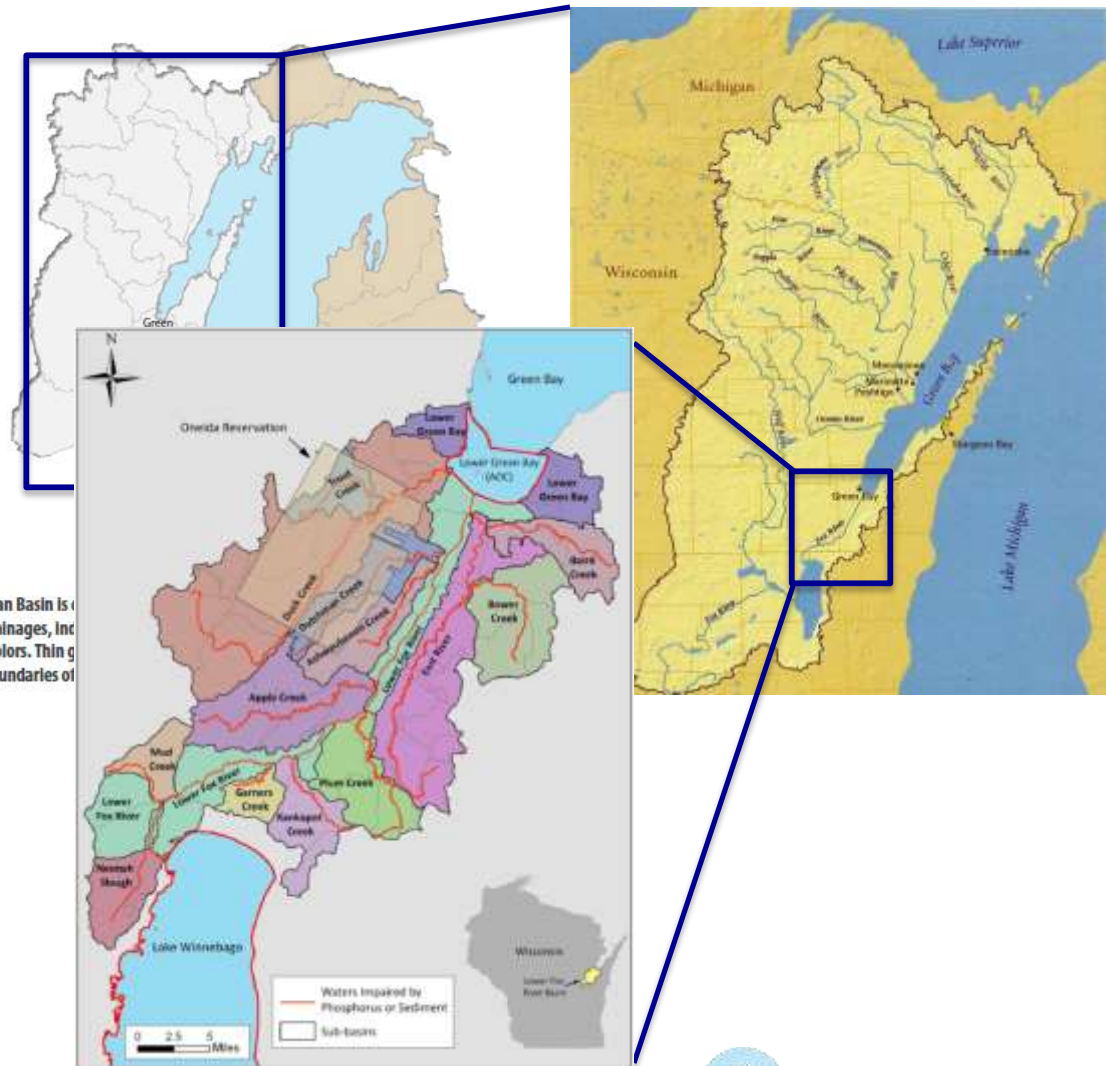
Lake Erie Water Quality Goals



Year	Proposed P Reduction Goals*		Water Quality Performance (% towards what TMDL deems as achieving water quality)	Objective (Target Narrative)
2020	20% reduction	3.9 million (lbs/year)	50% towards 2008 conditions	
2025	40% reduction	7.8 million (lbs/year)	Achieve baseline conditions from 2008	<ul style="list-style-type: none"> Minimize hypoxic zones in central basin Maintain algal species consistent with healthy systems where that is a localized problem Maintain cyanobacteria at levels that do not produce concen. of toxins that pose threat to human and eco

Green Bay and the Fox River

The Lake Michigan Basin is composed of four major drainages, indicated on the map by colors. Thin gray lines indicate boundaries of watersheds.



LFR Total Load and Sources

Phosphorus

Table 6. Sources of baseline TP loading in the LFR Basin

Source	Total Phosphorus (lbs/yr)
Natural Background	5,609
Agriculture	251,382
Urban (non-regulated)	15,900
Urban (regulated MS4)	65,829
Construction Sites	7,296
General Permits	2,041
Industrial WWTFs	114,426
Municipal WWTFs	87,160
TOTAL (in-basin)	549,703
Lake Winnebago	710,954
TOTAL (in-basin + Lake Winnebago)	1,260,657

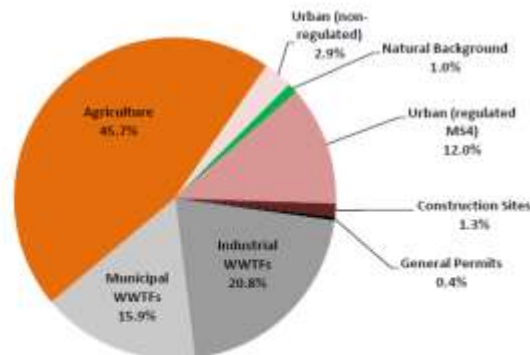


Figure 19. Sources of baseline TP loading in the LFR Basin

Sediment

Table 7. Sources of baseline TSS loading in the LFR Basin

Source	Total Suspended Solids (lbs/yr)	Total Suspended Solids (mt/yr)
Natural Background	1,264,433	574
Agriculture	93,101,945	42,290
Urban (non-regulated)	4,481,899	2,037
Urban (regulated MS4)	31,505,733	14,291
Construction Sites	7,015,420	3,182
General Permits	616,512	280
Industrial WWTFs	2,425,778	1,105
Municipal WWTFs	1,170,510	531
Biotic Solids	54,835,097	15,800
TOTAL (in-basin)	176,434,787	80,010
Lake Winnebago	127,397,076	57,786
TOTAL (in-basin + Lake Winnebago)	303,831,863	137,816

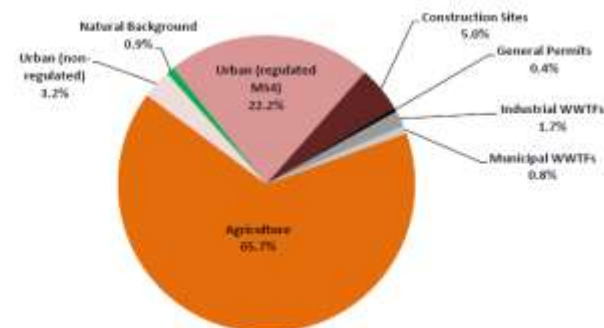
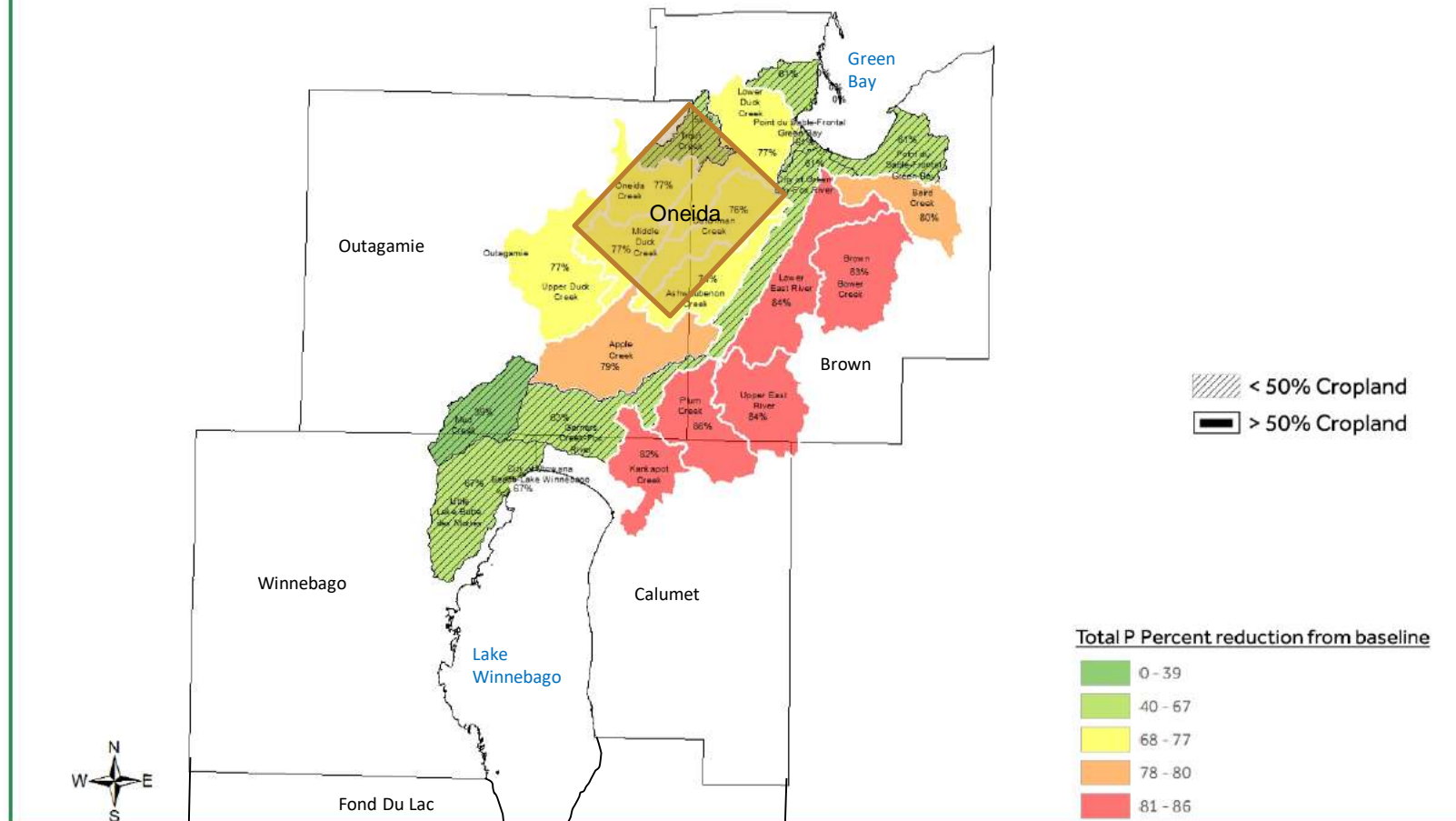
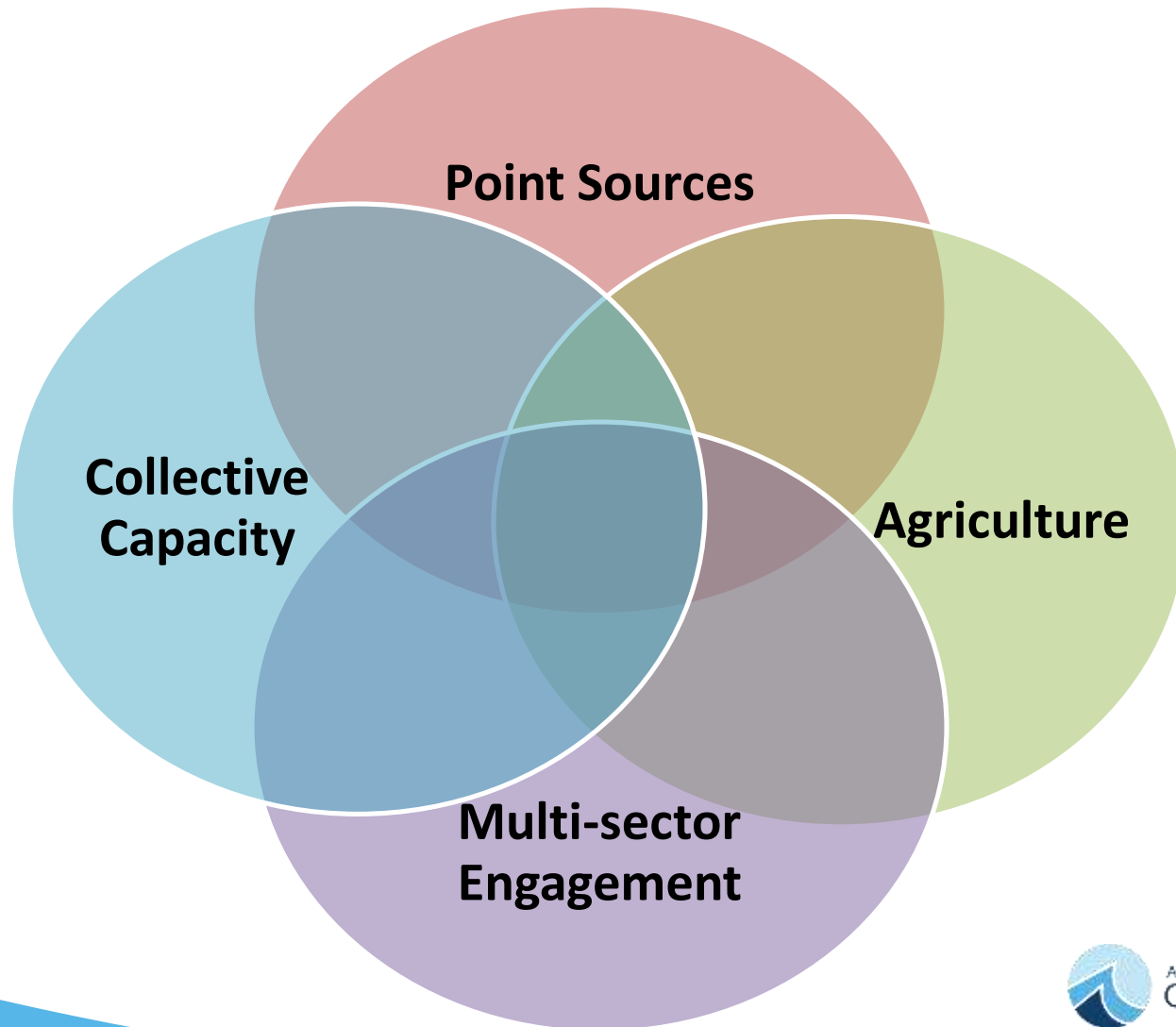


Figure 20. Sources of baseline TSS loading in the LFR Basin (excluding biotic solids)

LOWER FOX RIVER WATERSHED TMDL - TOTAL P REDUCTION BY PERCENT



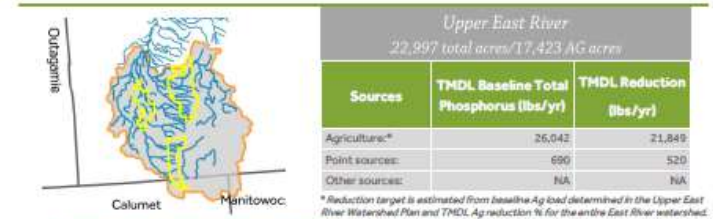
LOWER FOX APPROACH



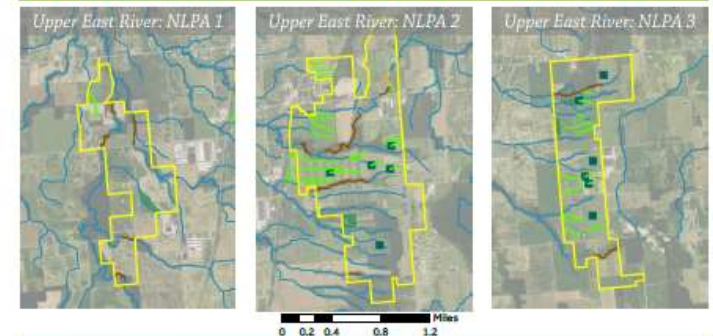
Point Sources

Compliance option prioritization:

- Quantify reductions and costs
- Cost-benefit analysis to work in watershed



Go to [Upper East River Scenario Dashboard](#) to build scenarios, determine reductions and costs



Practices sited	NLPA 1	NLPA 2	NLPA 3	All NLPAs	units
Area	780	1,839	889	4,058	acres
Conservation cover	11	14	12	37	acres
WASCOBs	-	5	6	11	#
Grassed waterways	1,858	26,205	12,543	40,606	feet
Filter strips	-	1.9	-	1.9	acres
Streambank stabilization	5,735	15,425	9,106	30,266	feet
No till*	110	190	112	412	acres
Reduced till*	110	190	112	412	acres
Cover crops*	244	421	249	914	acres
Phosphorus reduction	\$1: 40 \$2: 162 \$3: 288	\$1: 306 \$2: 292 \$3: 627	\$1: 177 \$2: 300 \$3: 330	\$1: 812 \$2: 1,054 \$3: 1,257	lb/yr
Capital cost*	\$1: 296,822 \$2: 399,305 \$3: 313,918	\$1: 816,946 \$2: 942,547 \$3: 966,413	\$1: 854,216 \$2: 257,111 \$3: 171,938	\$1: 1,968,294 \$2: 1,605,012 \$3: 1,057,272	\$
Maintenance cost	\$1: 14,852 \$2: 17,885 \$3: 31,940	\$1: 46,645 \$2: 52,643 \$3: 76,112	\$1: 27,038 \$2: 30,207 \$3: 44,418	\$1: 88,511 \$2: 100,235 \$3: 152,490	\$/yr

- Conservation cover
 - WASCOBs
 - Grassed waterways
 - Filter strips
 - Streambank stabilization
 - Streams
 - NLPA boundary
- * applied to all available cropland acres within NLPA
- # of the available cropland acres, 50% is no till, 50% is reduced till
- * one time investment, year 1
- Scenario 1 (S1)** Conservation cover, WASCOBs, grassed waterways, filter strips, streambank stabilization
- Scenario 2 (S2)** S1 + tillage practices
- Scenario 3 (S3)** S1 + cover crops

Ashwaubenon-Dutchman Creek

~ 38,000 acres total |

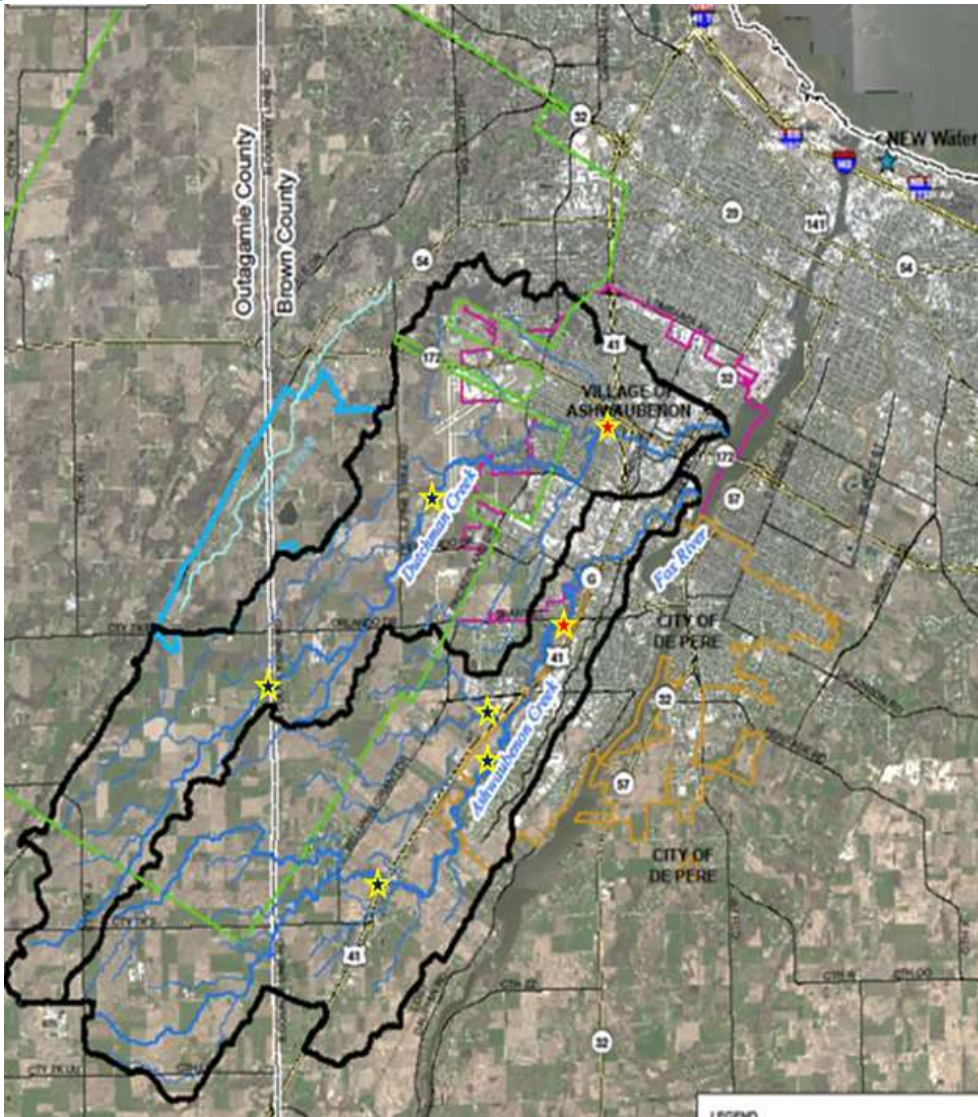
~ 20,000 acres Agricultural

Dutchman Creek

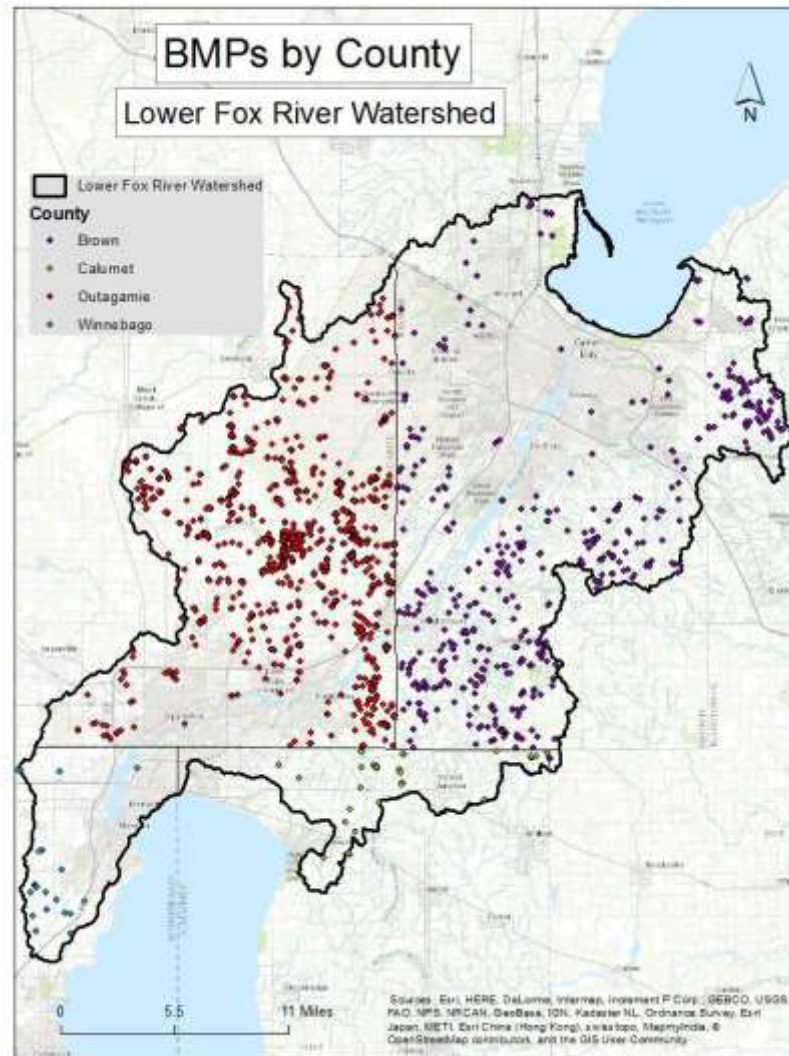
- Watershed Size: 19,186 acres
- Land Use: Ag 50.5%
- Creek Length:~18.2 miles

Ashwaubenon Creek

- Watershed Size: 18,528 acres
- Land Use: Ag 61.9%
- Creek Length:~20.4 miles



Point Sources – *where's the investment been?*



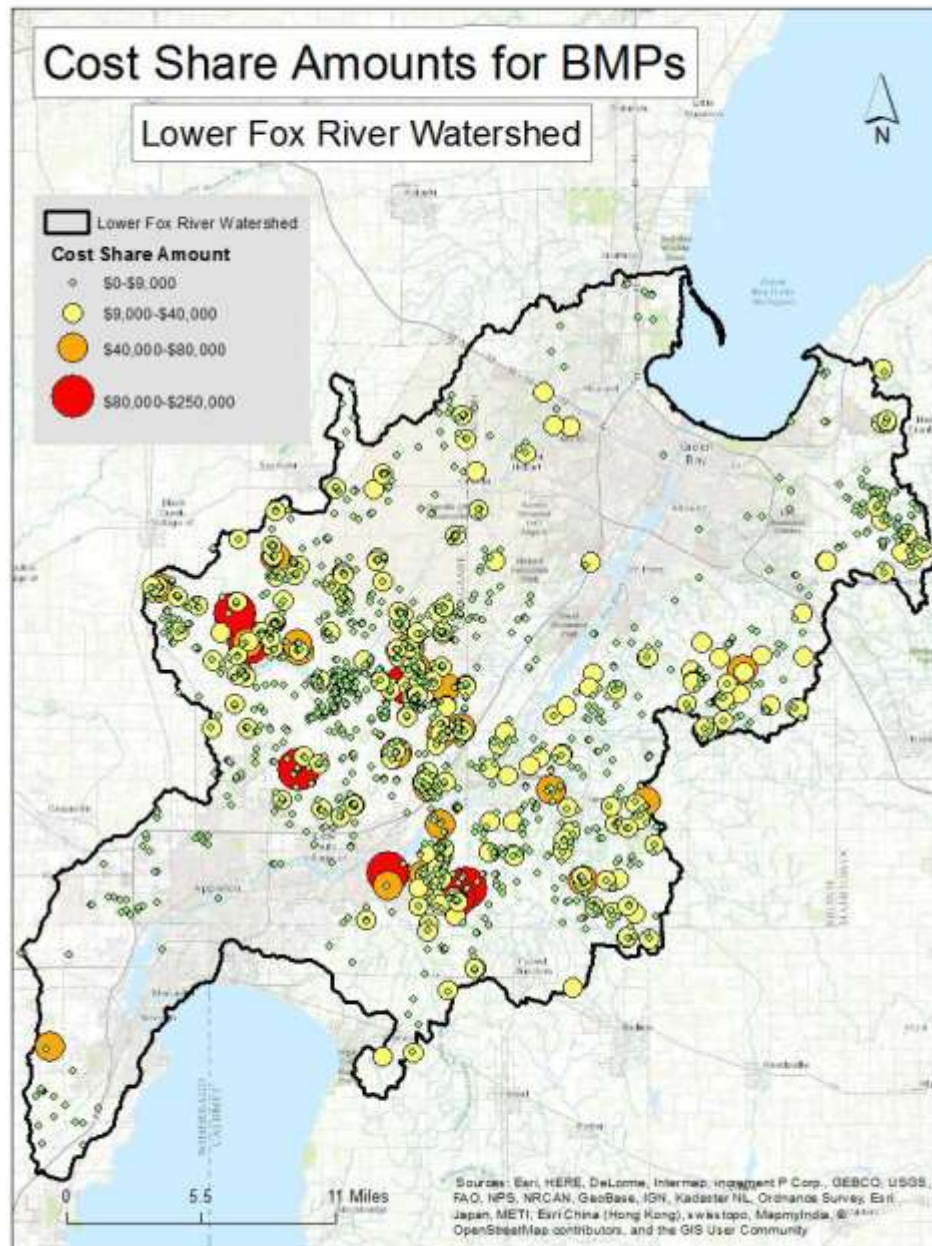
Cost Share Amounts for BMPs

Lower Fox River Watershed

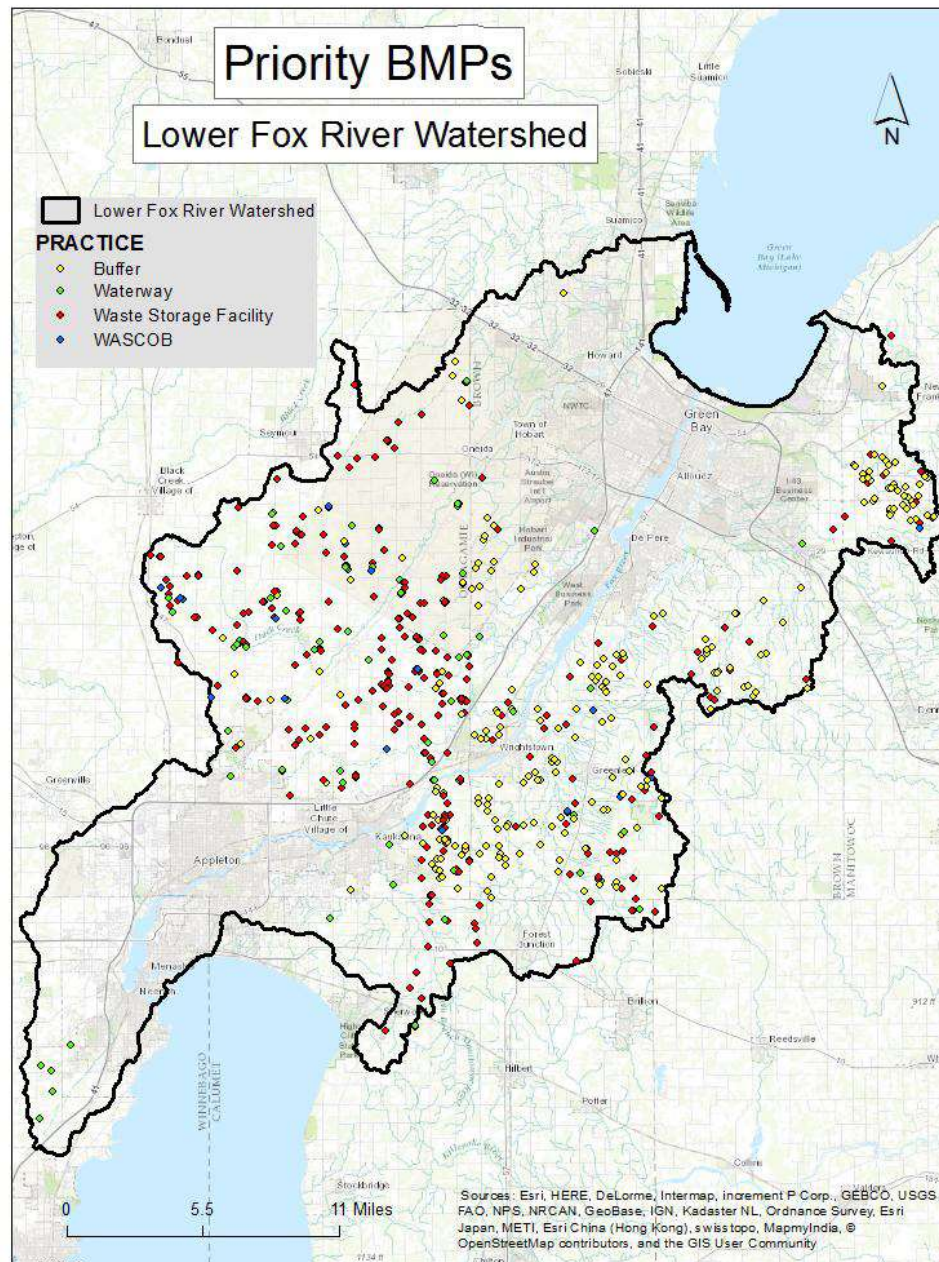
Lower Fox River Watershed

Cost Share Amount

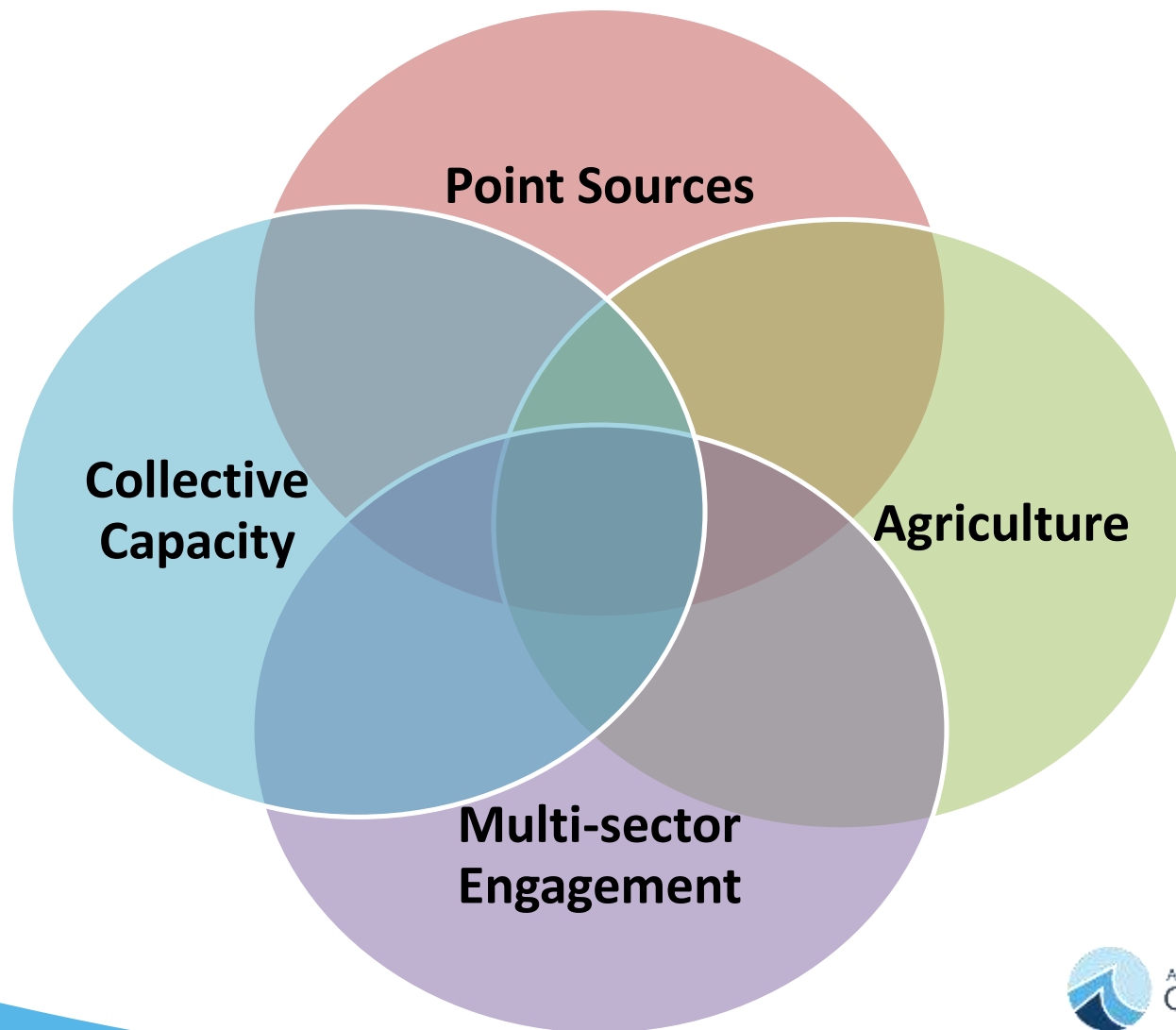
- ◊ \$0-\$9,000
- \$9,000-\$40,000
- \$40,000-\$80,000
- \$80,000-\$250,000



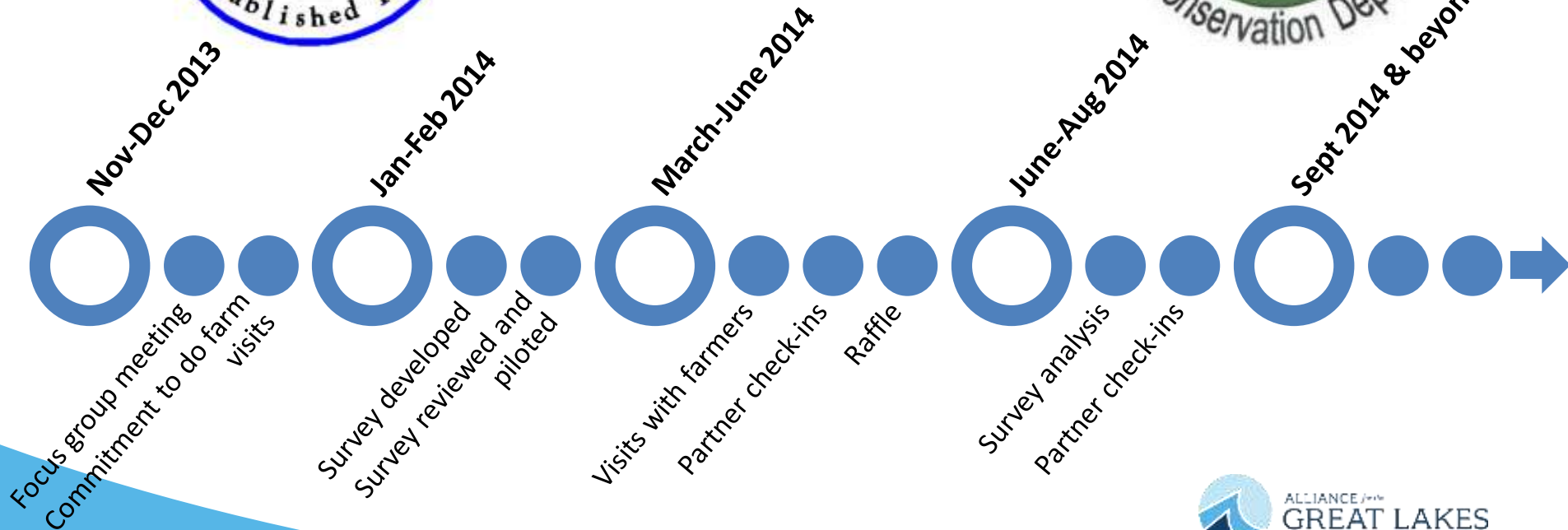
Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), Swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



LOWER FOX APPROACH

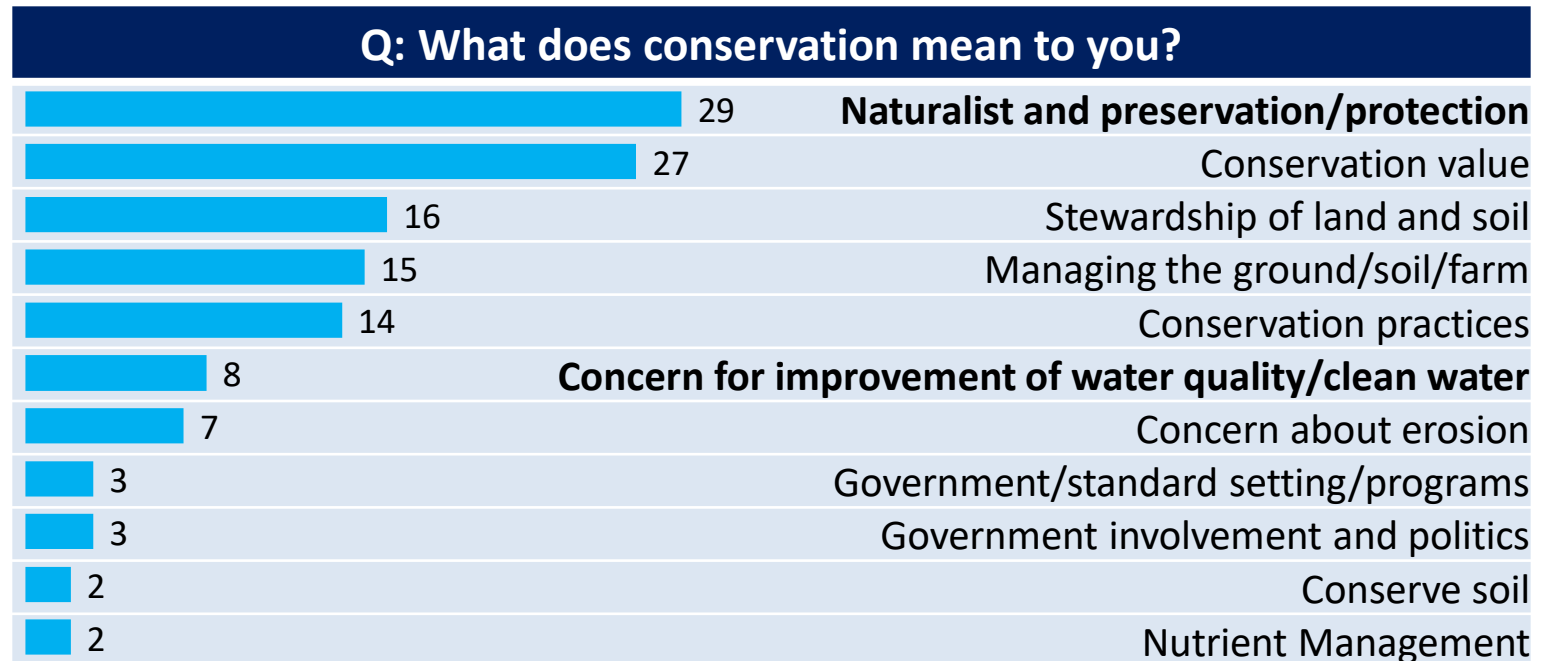


Agriculture – *Social Factors and Conservation Behavior Survey*





VALUE OF LAND AND WATER RESOURCES



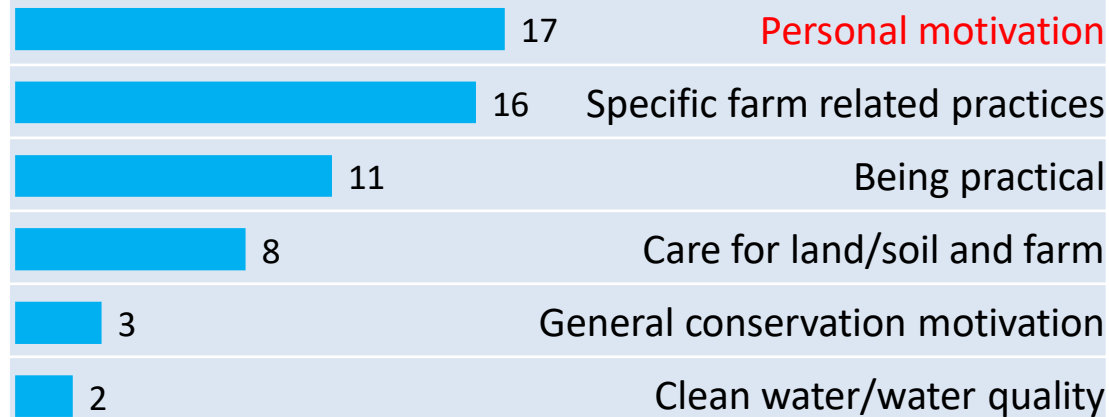
OTHER TAKE-AWAYS:

- Perception - visible features
- High value place on natural resources:
 - 90% - improving water quality is important
 - 80% - meet water quality standards for their community
- Connection between their land and downstream impacts is missing

CONSERVATION-MINDEDNESS

Willingness to pay

YES (59)

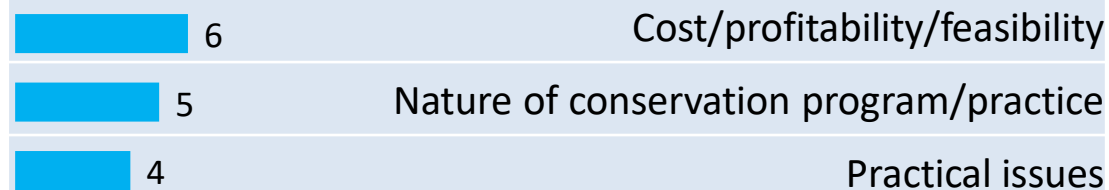


"Yes, not all about money, community matters, we have to live here.

Incentives do give a boost to promote practices, to try it then it may become an accepted practice"

"We would do without payment & have in the past"

MAYBE (15)



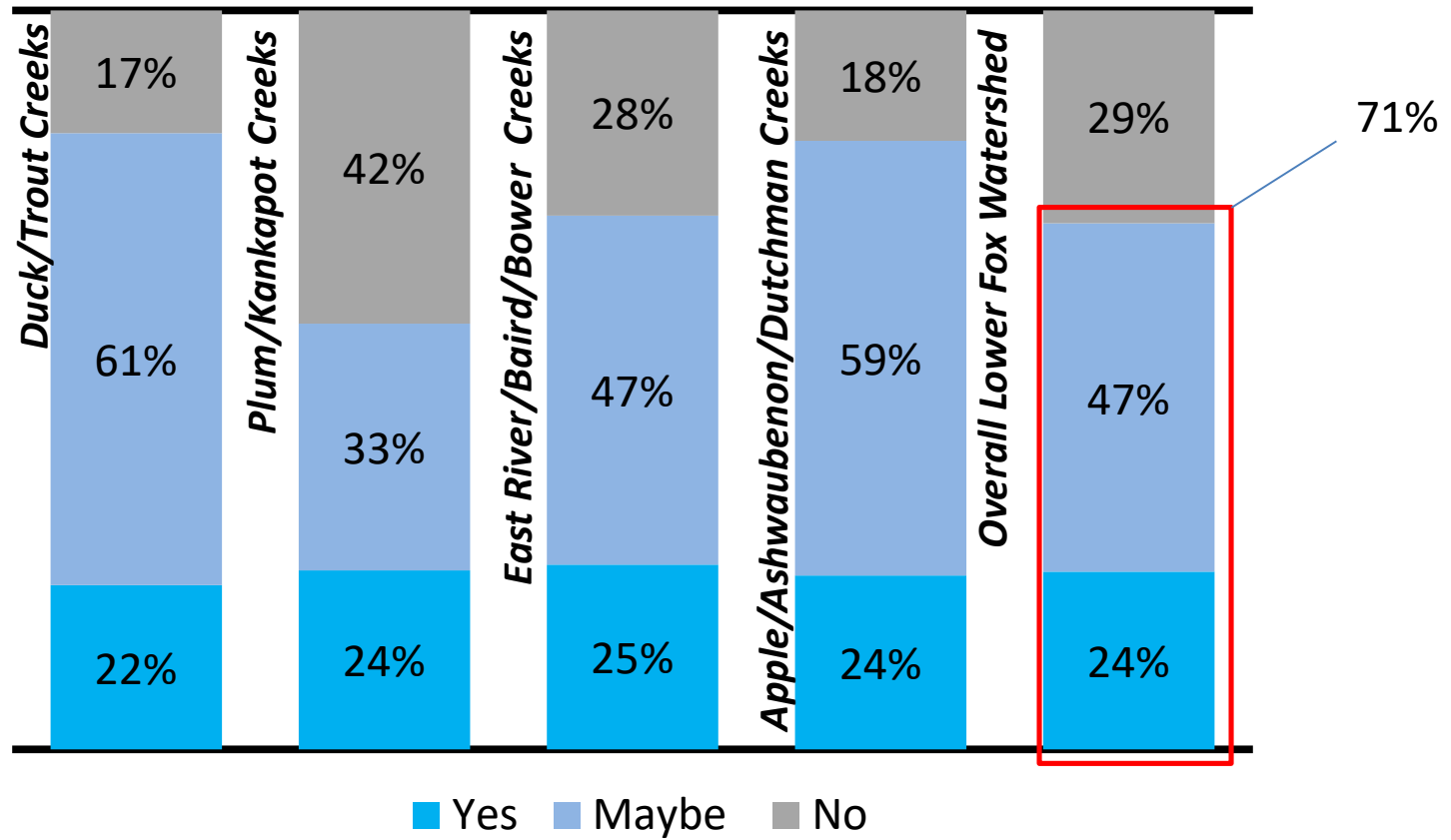
"Possible, if there is a problem you don't want it to continue. Being responsible"

"If the extra dollars has payback or if it will cause pollution or a problem"

70% - Yes and maybe

Engagement and Partnerships

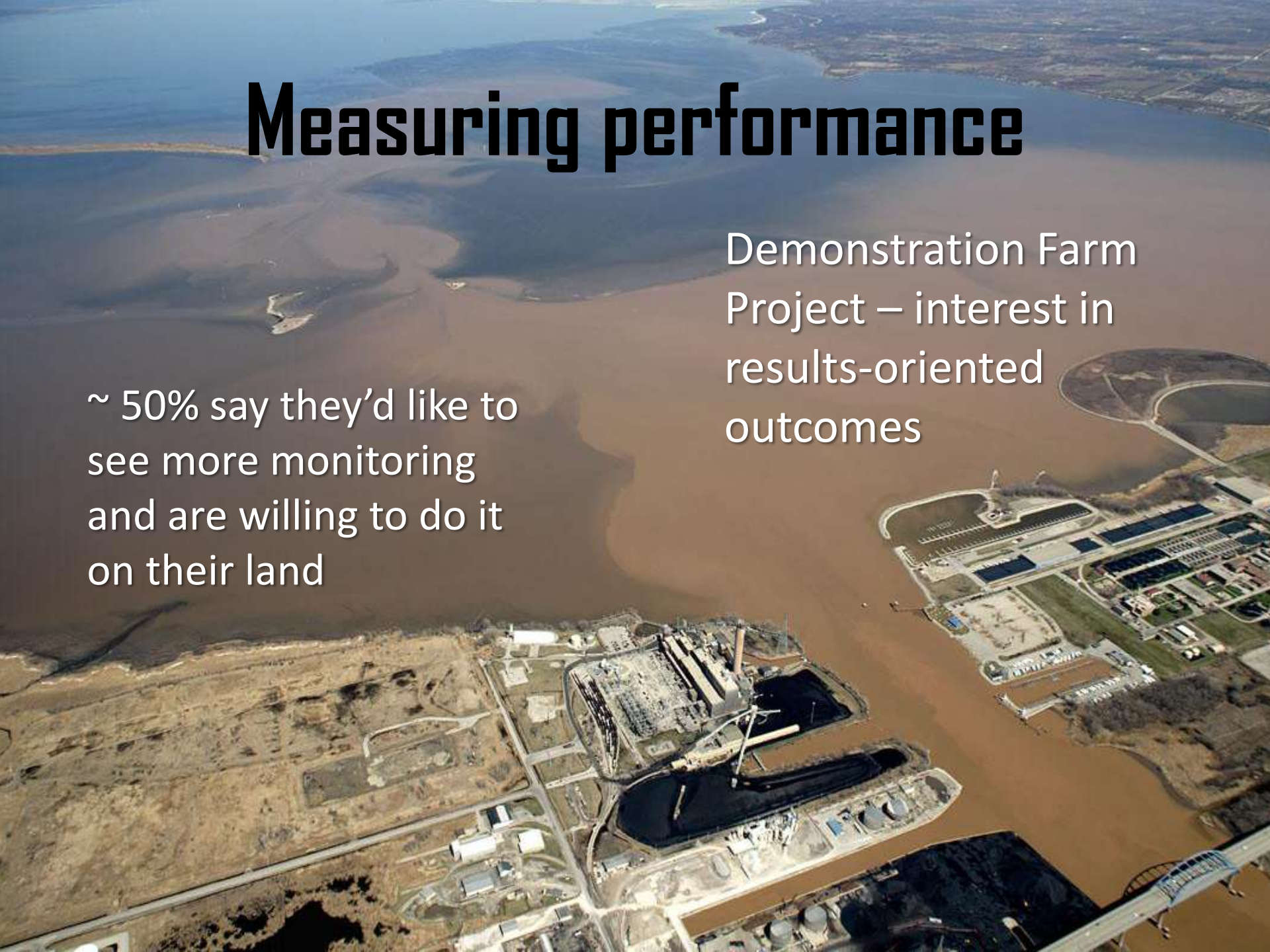
Contracts with wastewater treatment plants and industry



Measuring performance

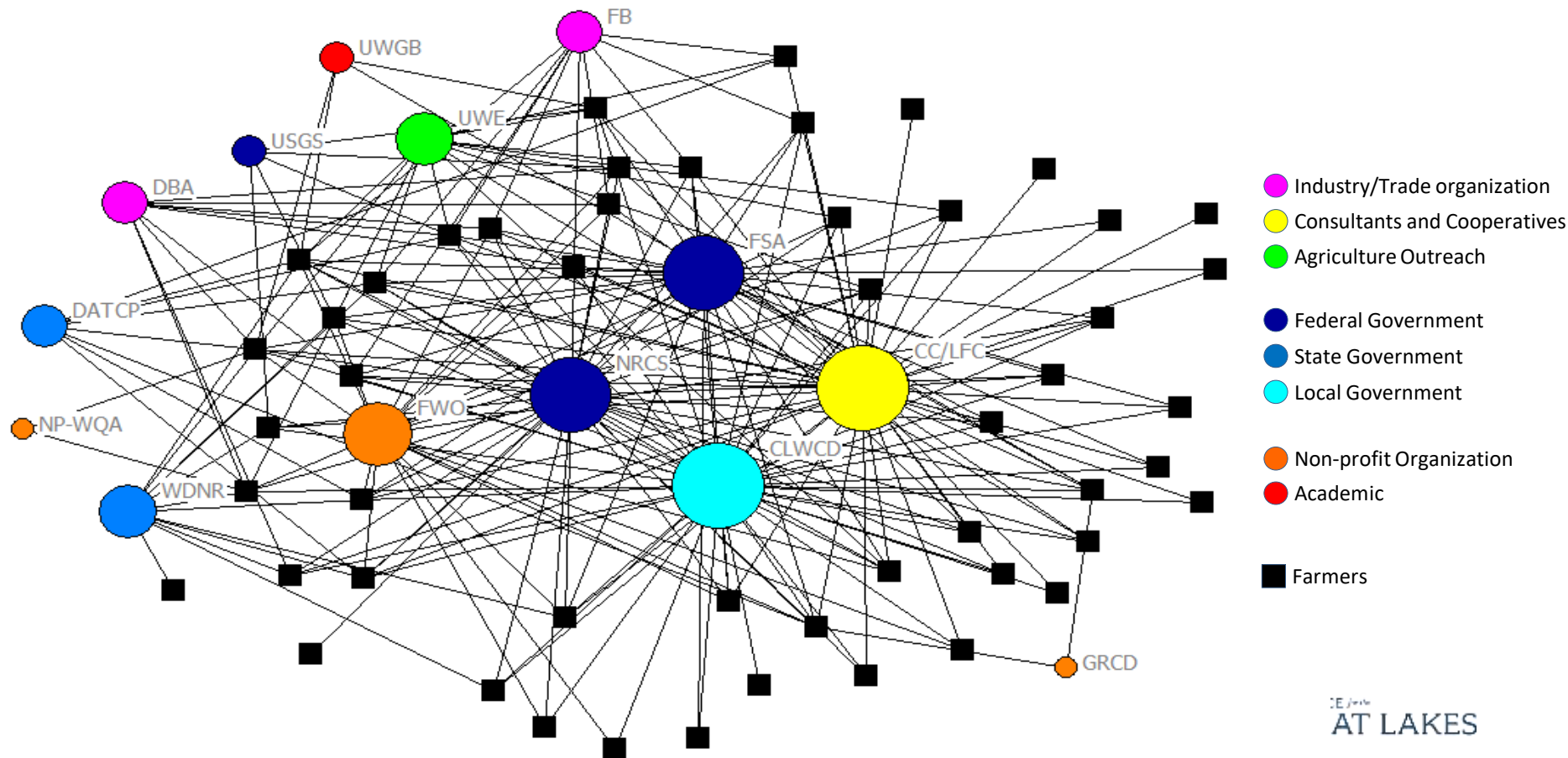
~ 50% say they'd like to see more monitoring and are willing to do it on their land

Demonstration Farm Project – interest in results-oriented outcomes

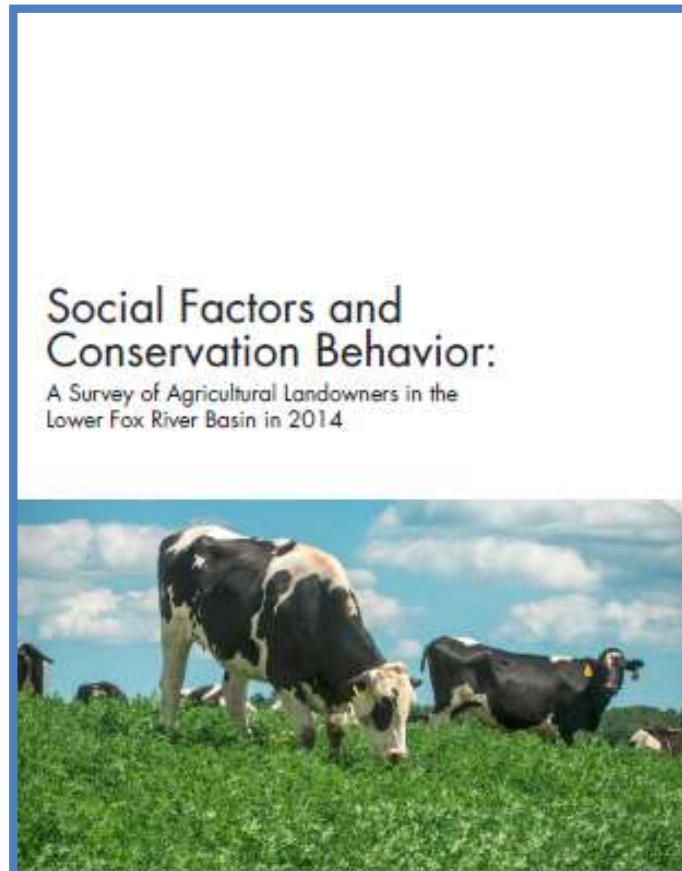


Information/communication:

Most important organizations for water quality information



Agriculture



- Survey Summary
- Outreach Plan

- HUC12 Farmer Meetings
- Conservation Profiles of farmers
- Farmer's in planning
- Newsletter

The image shows a flyer for a 'Farmer Luncheon and Runoff Roundtable' and a survey form. The flyer is on the left, with a grey background and white text. It invites farmers to join on Wednesday, January 27th, from 12-2:30 PM. It provides contact information for Brent Petersen, Demonstration Farms Project Manager. To the right of the flyer is a survey form with a red dashed line separating the flyer text from the form. The form has several questions and input fields. At the bottom of the form, it says 'Thank you! Please share this info with other'. On the far right, there is a vertical strip of the cow photograph from the survey cover.

Please join us Wednesday, January 27th
for a Farmer Luncheon and Runoff
Roundtable from 12-2:30 PM (location
TBD)

For more information, please call Brent Petersen,
Demonstration Farms Project Manager, at (920) 391-
4643.

Do you have any suggestions for other topics?

Do you have suggestions for speakers? If so, who and
for what topic?
Speaker _____ Topic _____
Speaker _____ Topic _____

Do you plan to come? ☐ Yes ☐ No ☐ Maybe
Please share with us why you are interested/not
interested? _____

Is there anything else that would increase your interest
in attending this event? _____

Thank you! Please share this info with other

Agriculture

Fox Watershed Farmer Roundtable



Inspiring Action • Improving Farms • Restoring our Water

Thursday, January 24, 2019

10:30am-4:00pm

Liberty Hall, Kimberly, WI

Join us for the 4th Annual Farmer Roundtable!

- Meet Keynote Speaker **Jill Clapperton** PhD, Principal Scientist, Rhizoterra Inc. Jill is an internationally recognized lecturer on how to create and manage the long-term health and productivity of soils.
- Participate in a Local **Farmer Panel** and Breakout Discussions
- Explore Local **On-farm Case Studies** and Demonstrations
- This **Free Event** Includes Lunch and a **Happy Hour from 4-5pm!**



Questions? Contact Molly at (920) 465-2393 or meyersm@uwgb.edu

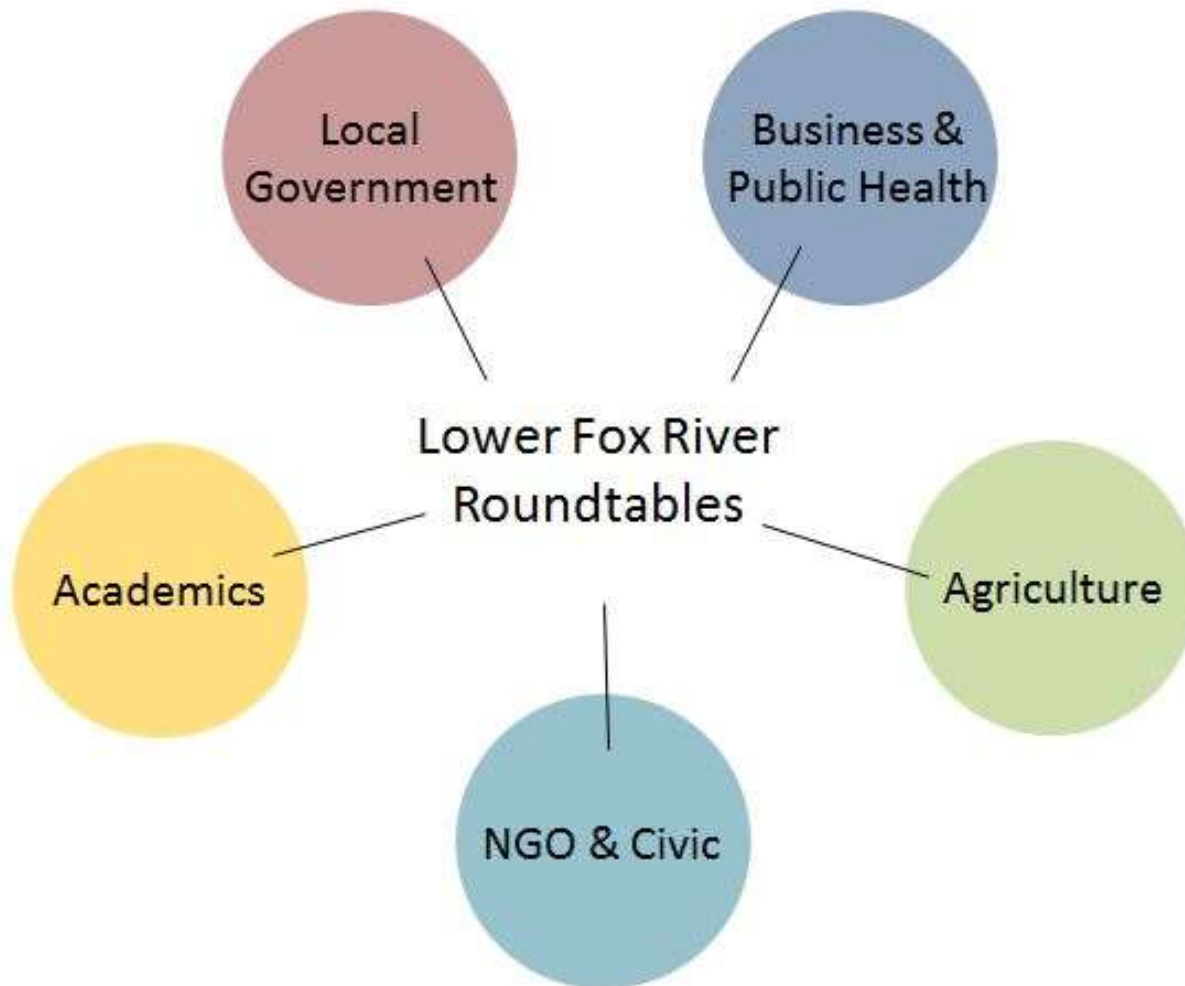
Agriculture

Perennial Forage Project:

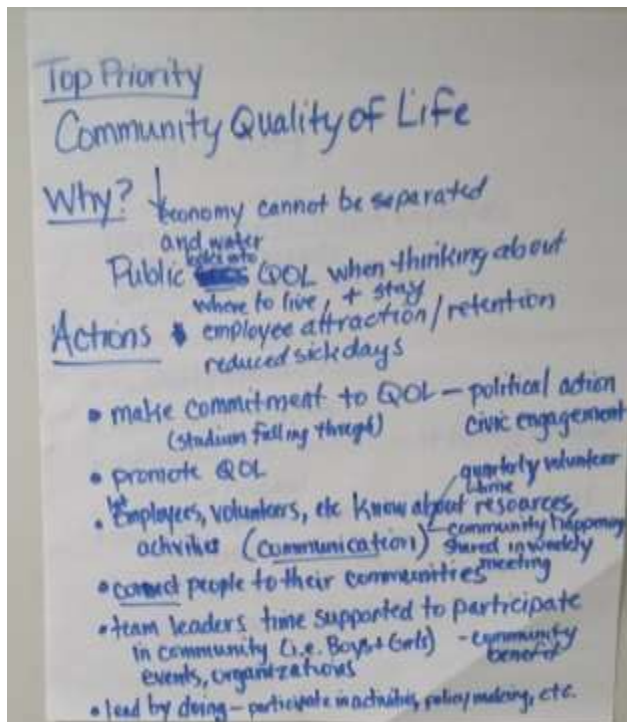
- Technical assistance, cost sharing, and outreach to increase the number of acres in a multispecies perennial forage.
- Targeting high priority acres to provide benefits for the producer and improve water quality.



Multi-sector Engagement



Multi-sector Engagement



Business and Health Roundtable



***By 2030, we will achieve significantly cleaner water,
supporting healthier communities, and resilient
economies through coordinated regional collaboration
in the Lower Fox River and Green Bay***

Collective Capacity



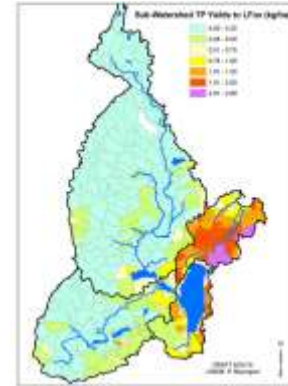
Lower Fox Basin Leadership Council

The Basin Leadership Council, a stakeholder advisory group, established to inspire and guide collective action towards achieving a Clean Water Agenda for the Lower Fox River and Bay of Green Bay.

- Lower Fox Basin coordination and leadership
- Multi-sector participation
- Strategic approach & clear metrics for success
- Championing cause

Collective Capacity

LFR Water Quality Goals



Year	Proposed P Reduction Goals*		Water Quality Performance (% towards what TMDL deems as achieving water quality)
2030	30% reduction	164,911 (lbs/year)/ 75 MT	50%
2040	60% reduction (per TMDL)**	325,402 (lbs/year)/ 148 MT	100%

- *none of this includes internal loading (i.e. suspended sediment), this is just what's coming out of the LFR watersheds for Ag and Urban nonpoint, point sources, etc.
- **Adaptive Target: will need to be reassessed adaptively based on status and climate modelling

Collective Capacity

Goal



By 2030, we will have cleaner and safer water by reducing 30% of the P pollution entering from the Lower Fox River Watershed.

By doing so, we will see significant reductions in dead zones, algae outbreaks, sediment plumes, and nutrient pollution. As a result, we will see healthier wildlife, improved recreation, less dredging and healthier soils. We also believe this represents significant momentum toward ultimately achieving the TMDL goal for water quality by 2040.

Collective Capacity



NE Wisconsin Water Quality Pact:

Executives signed in March 2019 at FWWA Conference, committing them to:

1. Prioritize water quality in decision making
2. Draft and adopt goals, target dates and metrics
3. Establish sub-basin management plans and governance programs

Recommendations



1. *Aspiration & Strategy*
2. *Management and Accountability*
3. *Sufficient Funding*
4. *Diverse Funding Sources & Incentives*
5. *Shifting the WI Agriculture Brand*

Thank you!

