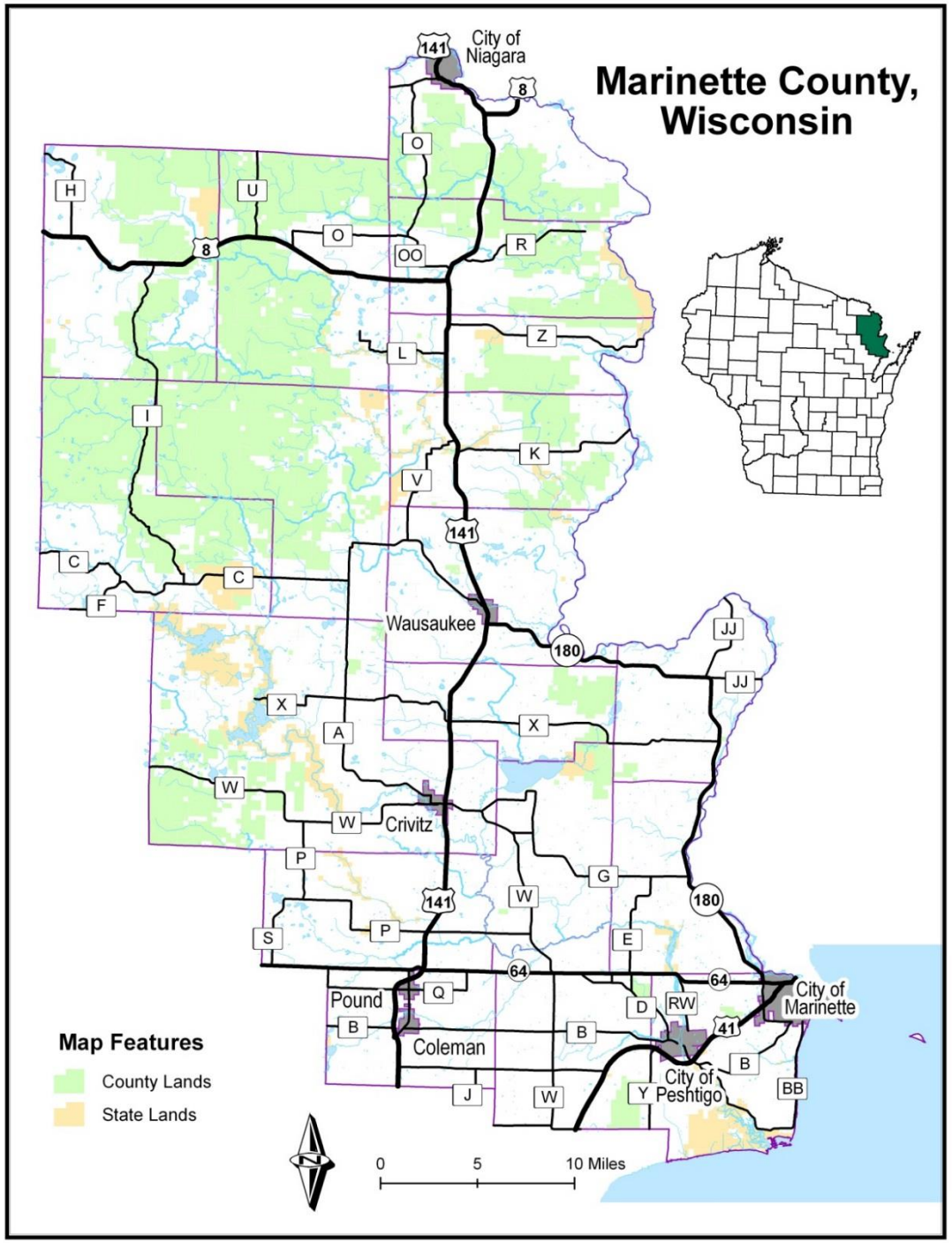
# Speaker's Task Force on Water Quality

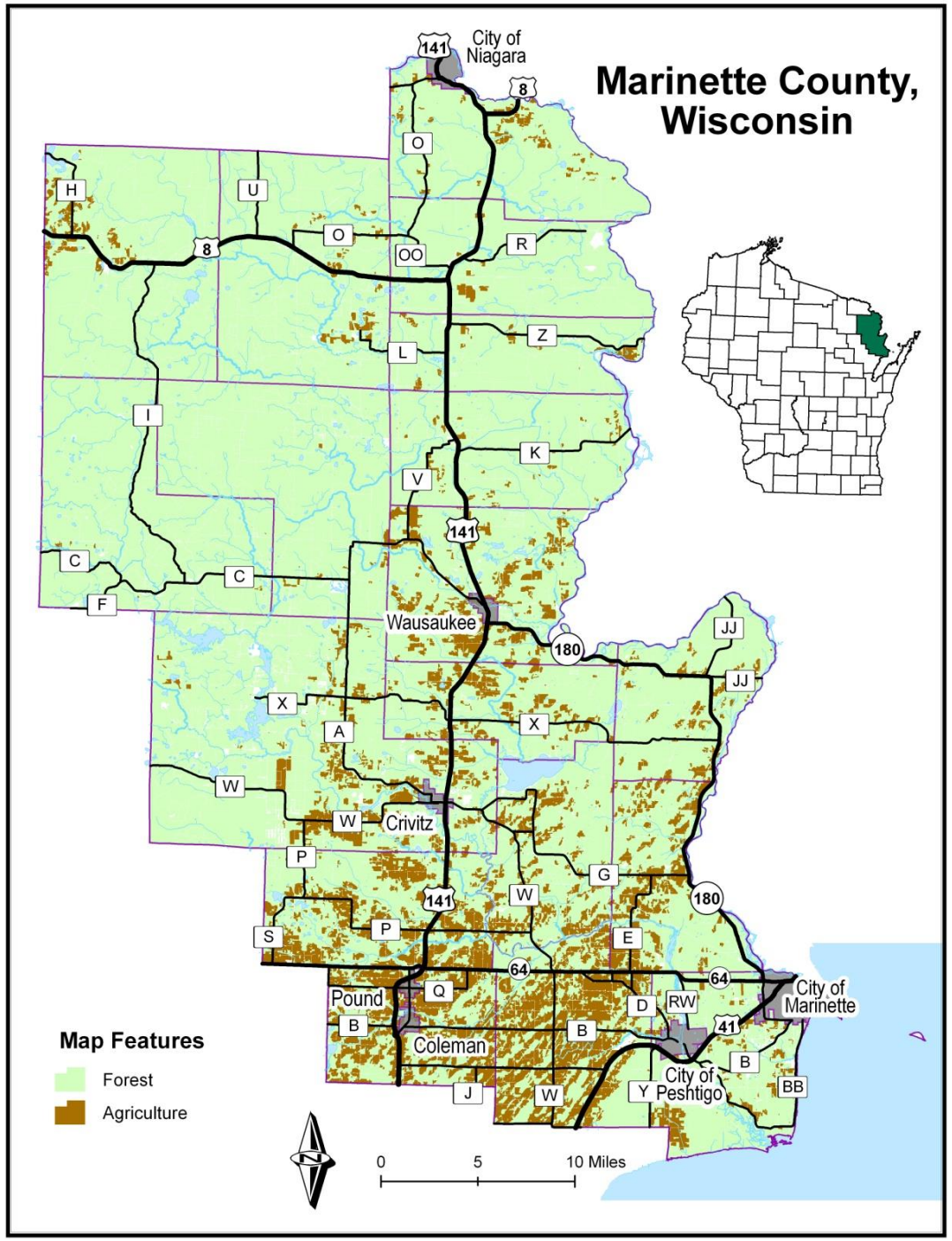
## Marinette and Oconto Counties

August 29, 2019




# *Statistics*

- 914,286 acres in size (3rd largest)
- Population 44,823 (32nd highest)
- 230,866 acres of County Forest (2nd most)
- 442 Lakes (13th most)
- 191 Trout Streams (1st)
- 161 ORW/ERW Streams (1st)




# *Land Uses*

- ★681,102 acres of woodlands
- ★212,639 acres of wetlands
- ★110,874 acres of agriculture
- ★18,435 acres of surface waters

# Nonpoint Source Control Plan for the Lake Noquebay Priority Watershed Project

This plan was prepared under the provisions of the Wisconsin Nonpoint Source Pollution Abatement Program by the Marinette County Land & Water Conservation Department, the Wisconsin Department of Natural Resources and the Department of Agriculture, Trade, and Consumer Protection.

# Nonpoint Source Control Plan for the Middle Peshtigo-Thunder Rivers Priority Watershed Project

This plan was prepared under the provisions of the Wisconsin Nonpoint Source Pollution Abatement Program by the Wisconsin Department of Natural Resources, the Department of Agriculture, Trade and Consumer Protection, the Marinette Land & Water Conservation Department and the Oconto County Land Conservation Department.


Section 319

# NONPOINT SOURCE PROGRAM SUCCESS STORY

Wisconsin

## Phosphorus Reductions in Bass Lake Restore Fishery

**Waterbody Improved**

Livestock operations and other agricultural activities contributed to nutrient overenrichment and fish kills in Bass Lake in northeastern Wisconsin, forcing it to be added to the state's 303(d) list of impaired waters. The Marinette County Land and Water Conservation Department (LWCD) led an effort to reduce polluted runoff by installing state-of-the-art barnyard control practices combined with other in-lake treatment techniques that reduced phosphorus levels in the lake. The Bass Lake restoration project achieved total maximum daily load (TMDL) targets by reducing the average phosphorus concentrations from 490 µg/L to 10 µg/L, and the lake will be removed from the state's 303(d) list in the next listing cycle.

### Problem

Bass Lake was placed on Wisconsin's 303(d) list of impaired waters for high phosphorus, low dissolved oxygen levels, and winter fish kills. Runoff from cropland, livestock barnyards, and nutrient accumulation in a wetland through which the inlet drained delivered high levels of nutrients and biological oxygen demand to the lake. Nutrient runoff caused heavy algae blooms, which covered the lake in the summer months, and dissolved oxygen concentrations fell to zero in the winter months when ice covered the lake. Low dissolved oxygen concentrations caused fish kills and decimated the sport fish population.

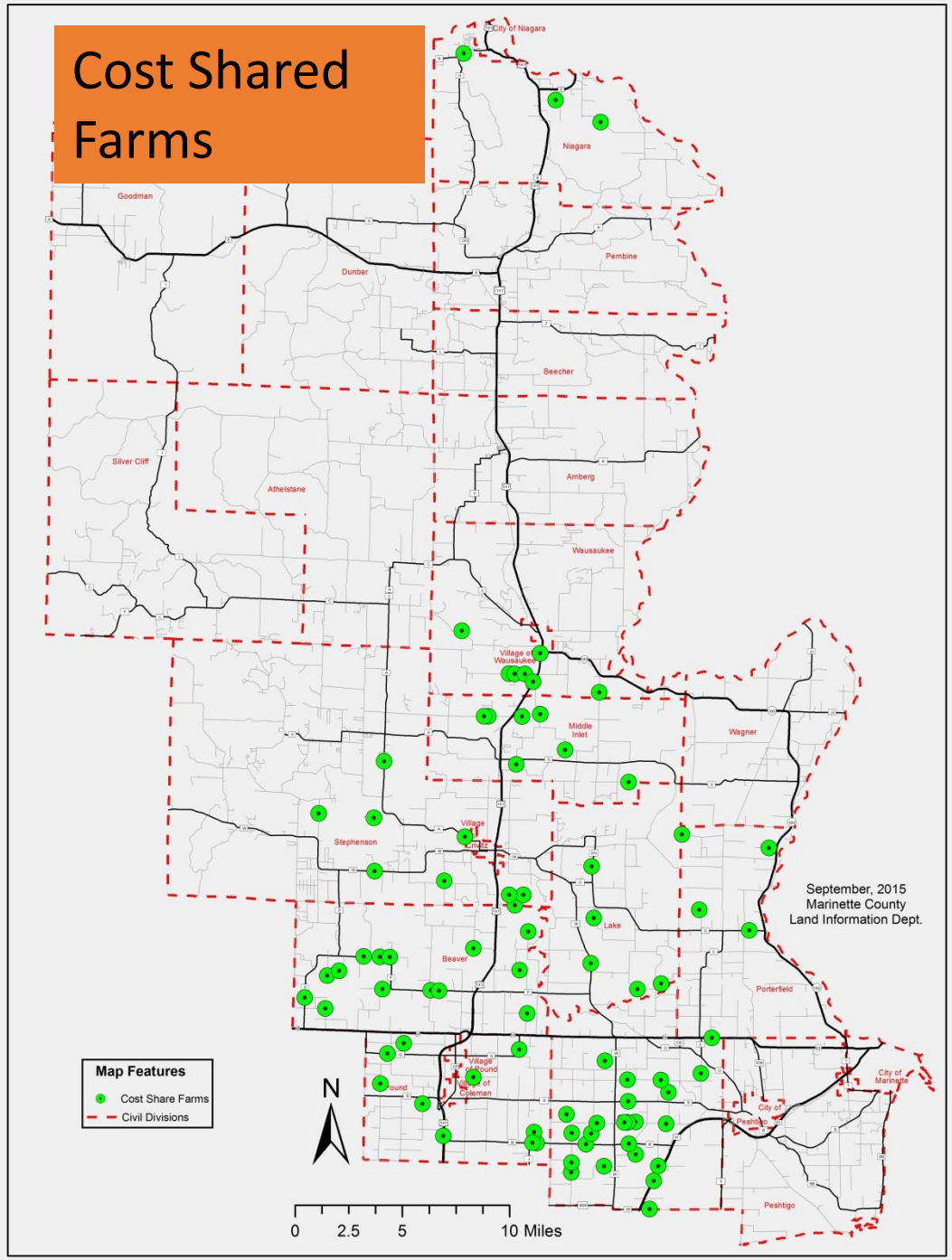
Bass Lake just after alum treatment, which helped reduce phosphorus in the lake.

### Project Highlights

Marinette County LWCD spearheaded an effort to work with two livestock operations, with a combined total of 700 animal units, identified as the major sources of phosphorus entering the lake. LWCD worked with landowners to install state-of-the-art barnyard control practices such as manure storage facilities, clean water diversions, and roof runoff controls. Eventually, one landowner chose to discontinue operations in his barnyard. Funds from the state stewardship program allowed him to put 2,000 feet of Bass Lake shoreline and 55 acres of cropland under permanent easement. The U.S. Fish and Wildlife Service aided in the installation of sediment basins and restoration of wetland areas to prevent further loading. The remaining livestock operation further reduced runoff from livestock areas by moving animals into a free stall facility where cows are kept indoors in large pens. A sediment control basin and a leachate collection system—designed to collect polluted runoff and pump it into the manure storage—were also installed on the farm to virtually eliminate pollution transport from livestock areas to Bass Lake. With support from the Wisconsin Department of Natural Resources (DNR), LWCD worked with a professional consultant to treat Bass Lake with alum during fall 1999 to break the cycle

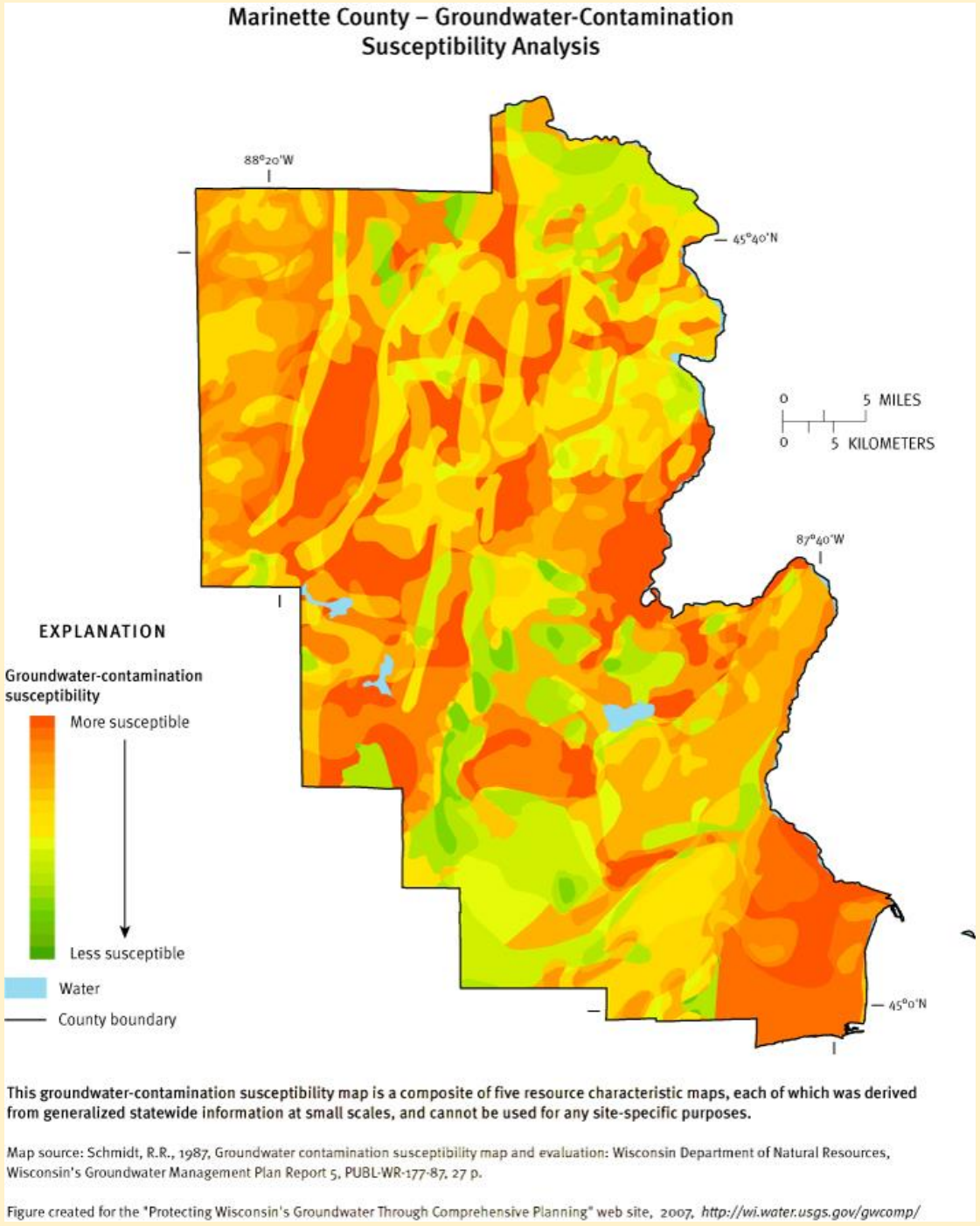
## *Cost Sharing*

- ✶ 64 Targeted Runoff Management Projects
- ✶ 33 LWRM Projects
- ✶ 51 Nutrient Management Contracts
- ✶ 6 MPT Priority Watershed Projects
- ✶ 21 MIN Priority Watershed Projects




## *Results*

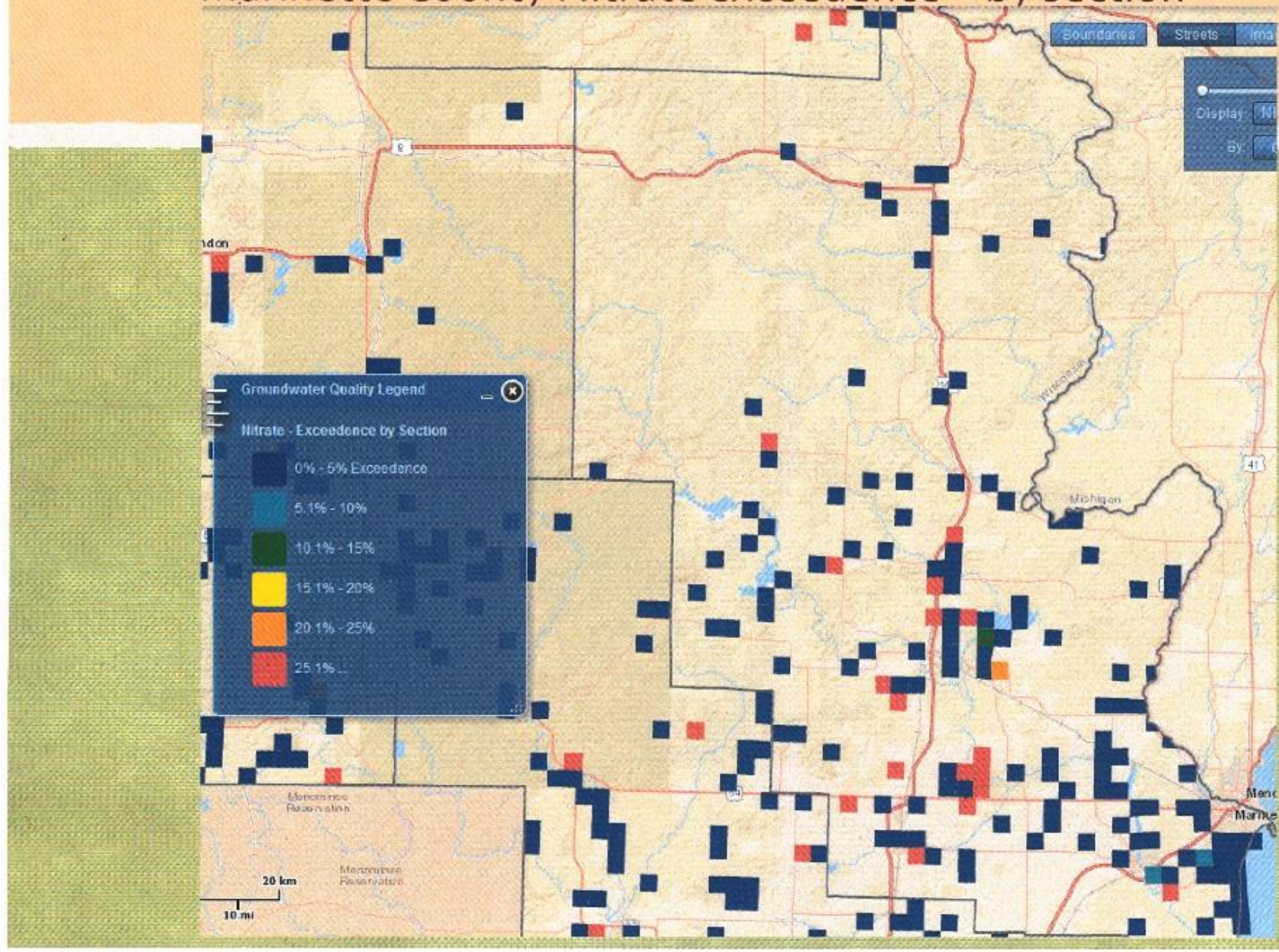
- 75 Manure Storages
- 54 Barnyards
- 14 Waste Transfers
- 37 Milk House Waste
- More than 71 square miles of crop land are no longer winter spread with manure

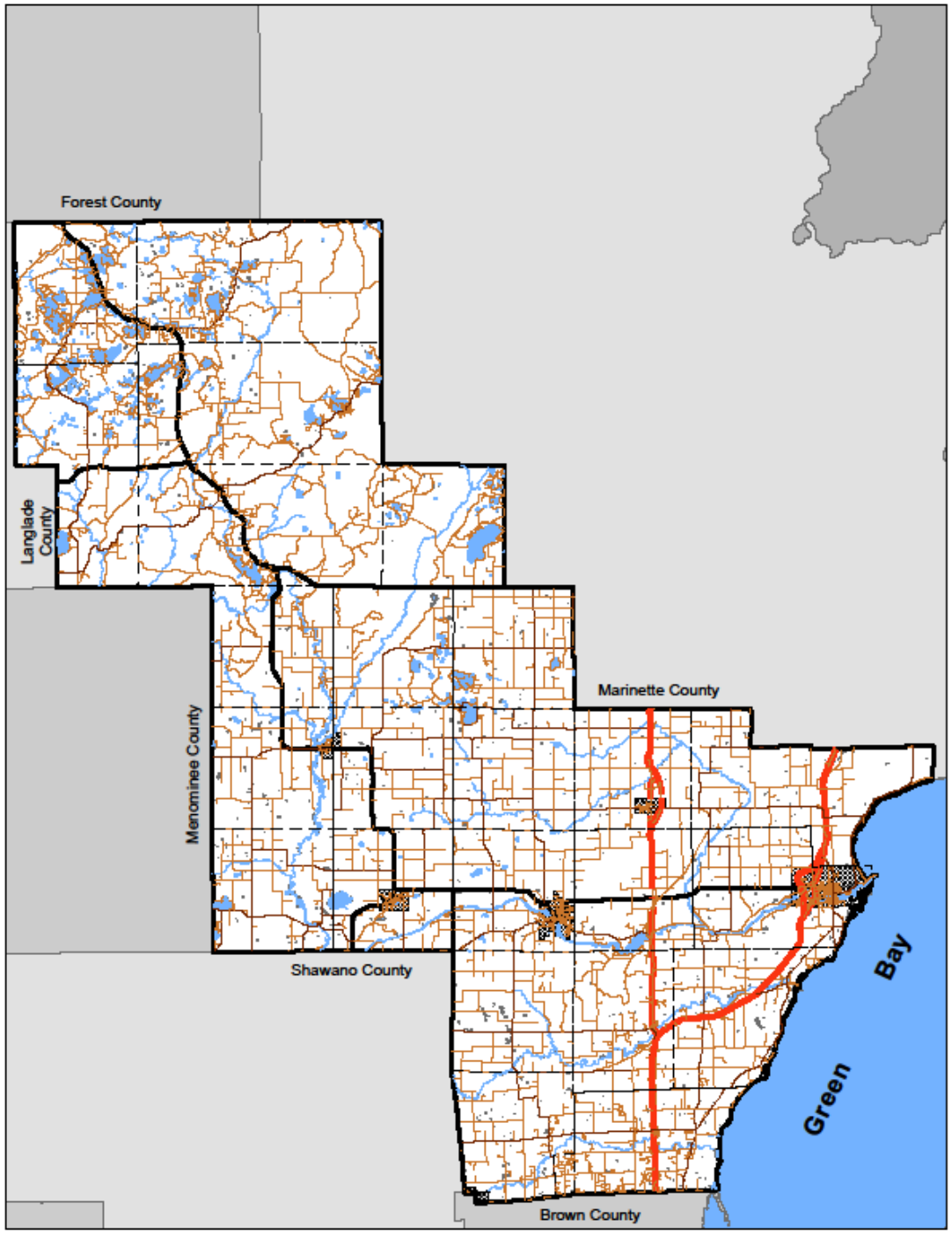



# Water quality issues from the county conservation perspective

- Shallow Depth to Water Table
- Highly permeable soils (sand and gravel)
- Depth to bedrock
- Bedrock type (Carbonate in the SE corner)

# Marinette County Nitrate exceedence – by section






# Oconto County

Population 38,000

1,017 Square Miles

375 Lakes

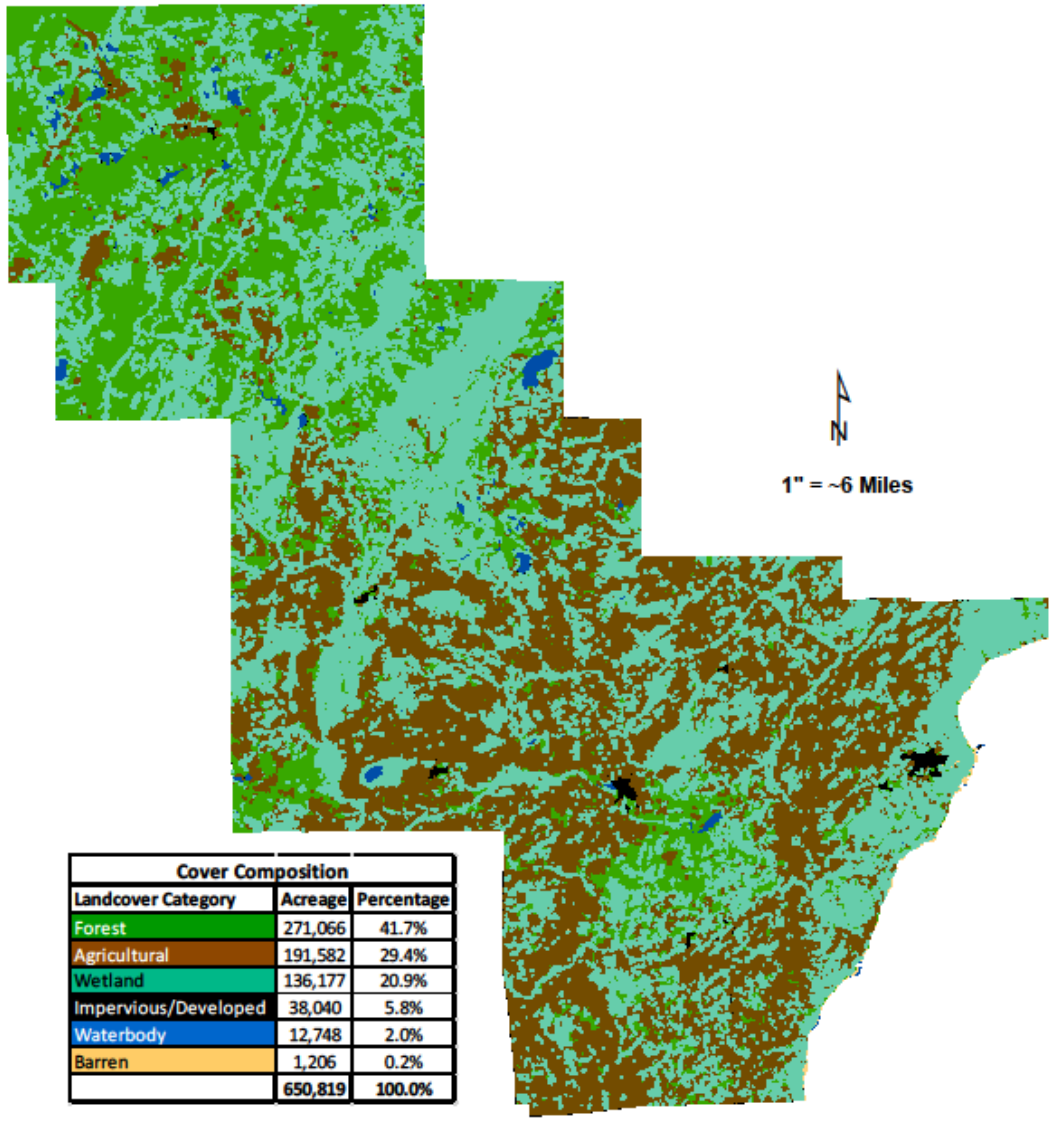
1,073 Stream Miles

2,228 Farm Operators (FSA)

191,582 Cropland Acres

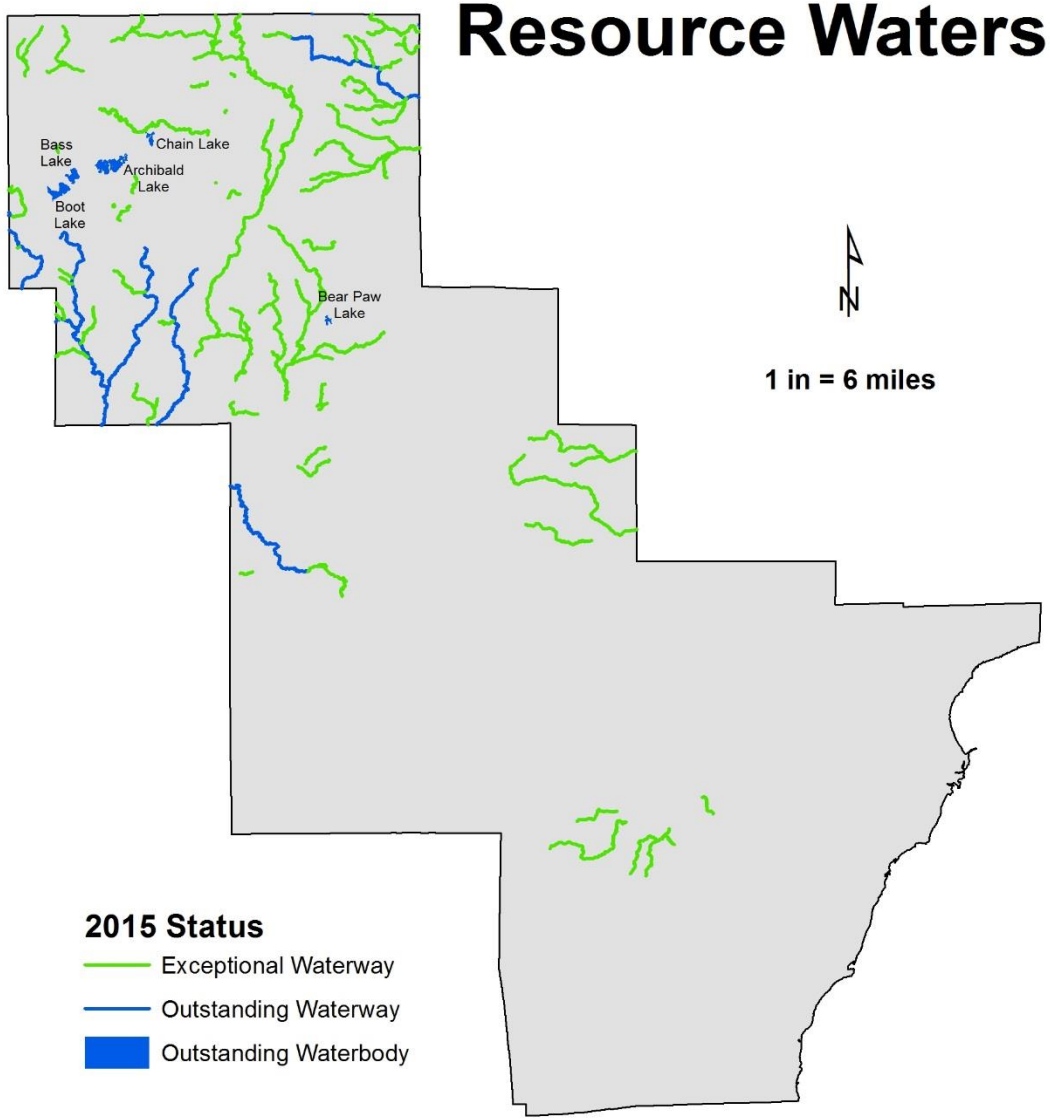
54,000 Cattle

# Oconto County Landcover

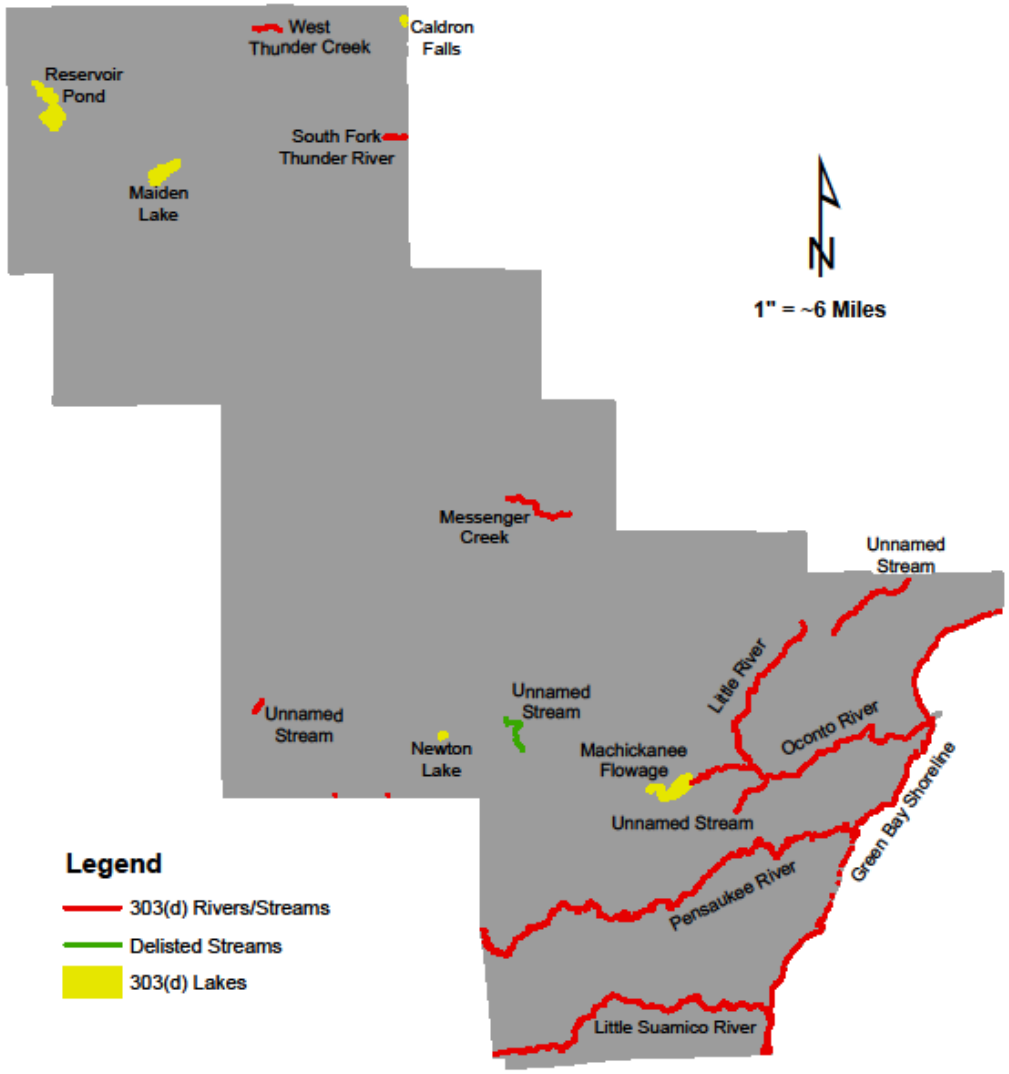



| Cover Composition | | |
|---|---|---|
| Landcover Category | Acreage | Percentage |
| Forest | 271,066 | 41.7% |
| Agricultural | 191,582 | 29.4% |
| Wetland | 136,177 | 20.9% |
| Impervious/Developed | 38,040 | 5.8% |
| Waterbody | 12,748 | 2.0% |
| Barren | 1,206 | 0.2% |
| | **650,819** | **100.0%** |

# Oconto County Outstanding and Exceptional Resource Waters



# Oconto County
## 303(d) Impaired Waters




07 25 2017


07 25 2017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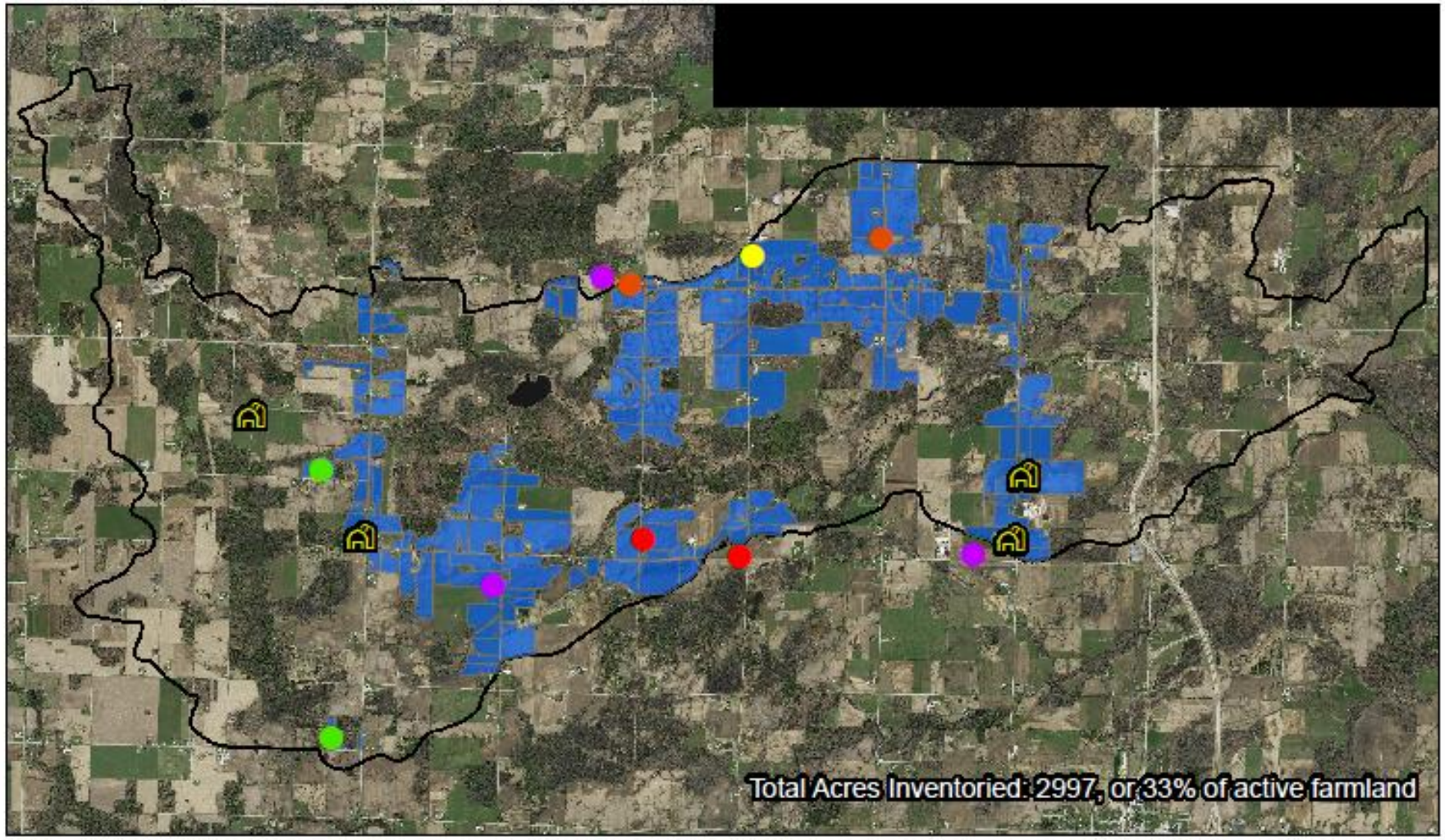
Currently 5 NOD/NOI's
5 more sites being investigated
04.23.2019

# Nation Water Quality Initiative: North Branch Little River Watershed




Observations

- Poor drainage
- Rill erosion
- Sheet erosion
- Small gully
- Sediment in ditch

Inventories

- Farmsteads inventoried
- Fields inventoried

N

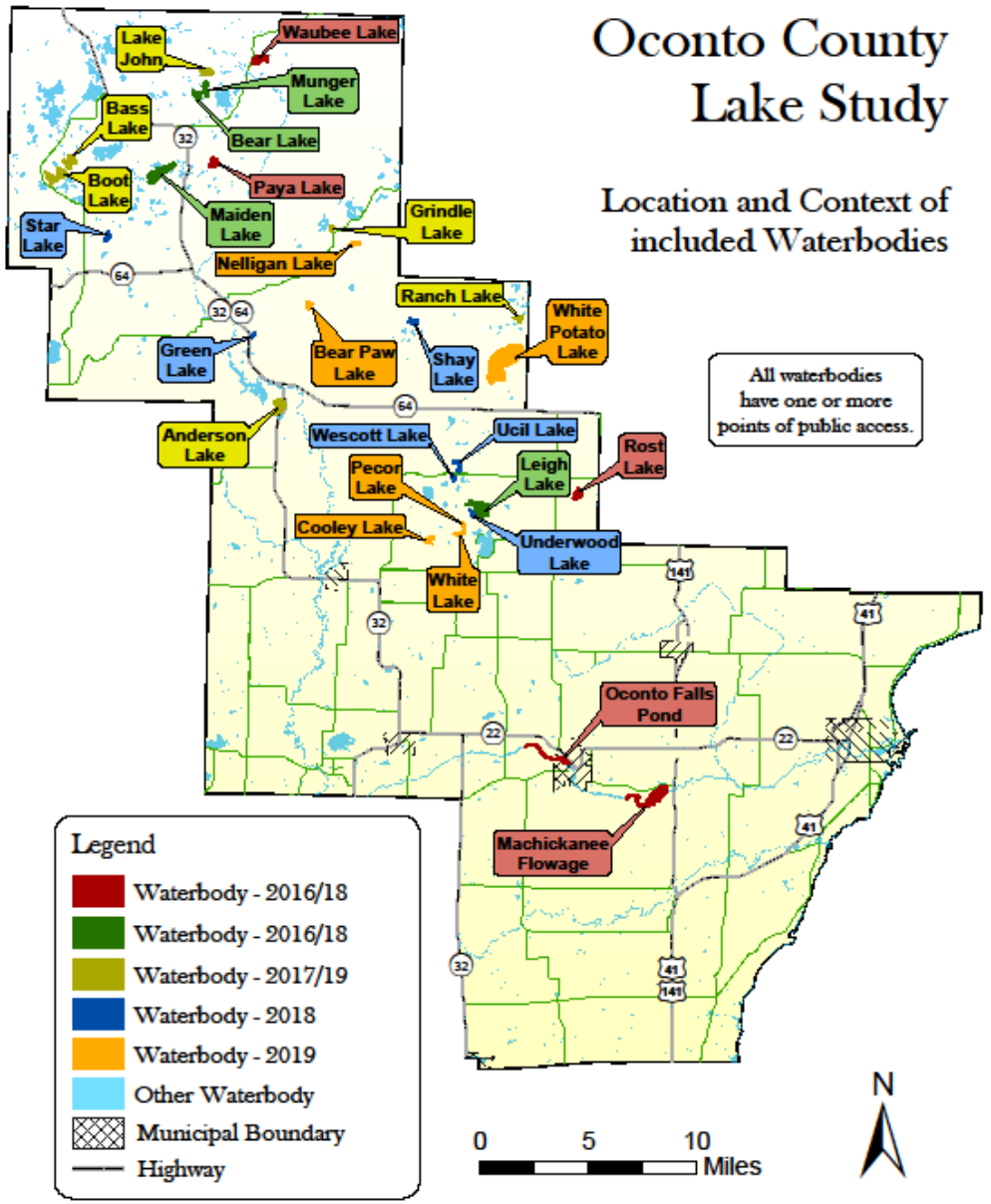
0 0.250.5 1 1.5 2 Miles

| Activity | 2015 Pre-Nutrient Management Review | 2016 Year 1 | 2017 Year 2 | Total |
|---|---|---|---|---|
| Management plans into which Best Management Practices (BMPs) were incorporated | 1 | 33 | 4 | 37 |
| Individuals demonstrating a minimum threshold of behavioral change | 0 | 47 | 14 | 61 |
| People targeted for technical assistance | 0 | 102 | 14 | 116 |
| Participants receiving cost share funds | 0 | 10 | 13 | 23 |
| New nutrient management plans | 0 | 4 | 3 | 7 |
| Phosphorus applications greater than UW recommended rate | 1,217,000lbs of phos. over applied | 10.3% decrease | 6.7% decrease | approx. 205,000lbs |
| Total sediment loss overall the allowable "T" value | 3,200 tons of soil loss each year | 3,161 ton yearly decrease | 626 ton yearly decrease | 3,787 tons |

Red= Total over applications above UW recommendations and excessive soil loss documented within 2015 NMPs.
Blue= Reductions of sediment loss and phosphorus inputs. Phosphorus reductions resulted from voluntary management changes. Sediment reductions came from rotation management within SnapPlus and waterway installation.

**Reductions measured across 30 farms and approximately 45,000 acres**

60 lakes included in study.



57 Impediments corrected.

57.35 Stream miles opened.

18.6 acres of wetland and critical areas restored.

# Wisconsin's agricultural economy is growing, even as small dairy farms are closing

Rick Barrett, Milwaukee Journal Sentinel Published 11:31 a.m. CT Aug. 13, 2019 |

- Wisconsin lost more than 2,300 dairy farms during that time. But milk production climbed steadily to a record 30 billion pounds in 2016 as farms got bigger, the number of cows stayed roughly the same, and the amount of milk per cow increased.
- "The cows did not go away. They were bought up by other farms," said Steven Deller, a UW-Madison agricultural economist and author of the report.

# ADVISORY

## Possible Chemical Exposure Hazard

This water contains PFAS
(per- and poly-fluoroalkyl substance)

The Wisconsin Department of Health Services recommends that to best protect you, your family, and your pets from potential PFAS exposure:

- **Avoid drinking or accidentally swallowing the water or foam.**
- **Wash your hands after wading or playing in the water or foam.**
- **Rinse pets after contact with water or foam to avoid swallowing surface water that may be on their fur.**

Touching the water or foam is not a health concern.

This surface water is currently being investigated and cleaned up in accordance with Wisconsin laws.

For more information:

- WI Dept of Natural Resources website: http://dnr.wi.gov/topic/contaminants/marinette.html
- WI Dept of Natural Resources and Dept of Health Services: (888) 626-3244

# Water quality issues from the county conservation perspective

Notice received this month along with maps showing contaminated streams and drainage ditches in South Eastern Marinette County

# Take Home Points

- Water quality/quantity issues are not going away.
- Our citizens need us working on these issues at every level of government.
- County Conservation Departments  bring unique strengths to the overall effort.
- We fully support WI Land+Water budget recommendations.

# Questions ?

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