



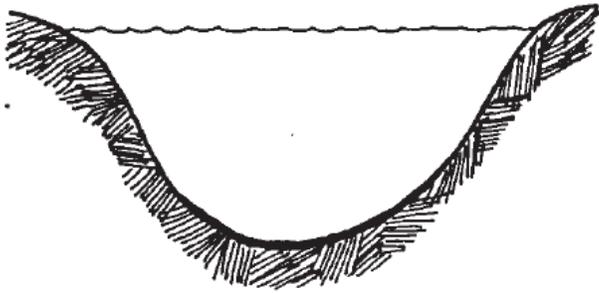
Magnor Lake Planning Grant

Katelin Anderson
Colton Sorensen

Polk County Land and Water
Resources Department

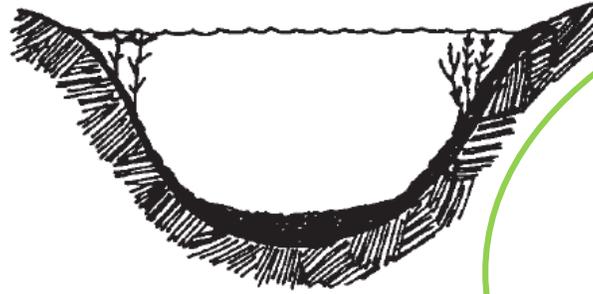
Lake water quality





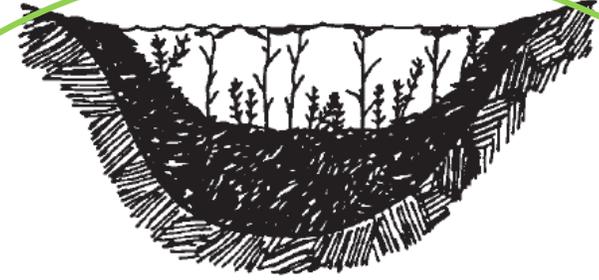
OLIGOTROPHIC

- Clear water, low productivity
- Very desirable fishery of large game fish



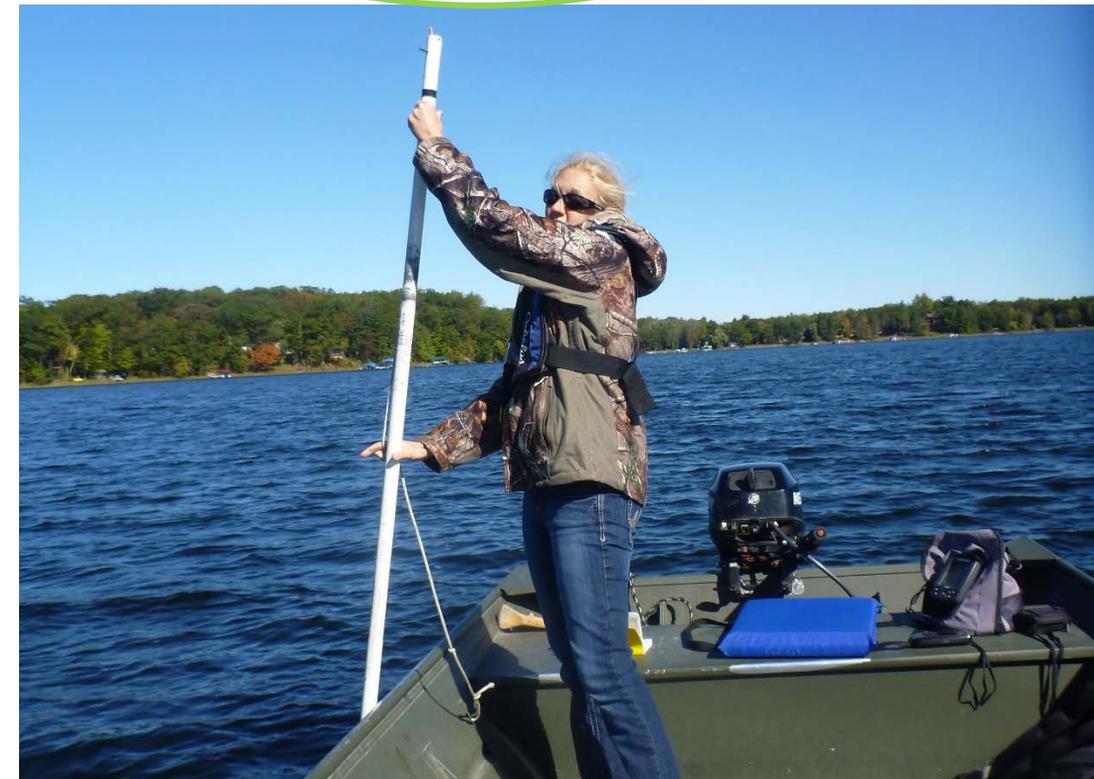
MESOTROPHIC

- Increased production
- Accumulated organic matter
- Occasional algal bloom
- Good fishery



EUTROPHIC

- Very productive
- May experience oxygen depletion
- Rough fish common



Tributary monitoring



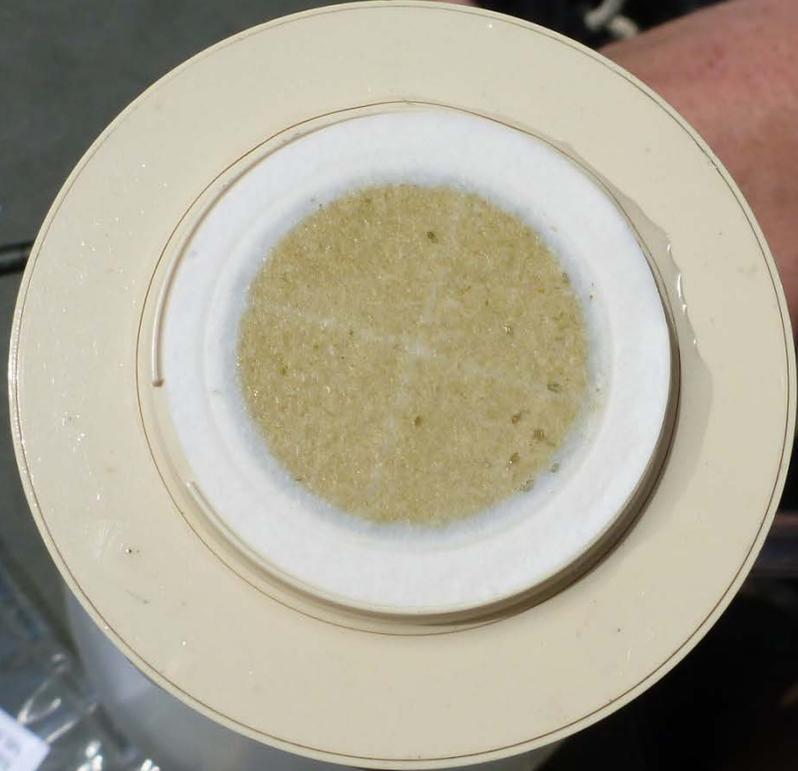
Phosphorus
Budget (lb/yr)

Inlet from Mud
1,658

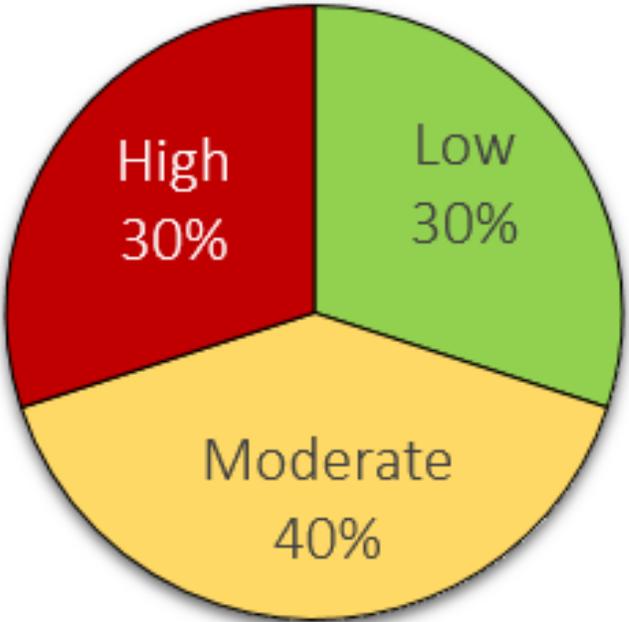
Inlet from Barbo
1,630

Outlet
541

Chlorophyll a and algae

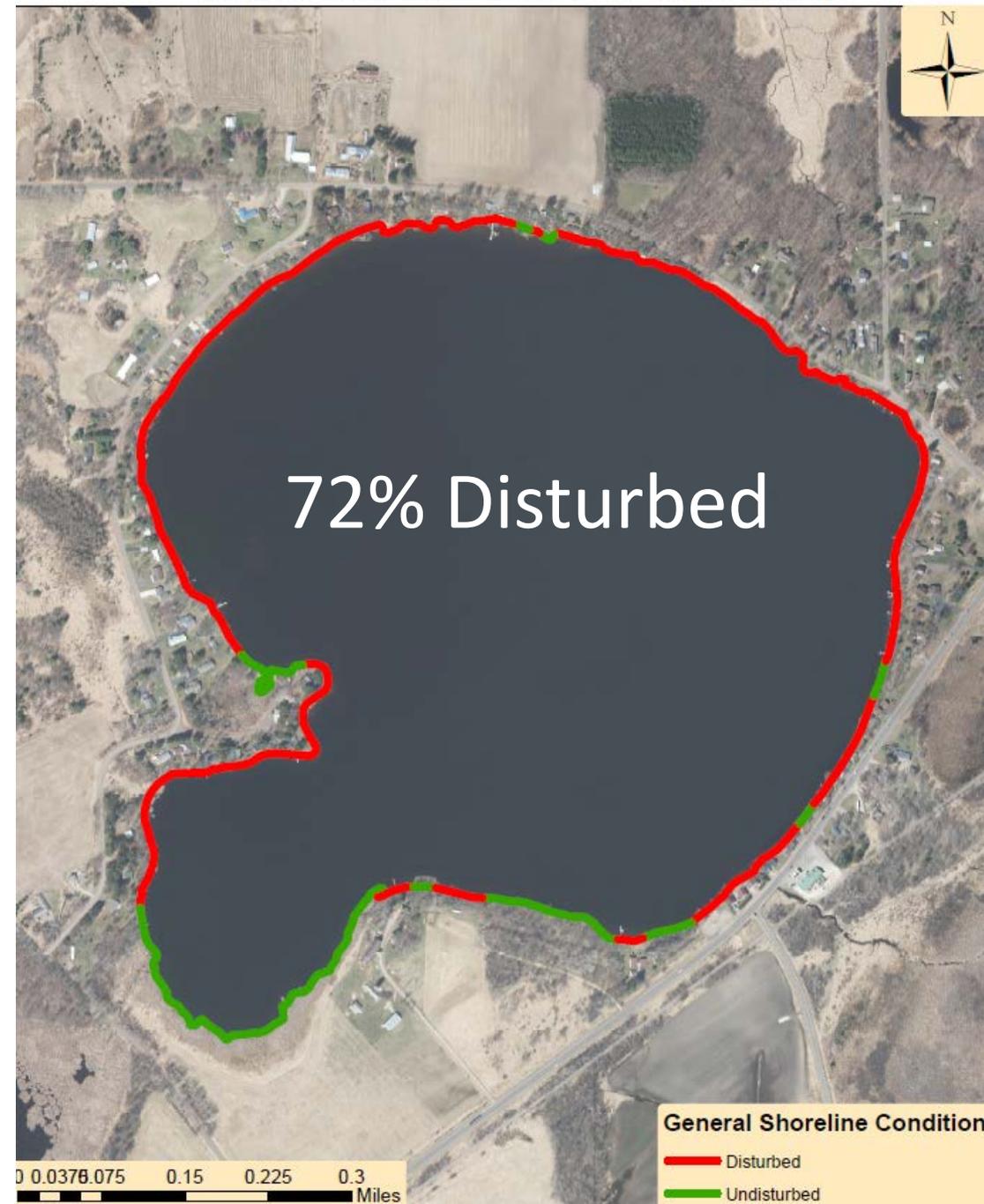


Risk of Toxin Production

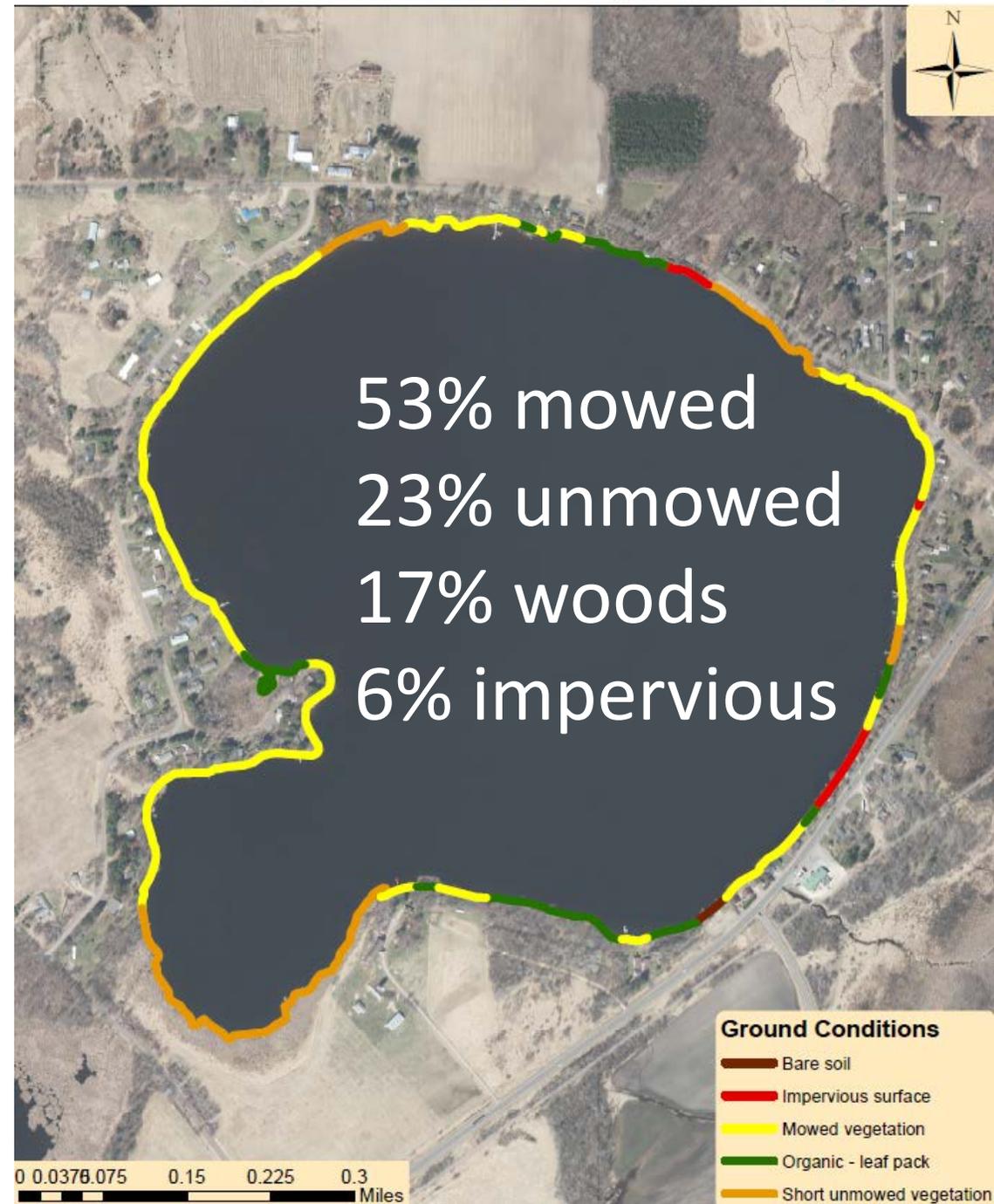


Shoreline inventory

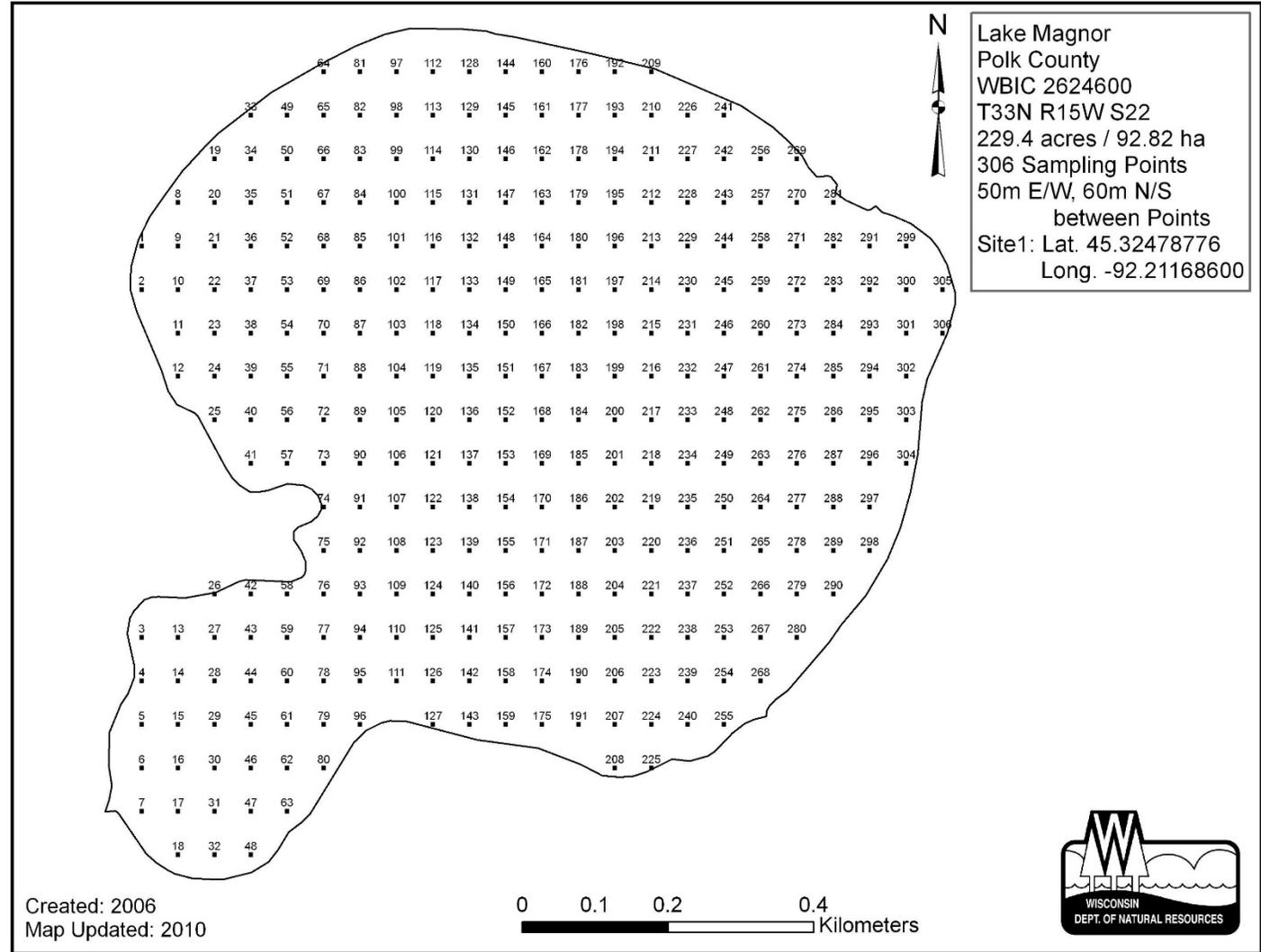




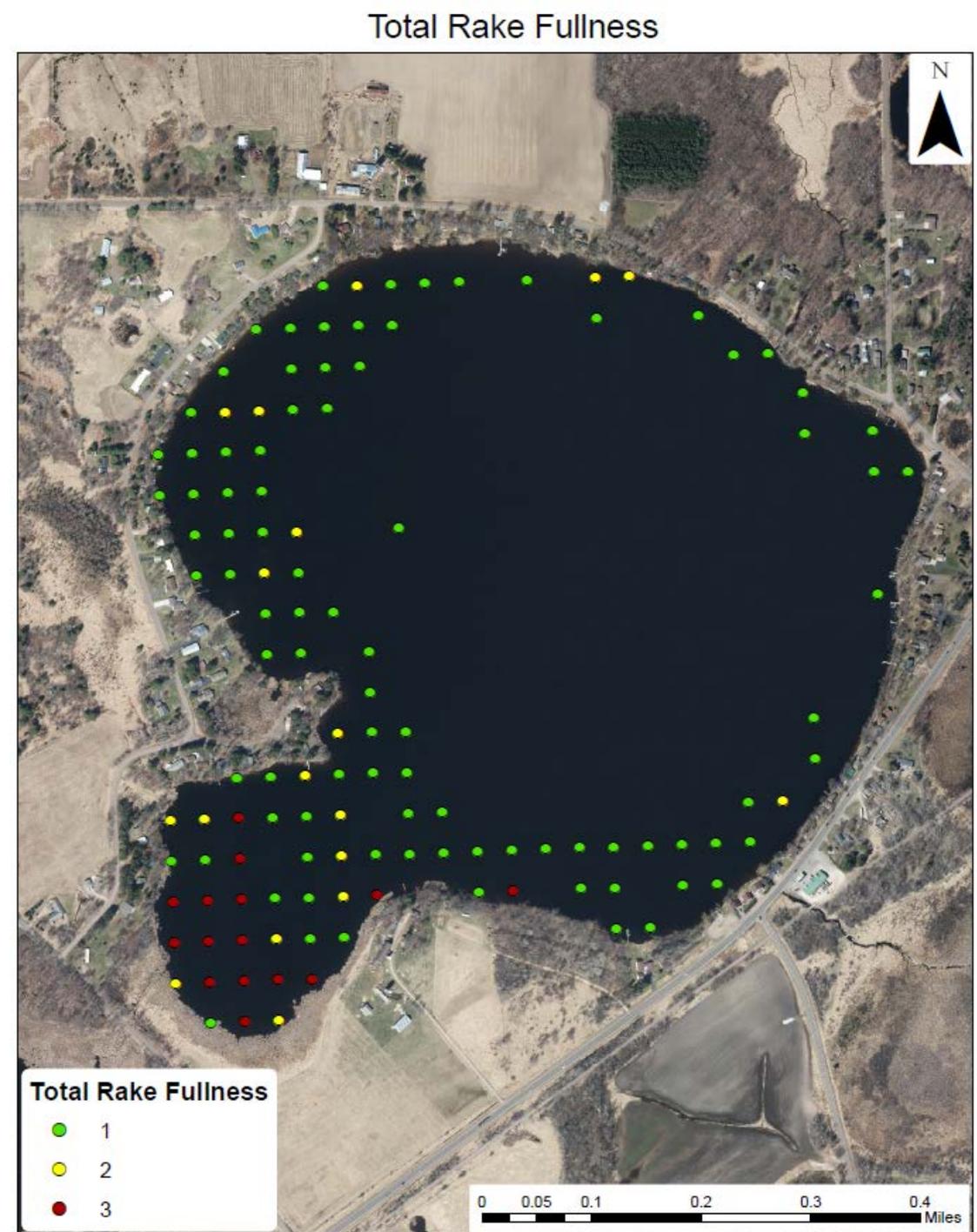
2.5 trees/mile shoreline



Plant survey



Fullness Rating	Coverage	Description
1		Only few plants. There are not enough plants to entirely cover the length of the rake head in a single layer.
2		There are enough plants to cover the length of the rake head in a single layer, but not enough to fully cover the tines.
3		The rake is completely covered and tines are not visible.



Lake resident survey

In many instances the survey question will reference Magnor/Barbo Lake. Please answer all survey questions that reference Magnor/Barbo for the lake you are most familiar with.

Please check one: I will answer the survey questions for:

- Magnor Lake
- Barbo Lake

1. How many years have you owned property on or near Magnor/Barbo Lake? If you own more than one property, please answer all questions for the property you have owned the longest.
_____ years
2. Which of the following best describes how you use your property?
 - Year-round residence
 - Seasonal residence (continued occupancy for months at a time)
 - Weekend, vacation, and/or holiday residence
 - Rental property
 - Other, please specify _____
3. How many days in a typical year is your property used by you or others? Provide your best estimate.
_____ days per year
4. On the average day that your property is occupied, how many people occupy the property?
_____ people
5. Is the property you own on the shoreline of Magnor/Barbo Lake?
 - Yes
 - No, please skip to question 7
6. Which of the following describe the first 35 feet of your shoreline (the area located directly adjacent to the lake)? If you don't own shoreline property, please skip this question. Please check all that apply.

<input type="checkbox"/> Mowed lawn	<input type="checkbox"/> Pier/dock
<input type="checkbox"/> Un-mowed vegetation	<input type="checkbox"/> Buffer zone/shoreline restoration
<input type="checkbox"/> Shrubs/trees	<input type="checkbox"/> Rain garden
<input type="checkbox"/> Undisturbed woods	<input type="checkbox"/> Other, please describe _____
<input type="checkbox"/> Stabilizing rock/rip rap	



What is your degree of concern with each issue listed below?	Rank
Excessive algae blooms	3.5
Decrease in overall lake health	3.3
Excessive aquatic plant growth	3.3
New invasive species entering the lake	3.3
Lack of water clarity or quality	3.2
Increased nutrient pollution	3.2
Poor water quality	3.1

Should each action be completed by the District to manage the lake? Yes

Programs to prevent and monitor invasive species	88%
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Practices to enhance fisheries	75%
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Incentives for property owners to install farmland conservation practices	60%
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Installation of shoreline buffers/rain gardens	58%
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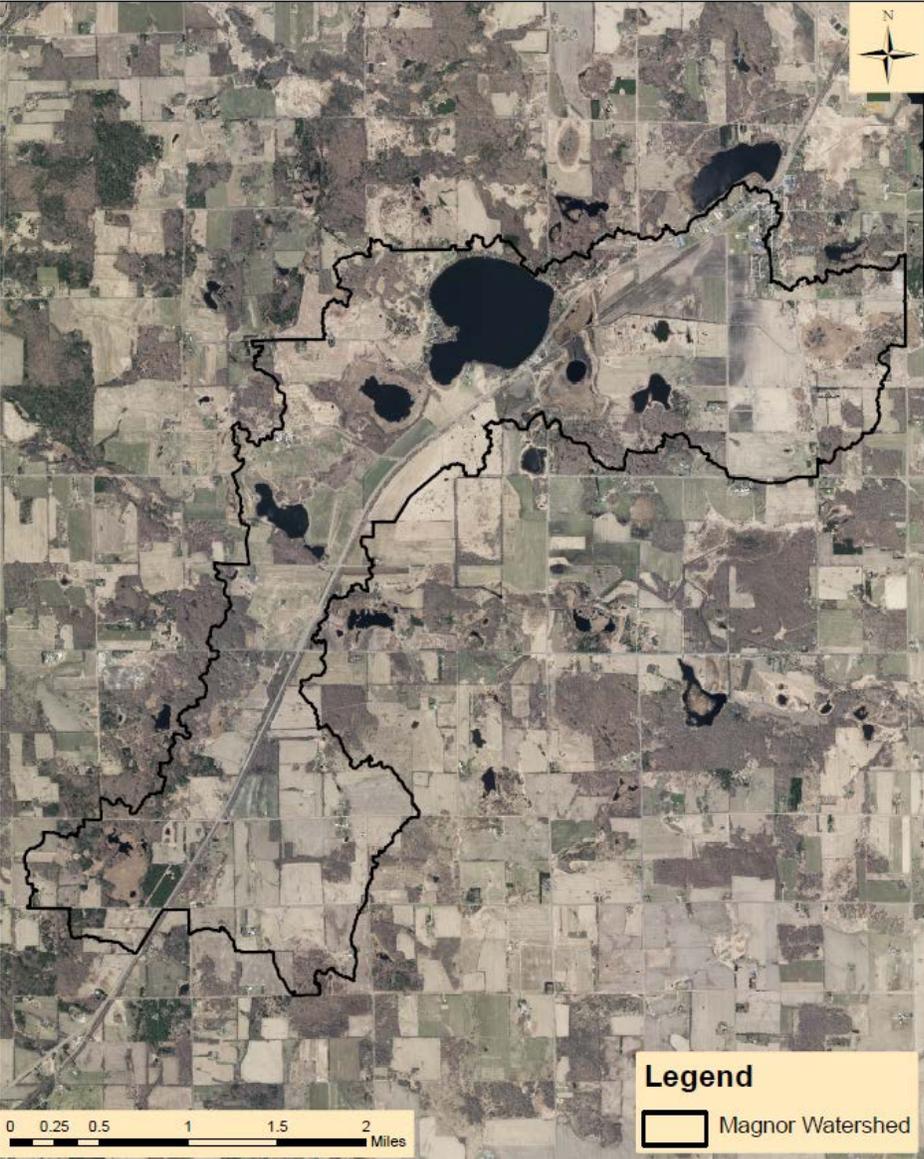
Incentives for upgrades to non-conforming septic systems	57%
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Sediment core

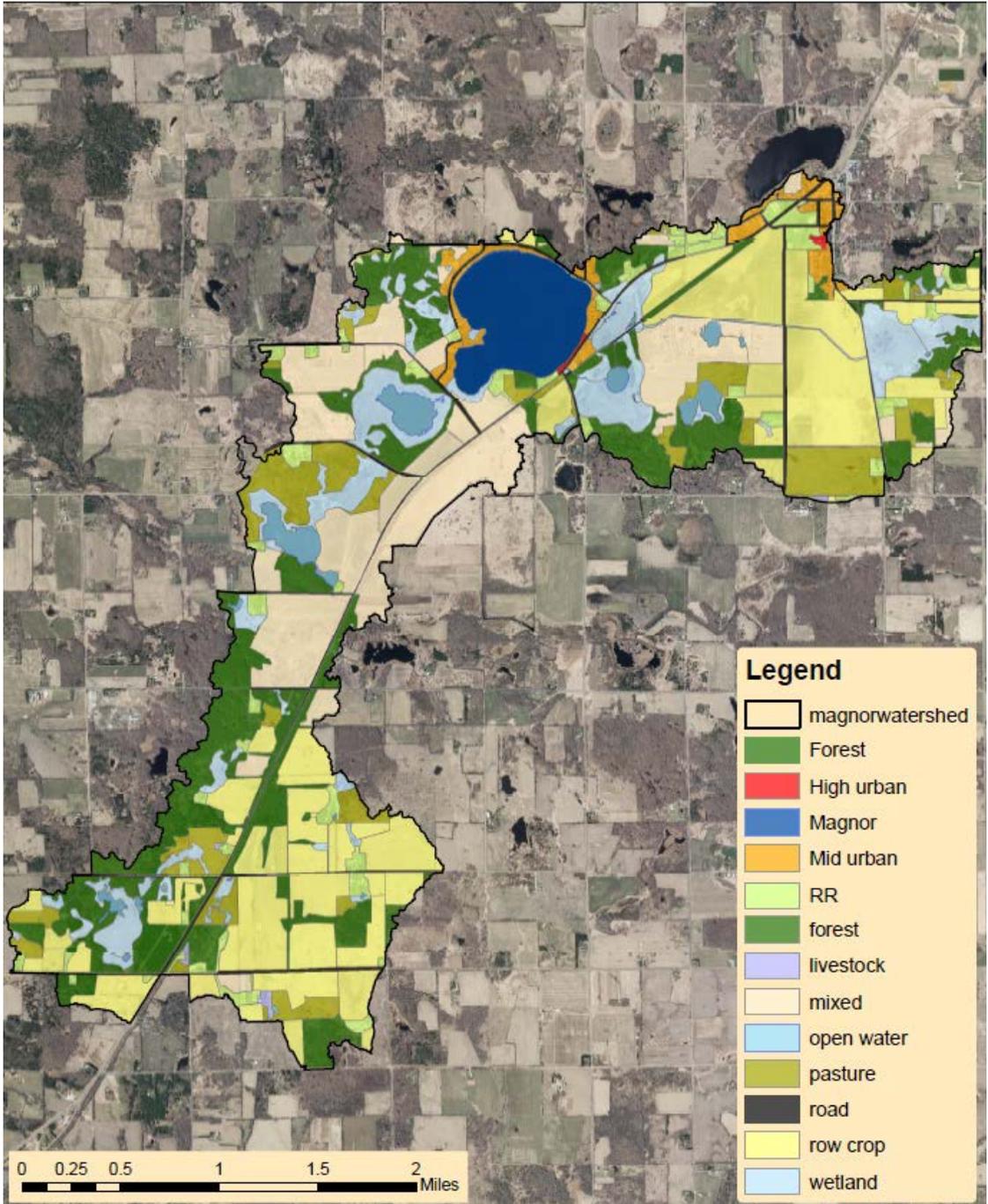


Watersheds and land use

Magnor Watershed



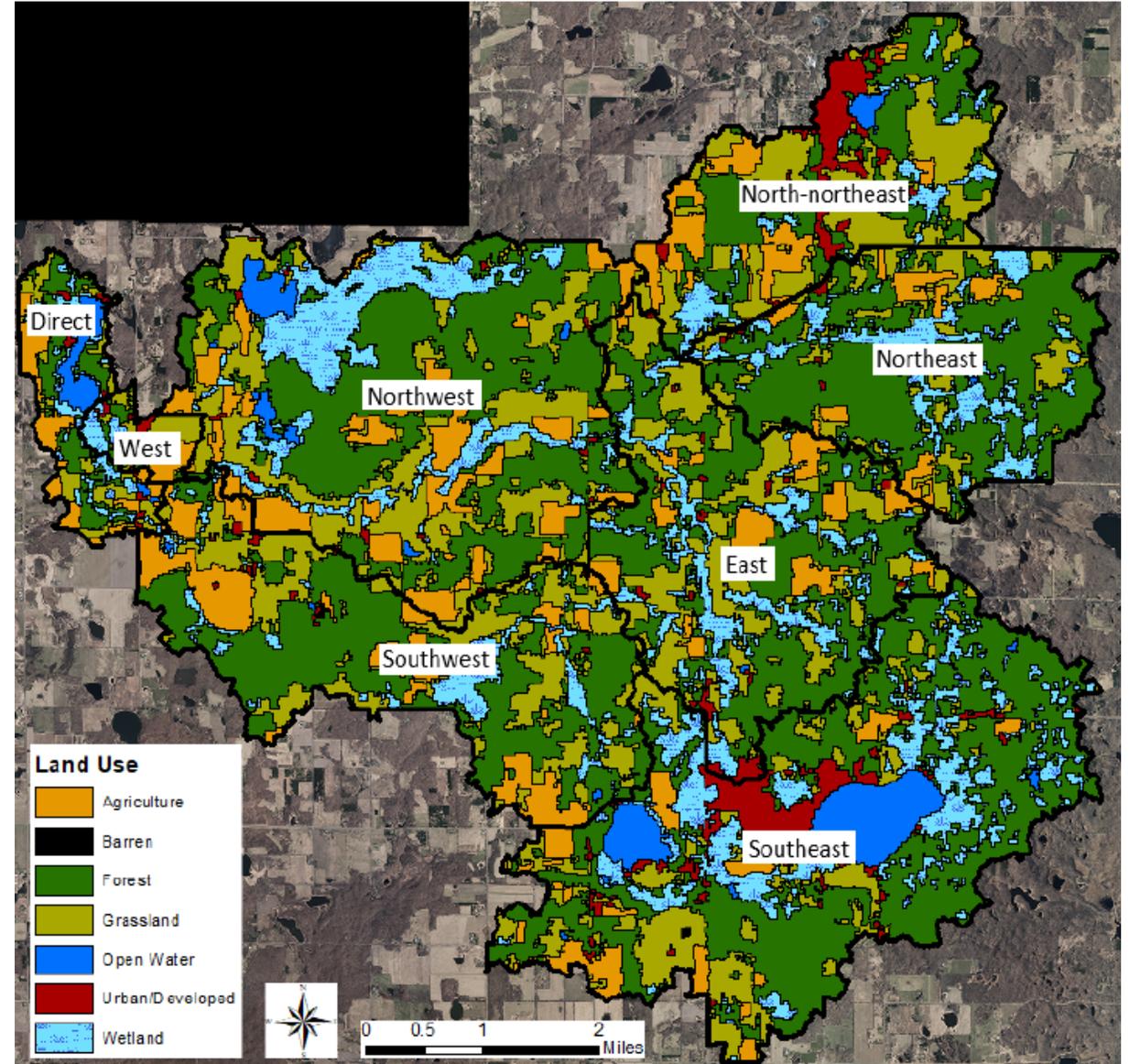
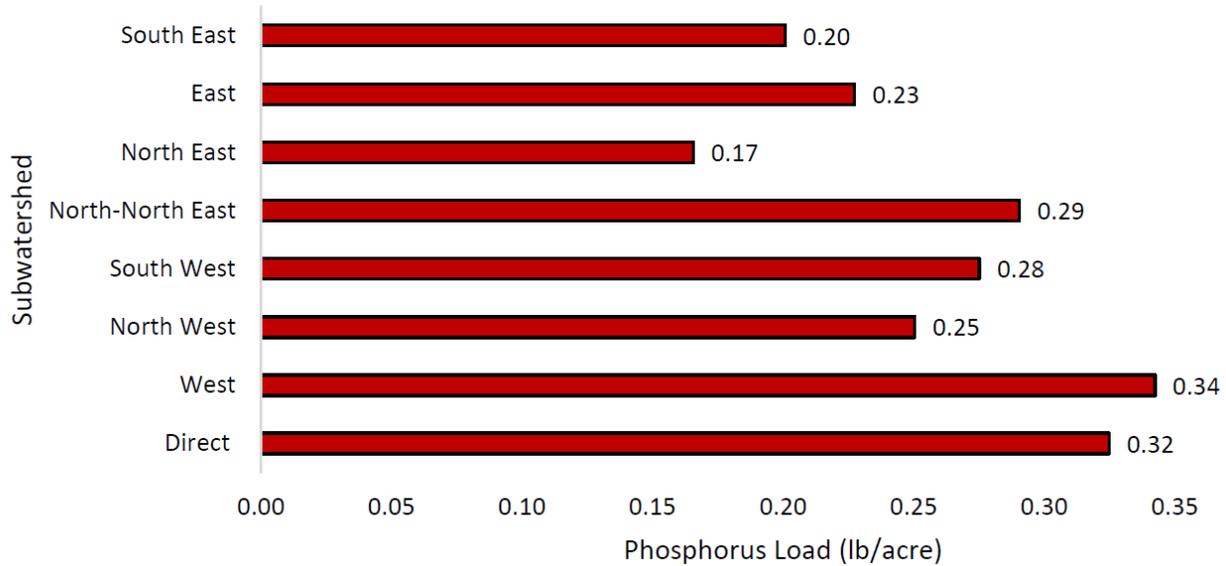
Magnor Land Use



Nutrient loading

**example from Long Trade*

Phosphorus Load (lb/acre) by Subwatershed



Next steps

Finalize Lake Management Plan (LMP)

Watershed and land use

No till and cover crop inventory

Spring plant survey

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LMP Committee Meetings

Review data from study

Determine goals for Magnor Lake