



# Marinette County



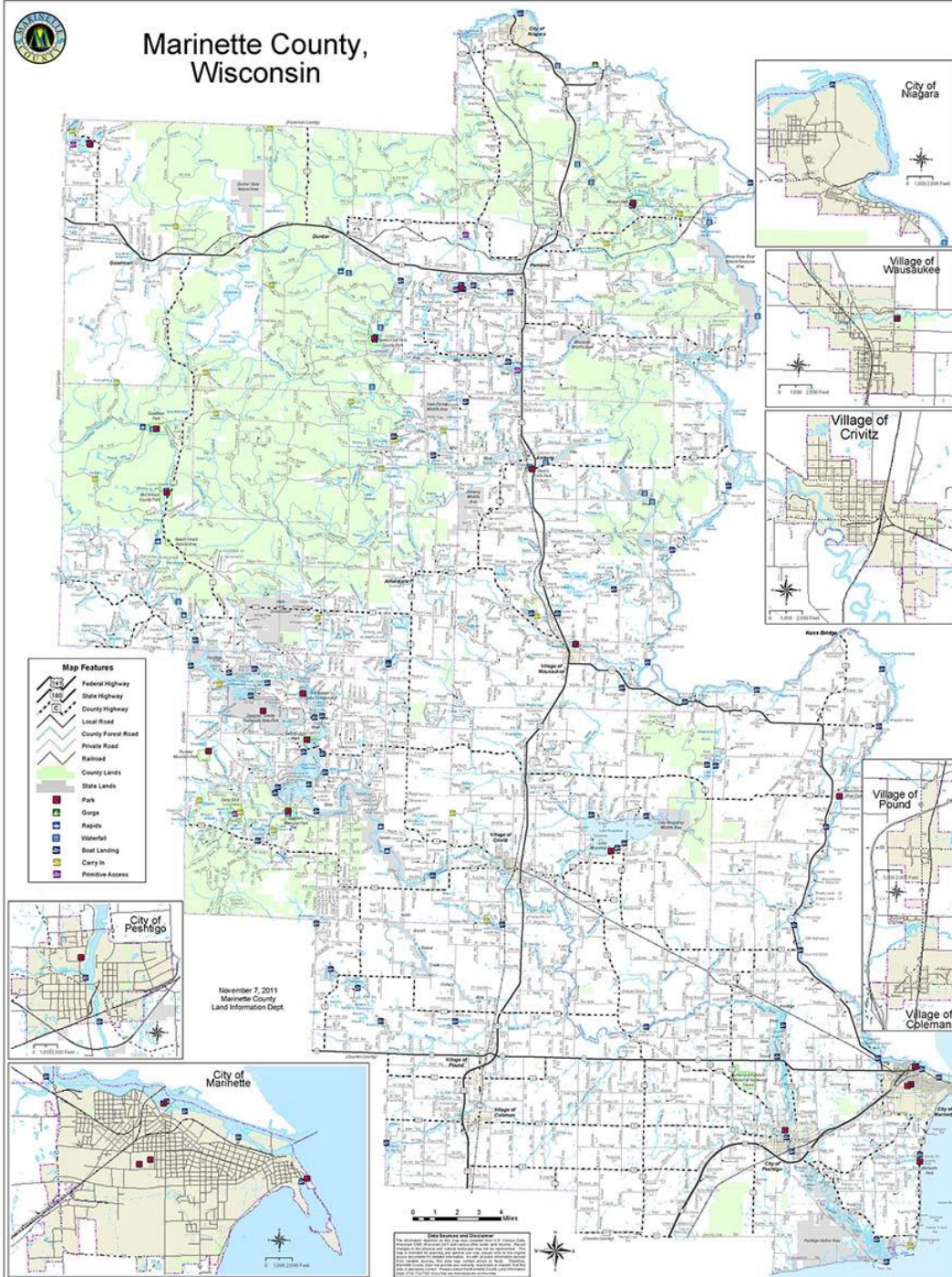
2021 - 2030

Land & Water Resources

Management Plan



# Marinette County, Wisconsin



## *Marinette County*

- ★ 3<sup>rd</sup> largest county
- ★ 914,752 acres
- ★ Population 41,749
- ★ bordered by 96 miles of Menominee river, 18 miles of Lake Michigan shoreline



# *LWRM Plan Goals*



## *2011*

- ★ *Help Marinette County citizens make the connection between land use and environmental quality.*
- ★ *Control runoff pollution from agricultural lands and increase natural habitat.*
- ★ *Control runoff pollution from riparian areas and forest lands. Increase natural habitat.*
- ★ *Manage and/or prevent the spread of invasive exotic species.*

## *2021*

- ★ *Protect and enhance surface and groundwater quality.*
- ★ *Protect and enhance natural fish and wildlife habitat.*
- ★ *Improve overall resiliency to extreme weather events.*
- ★ *Provide educational programming, land and water information, and other assistance in support of local goals.*





## *Goal 1 - Protect and enhance surface and groundwater quality.*

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- ★ Construction of permanent and somewhat permanent agricultural BMP's
- ★ Technical assistance and cost sharing for cropland BMP's
- ★ Improve Nutrient Management plan implementation and soil health.
- ★ Develop and implement ground and surface water monitoring strategies and programs.
- ★ Administer **Sanitary and Agricultural Performance Standards and Animal Waste Management Codes**



*Provide technical assistance and cost sharing for construction of permanent and somewhat permanent agricultural BMP's*

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**1993- 2010**

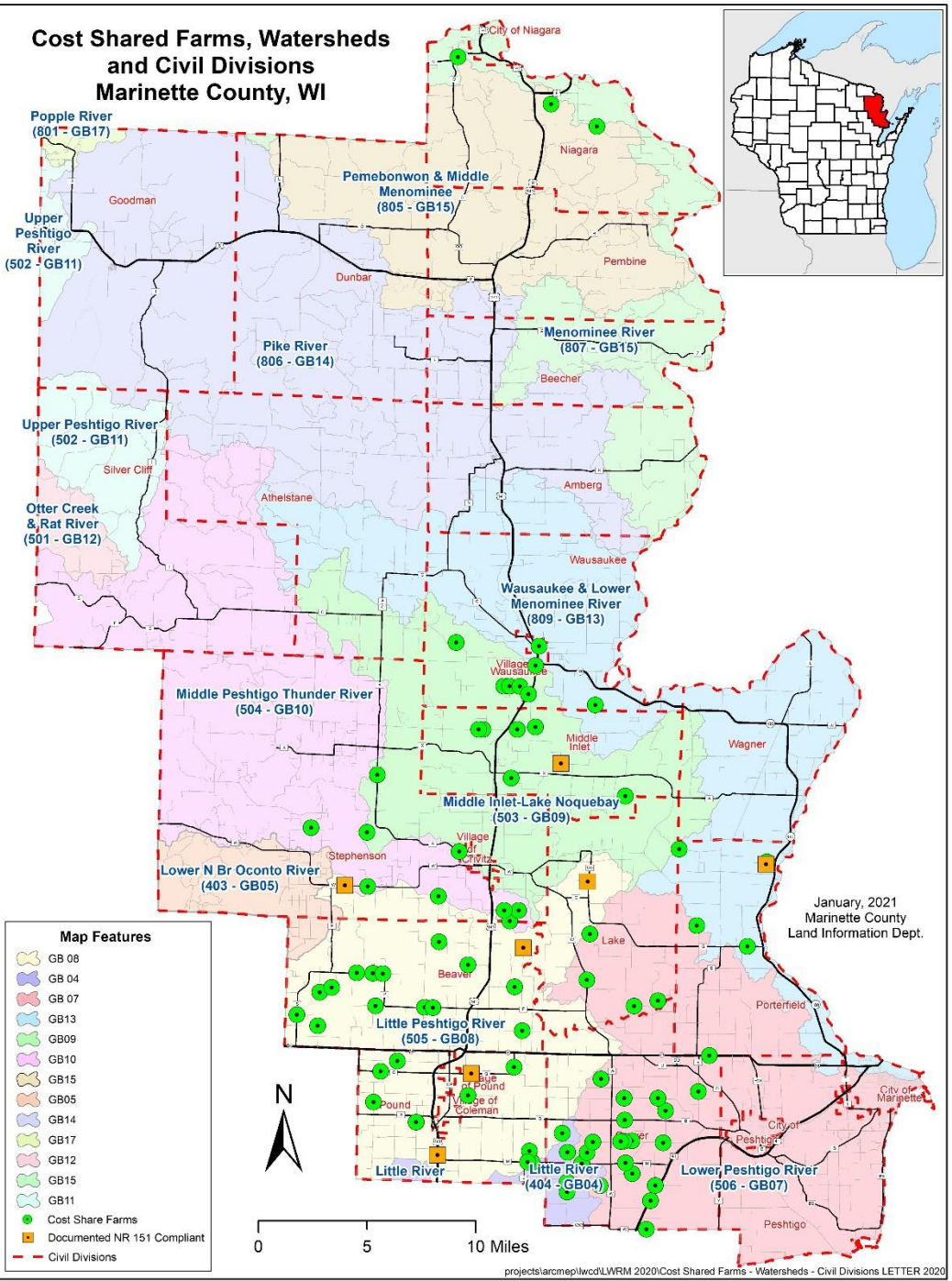
- ★ 54 Manure Storage Facilities
- ★ 40 Barnyard Runoff Mgmt.
- ★ 26 Waste Transfer Systems
- ★ 1,740 acres under NMP's

**2011 - 2020**

- ★ 24 Manure Storage Facilities
- ★ 14 Barnyard Runoff Mgmt.
- ★ 6 Waste Transfer Systems
- ★ 9,791 acres under NMP's



**Cost Shared Farms, Watersheds  
and Civil Divisions  
Marinette County, WI**



# Cost Shared Farms

- ★ 62 Targeted Runoff Management Projects
- ★ 7 MPT Priority Watershed Projects
- ★ 23 MIN Priority Watershed Projects
- ★ 35 Constructed LWRM Projects
- ★ 53 Nutrient management planning CSA's

## *Goal 2 - Protect and enhance natural fish and wildlife habitat*

- ★ Restore wetlands and enhance shoreline habitat.
- ★ Minimize impediments to movement of fish and wildlife.
- ★ Manage and/or prevent the spread of invasive exotic species.
- ★ Administer the **Shoreland/Wetland Zoning Code.**



# *Why worry about impediments to movement of fish and wildlife?*

4600 feet of stream above this culvert

- ▣ 18" culvert on 3.5' stream
- ▣ 3.7 ft/sec
- ▣ 50 foot culvert
- ▣ 3.5" culvert water depth
- ▣ 7' X 8' scour hole
- ▣ Perched by 16"





# *Exotic species found in Marinette County*



## **2010**

- ★ Thirty waterbodies known to contain Aquatic Invasive Species (AIS)
- ★ Phragmites one of our top two species of concern
- ★ Eurasian Water-Milfoil one of our top two species of concern
- ★ Garlic Mustard known to be in two sites
- ★ Japanese Knotweed in a few scatter locations
- ★ Wild Parsnip not of particular concern

## **2020**

- ★ Sixty-five waterbodies known to contain AIS
- ★ Phragmites largely out of the spotlight
- ★ Eurasian Water-Milfoil our top two species of concern
- ★ Garlic Mustard known to be in fourteen sites
- ★ Japanese Knotweed known to be in 90 sites
- ★ Wild Parsnip known to be in 90 sites



# *Provide assistance and cost sharing to manage and/or prevent the spread of invasive exotic species.*

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## **2001 - 2010**

- ★ Participate in WDNR grant to spray phragmites
- ★ 10 Aquatic Invasive Species Management Projects
- ★ Hired AIS coordinator
- ★ Helped create Wild Rivers Invasive Species Cooperative (WRISC)
- ★ 24,107 acres sprayed for Gypsy Moths

## **2010 - 2020**

- ★ Two WDNR phragmites control projects
- ★ 14 Aquatic Invasive Species Management Projects
- ★ Diver Assisted Suction Harvester
- ★ Herbicide Enclosure Study
- ★ WRISC Board of Directors member



RIDGE

W 7448D

PARTY BOAT 24

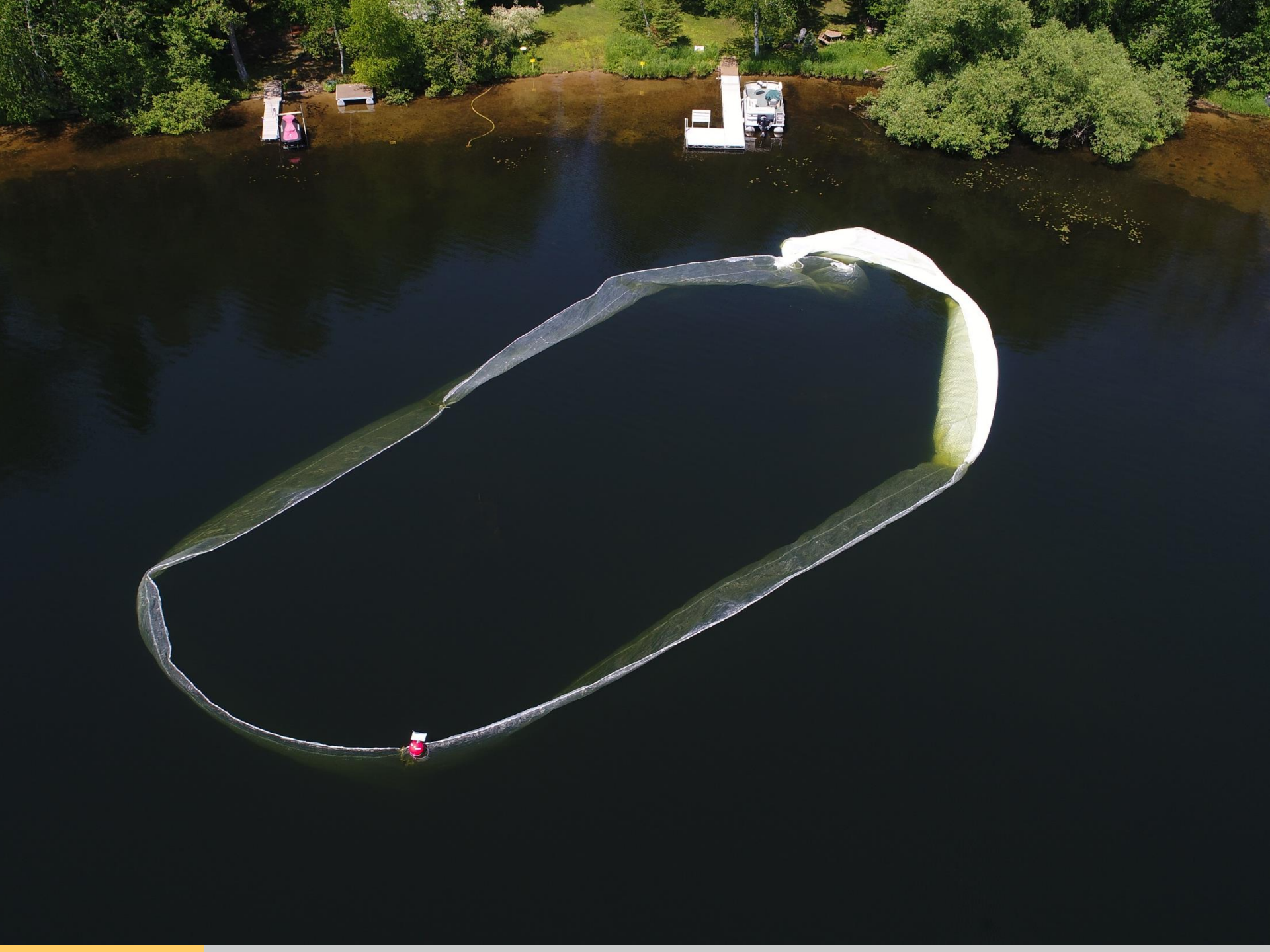
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## *Deployed Enclosure*

- ★ Prevents dispersal of the herbicide from the treatment area
- ★ Keeps the herbicide at levels lethal to EWM
- ★ Prevents damage to non-target species
- ★ Reduces the amount of herbicide needed, lowering chemical costs







## *Goal 3 - Improve overall resiliency to extreme weather events*

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- ★ Assist and build capacity of 13 Lake Associations and Districts and local units of government
- ★ Administer and enforce and Chapters 19 and 21 of County Code of Ordinances
- ★ Provide technical assistance and cost sharing for wetland/shoreline restoration and protection
- ★ Demonstration Farm Network (permanent cover crops and no-till methods)
- ★ Perform long term research and disseminate results
- ★ Map and prioritize fish passage problems on County rivers





## *Why worry about Riparian Areas?*

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- ★ Up to 90% of all the animals living in our lakes and streams depend on shallow margins and shores at some point in their lives.
- ★ There is 500% more species diversity near the waters edge as compared to adjoining uplands.
- ★ Research using underwater cameras found that fish spend 700% more time along undeveloped shores than developed shoreline.

GOODMAN TOWNSHIP PARK

THIS 9 P.M.

NO

PING

**PARK  
CLOSED**

**NO  
ATV'S  
IN PARK**

**STICKER  
REQUIRED**

**YEARLY \$10.00**

**ATV  
PARKING  
ONLY**

# Hilbert Lake







Photo: [unreadable] 2022-05-24 1:14 PM  
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*Facilitate natural water movement by studying potential problem areas and removing impediments*

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**2001 -2010**

- ★ Pike River Fish Passage Prioritization Study

**2011 -2020**

- ★ Pemebonwon River Watershed Crossing Inventory
- ★ Peshtigo River Watershed Crossing Inventory
- ★ “Great Lakes One Water” group
- ★ Resource Center “Green Roof”
- ★ Oconto County Partnership
- ★ NRDA Projects





## *Goal 4 - Provide educational programming, land and water information, and other assistance in support of local goals*

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★ Use the TOAD Program, social media, and the *Northwoods Journal*

★ Provide organizational and planning assistance



★ Educate the public and decision makers

★ Support and promote environmentally sound land management practices.



★ Increase inter-agency collaboration and involvement of non-governmental organizations



## *Why the focus on educational programming?*

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*“In the end we will only conserve what we love.  
We will only love what we understand.  
We will understand only what we are taught.”*



Baba Dioum, Senegalese Ecologist







*Help Marinette County citizens make the connection between land use and environmental quality.*

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**2001 - 2010**

- ★ 851 TOAD Programs
- ★ 29,957 TOAD Attendees
- ★ 301 Conservation Camp Attendees
- ★ 3,814 4<sup>th</sup> Graders

**2011 - 2019**

- ★ 1,993 TOAD Programs
- ★ 62,341 TOAD Attendees
- ★ 729 Conservation Camp Attendees
- ★ 4,165 4<sup>th</sup> Graders
- ★ Harmony Arboretum

# *Stream Study*



# *Sand Lake Conservation Camp*



# Jeopardy Categories

Stream  
Study

Forestry

WDNR  
Warden

Wildlife

Fire  
Building

Herptiles

Zoo-  
mobile

Fisheries

*Conservation  
Jeopardy*



# *Environmental Field Day for 4<sup>th</sup> Graders*

- 3 locations
- 8 to 12 stations
- multi-agency effort
- 484 students in 2019



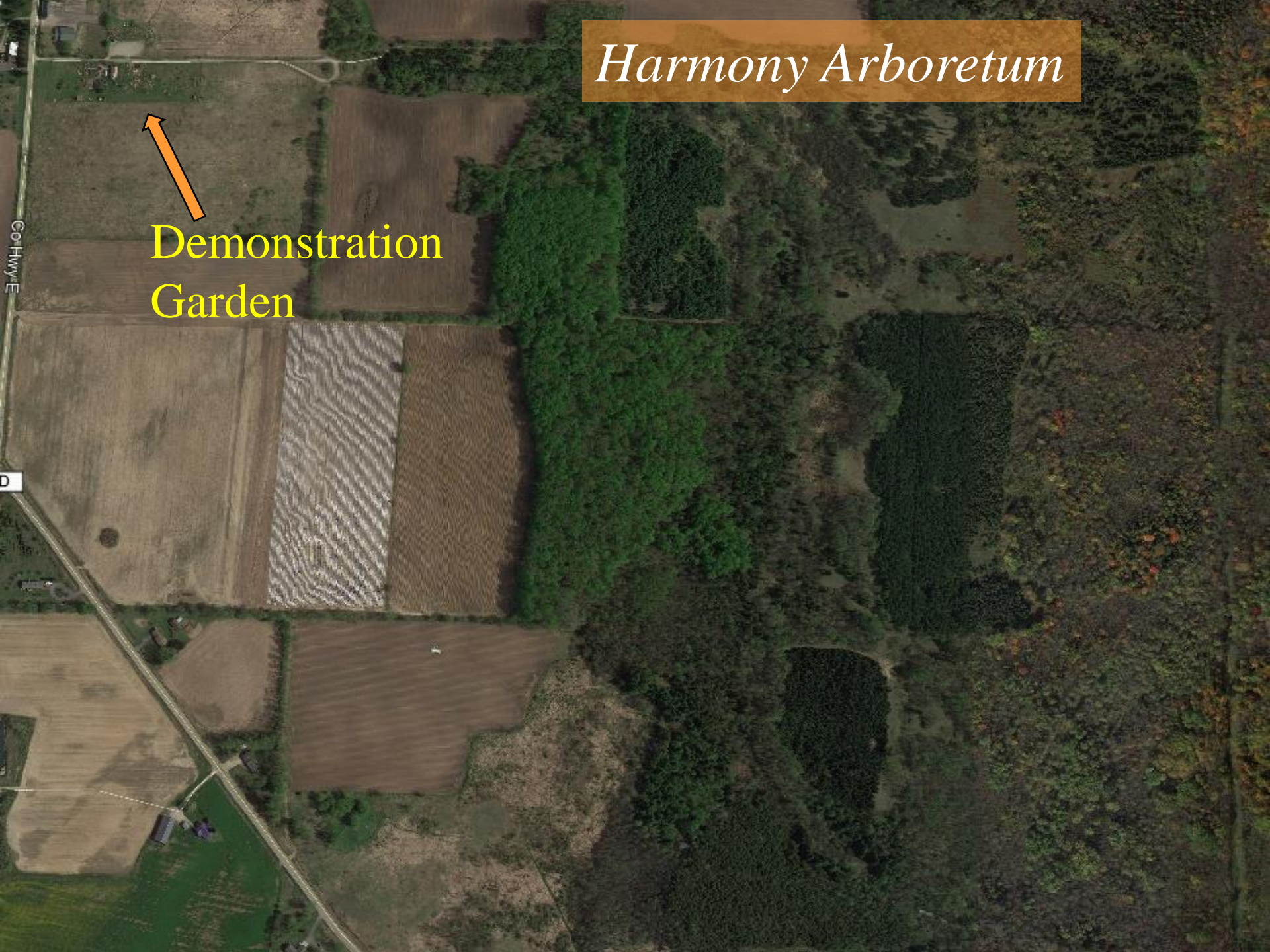
*Harmony Arboretum*



Demonstration  
Garden

Co Hwy E

D



# Demonstration Garden 1998

2020



0 100 200 Feet









*Why the focus on “land and water information?”*



**Good decisions require good information.**



- 1984 - Bass Lake was one of the first NPS Priority Watersheds.
- 1994 - All recommended BMP's were installed but P levels remained high.
- 1998 – One of the 1<sup>st</sup> TRM projects was implemented.
- 1999 - The lake was finally ready for an alum treatment.

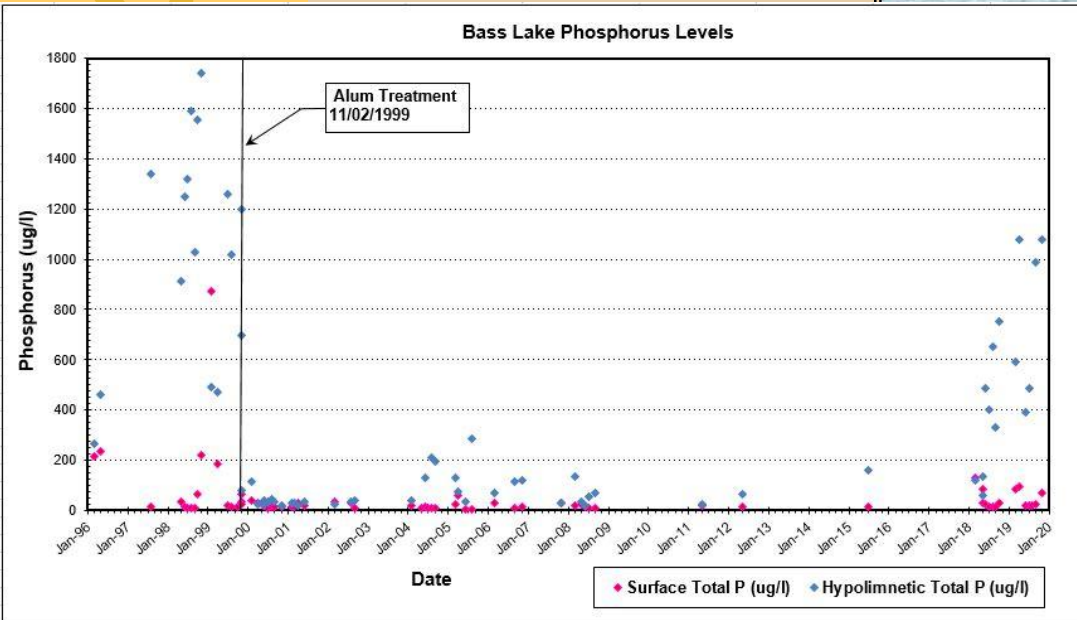


2006 - The DNR contracted with the LWCD to monitor phosphorus loading and track lake water quality to verify project success.

2008 - Bass Lake was **removed** from the 303d list of impaired waters.

2012 – People started to notice increased algae blooms.

2018 – LID staff obtained another WDNR grant to find out why P levels are rising.



A wooden fish viewing platform with railings extends over a river. In the background, there are buildings and trees under a blue sky. The foreground shows a rocky bank with some vegetation.

## *Why the focus on “other assistance in support of local goals?”*

In 2020, the City of Peshtigo opened a fish viewing platform in their downtown area. The platform is already a popular attraction.

Marinette County staff wrote successful applications for five grants, totaling \$413,940 almost 80% of the total project cost.



# *Changes*



## **2010**

- ★ Exotic species (gypsy moths and phragmites)
- ★ Water quantity (extremely low)
- ★ GIS
- ★ Farming (Farmstead BMP's)
- ★ Storm water runoff

## **2020**

- ★ Exotic species (Eurasian Water-Milfoil)
- ★ Water quantity (extremely high)
- ★ LiDAR
- ★ Farming (Cropland BMP's)
- ★ Resiliency



## *Any questions?*

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- ★ Tim Oestreich – Asst. Land Information Director
- ★ Sarah Topp – County Conservationist
- ★ Ted Sauve – Development Committee Chair

