

Onterra LLC
 Lake Management Planning
 815 Prosper Road
 De Pere, WI 54115
 920.338.8860
 www.onterra-eco.com

Sources:
 Roads and Hydro: WDNR
 Bathymetry: Onterra, 2017
 Map Date: December 3, 2018
 Filename: Map1_Shawano_Location_2018.mxd



Project Location in Wisconsin

Legend



Shawano Lake ~6,258 acres
 Ortho-corrected Definition

- Point-Intercept Survey Location
 165-meter spacing, 925 total points



Public Boat Landing



Carry-in Access

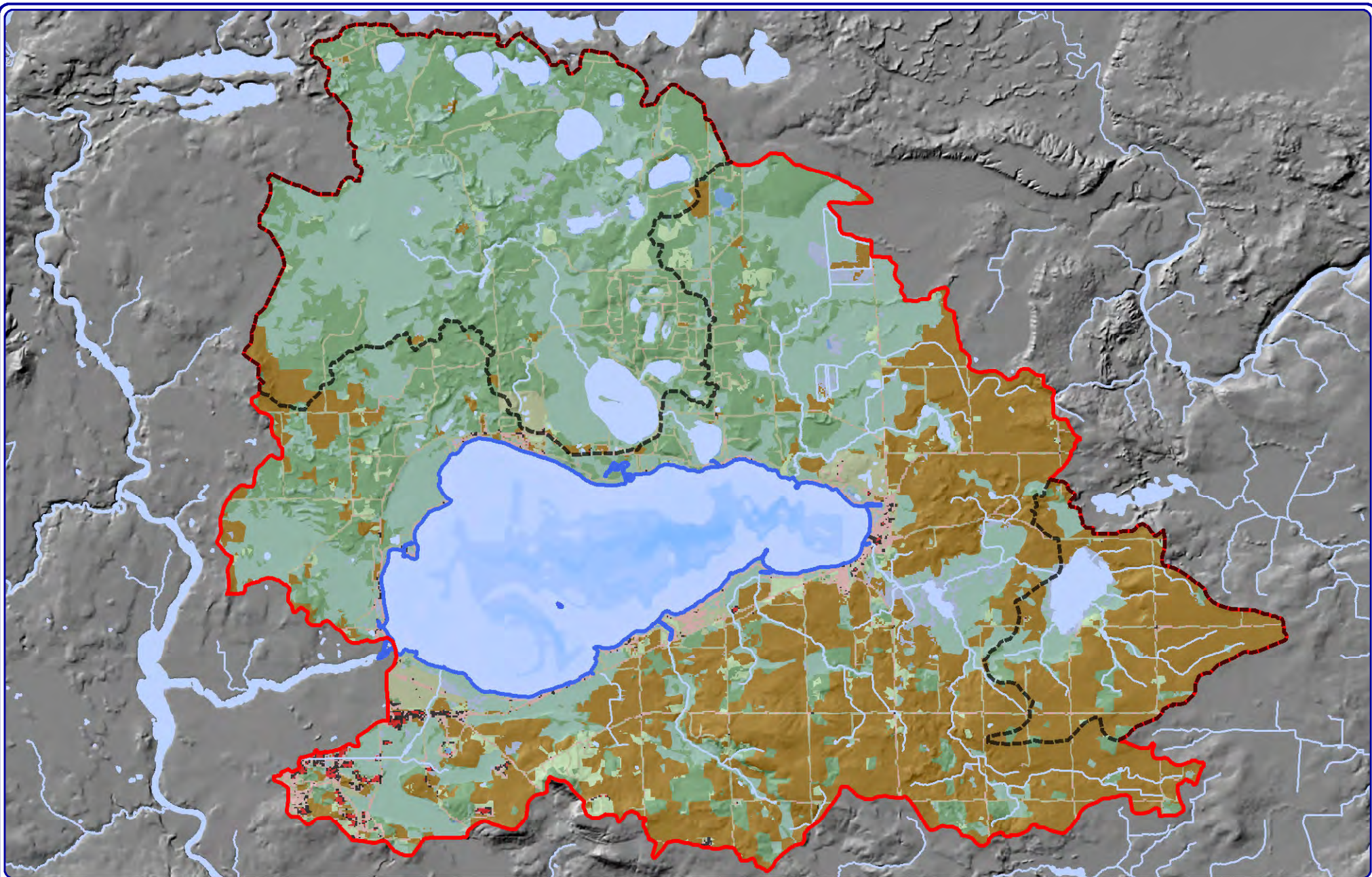


Water Quality
 Sample Location

Map 1

Shawano Lake
 Shawano County, Wisconsin

**Project Location &
 Lake Boundaries**



10,000

Feet

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Sources:
 Hydro: WDNR
 Bathymetry: WDNR/Onterra, 2018
 Orthophotography: NAIP 2017
 Land Cover: NLCD, 2016
 Watershed Boundaries: Onterra, 2019
 Map date: December 31, 2019 JMB
 Filename: Shawano_Watershed_2019



Project Location in Wisconsin

Legend

Land Cover Types

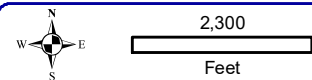
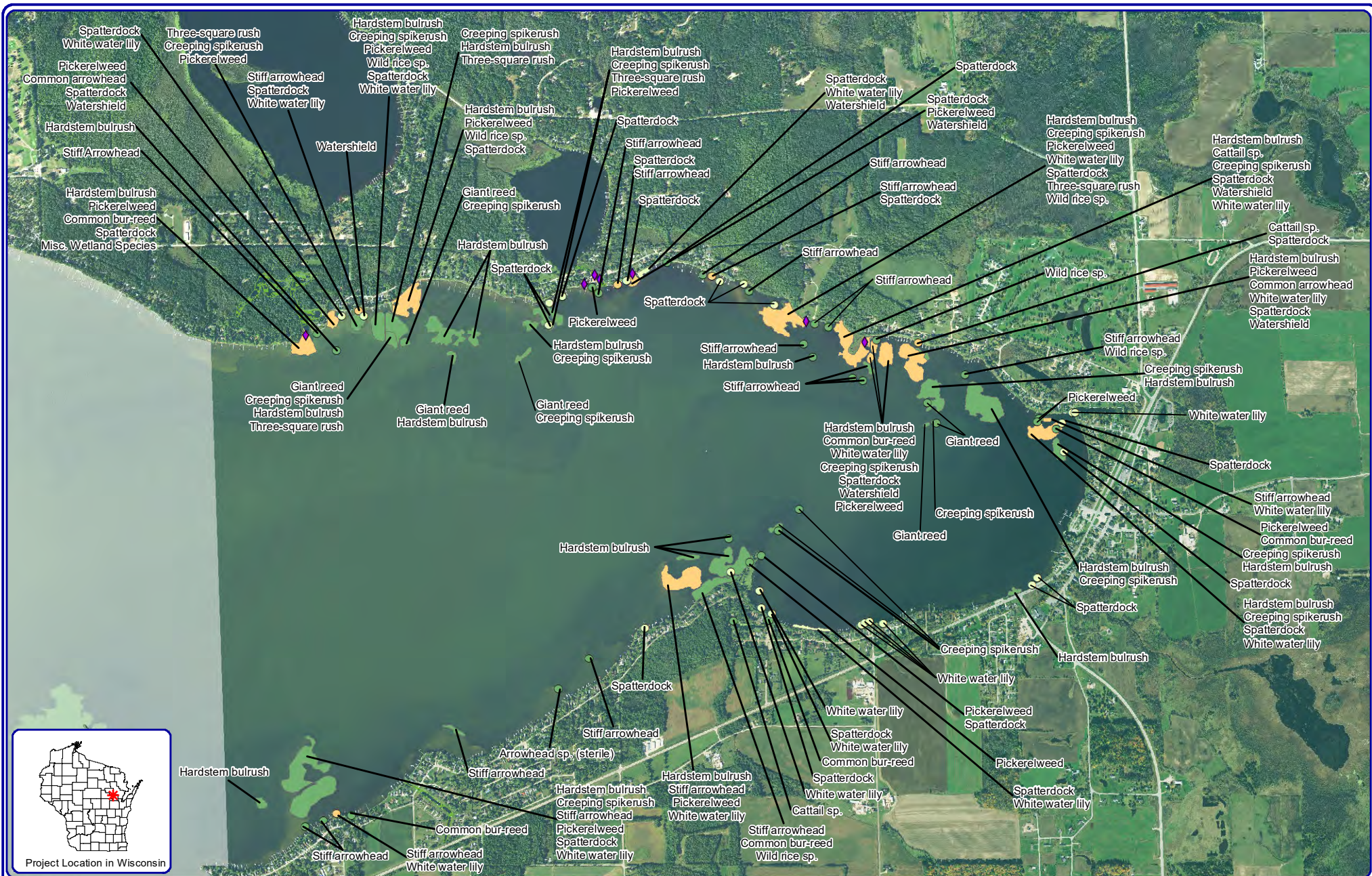
- | | |
|-------------------|----------------------|
| Forest | Rural Open Space |
| Forested Wetlands | Pasture/Grass |
| Wetlands | Row Crops |
| Open Water | Rural Residential |
| | Medium Density Urban |

- Shawano Lake Watershed Boundary
- Subwatershed Boundary

Map 2

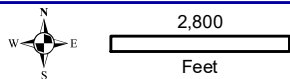
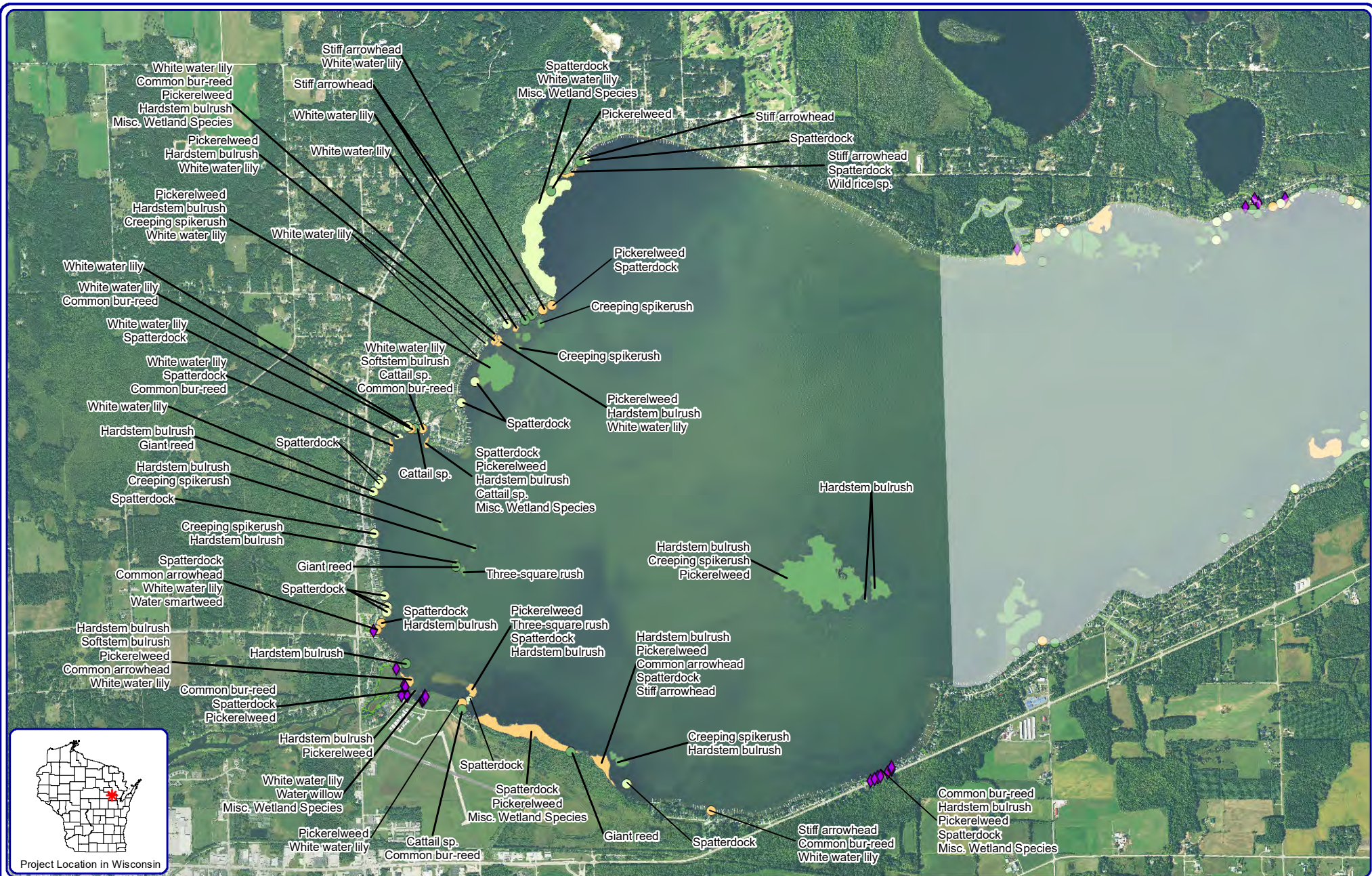
Shawano Lake
 Shawano County, Wisconsin

Watershed Boundaries & Land Cover Types



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Sources:
Aquatic Plants: Onterra, 2013
Orthophotography: NAIP, 2018
Map date: July 10, 2020



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Sources:
 Aquatic Plants: Onterra, 2013
 Orthophotography: NAIP, 2018
Map date: July 10, 2020

Small Plant Communities

- Emergent
- Floating-leaf
- Mixed Floating-leaf & Emergent

Large Plant Communities

- Emergent
- Floating-leaf
- Mixed Floating-leaf & Emergent

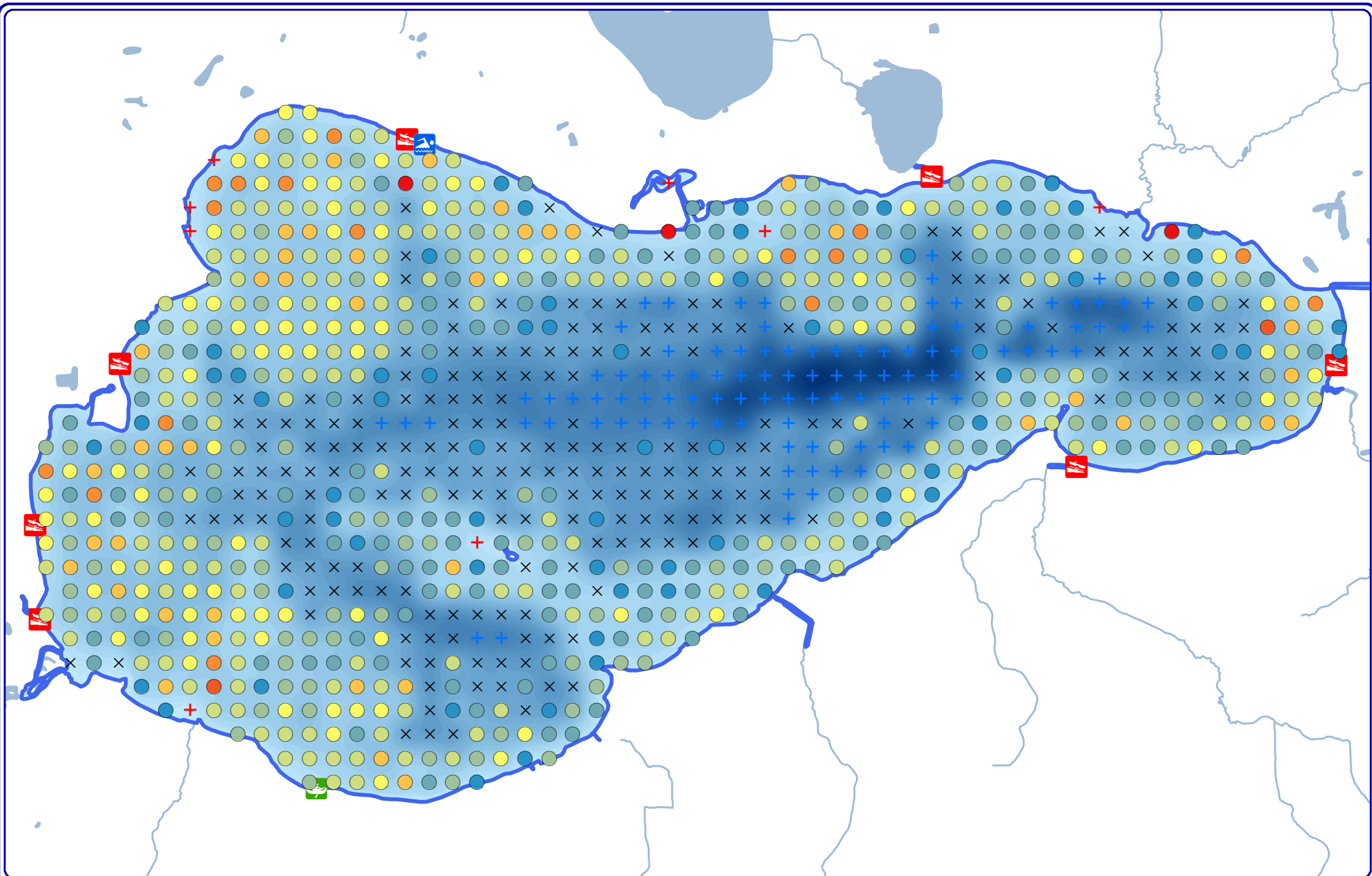
Exotic Plant Communities

- ◆ Purple loosestrife

Map 4

Shawano Lake - West
 Shawano County, Wisconsin

2013 Floating-leaf & Emergent Aquatic Plant Communities



3,200

Feet

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Sources:
Roads and Hydro: WDNR
Aquatic Plants: Onterra, 2019
Map Date: July 10, 2020



Project Location in Wisconsin

Legend

Number of Native Species per Site

0 1 2 3 4 5 6 7 8 9
X ● ● ● ● ● ● ● ● ● ●

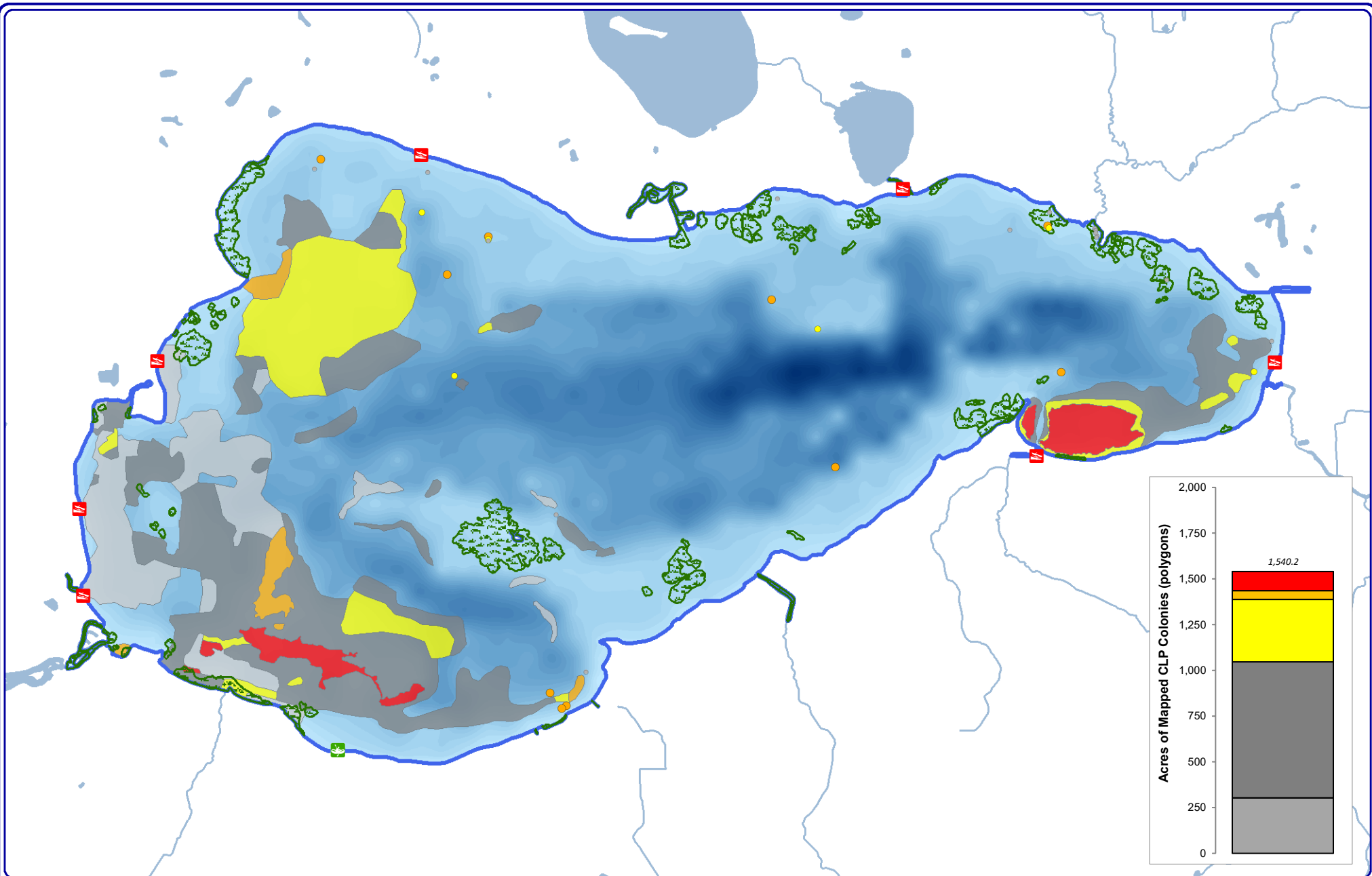
+ Too Deep

+ Non-navigable/Temporary Obstacle

Map 5

Shawano Lake
Shawano County, Wisconsin

**2019 PI Survey:
Native Species Richness**



3,250

Feet

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Sources:
Roads and Hydro: WDNR
Bathymetry: Onterra, 2013
Map Date: November 1, 2013
Filename: Map6_Shawano_CLPPB_June13.mxd



Project Location in Wisconsin

Legend

Curly-leaf pondweed (June 2013)

Large CLP Community

- Highly Scattered
- Scattered
- Dominant
- Highly Dominant
- Surface Matting

Small CLP Community

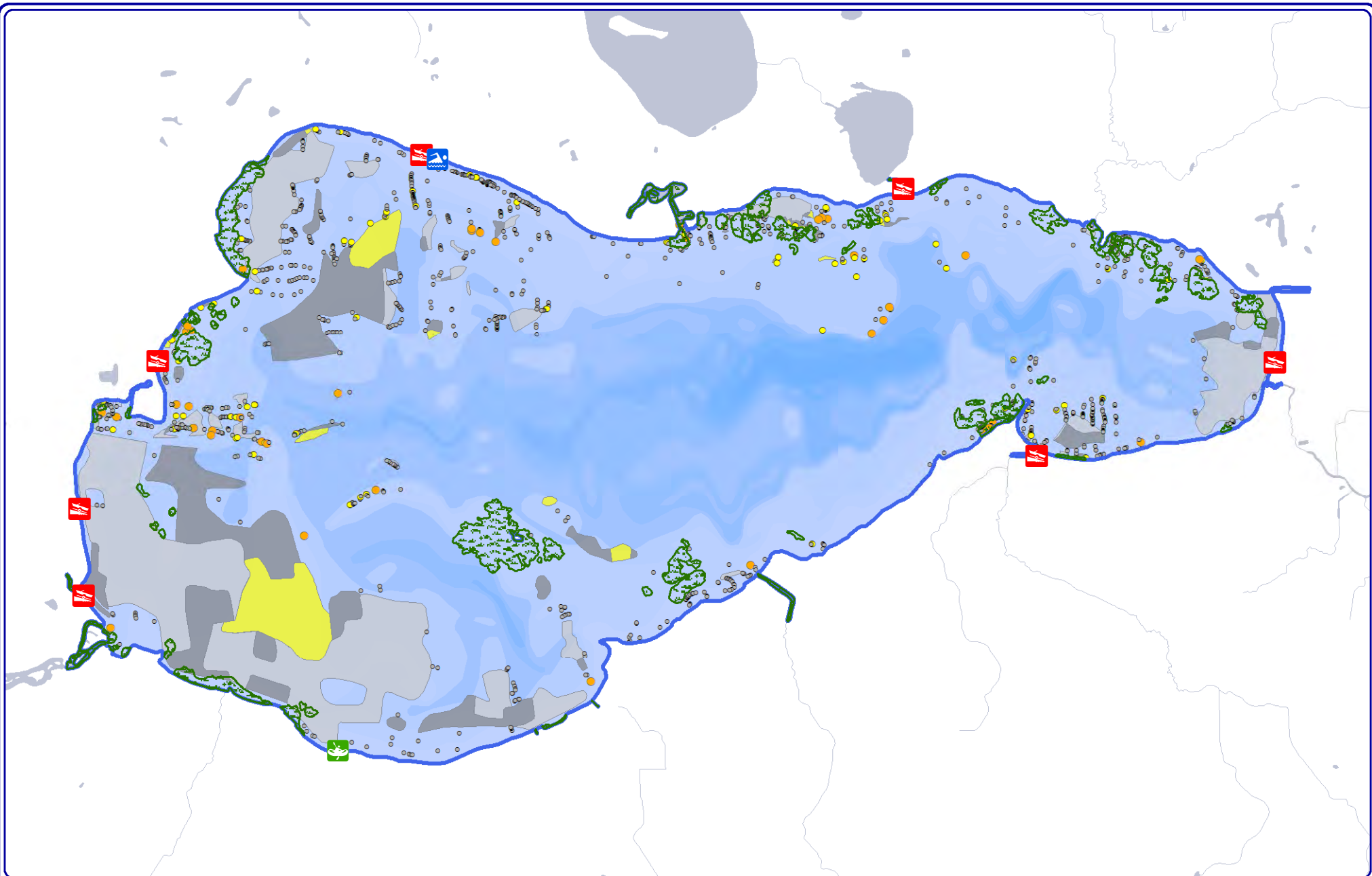
- Single or Few Plants
- Clumps of Plants
- Small Plant Colony

- Floating-leaf and/or Emergent Plant Community

Map 6

Shawano Lake
Shawano County, Wisconsin

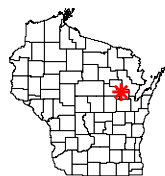
**2013 Curly-leaf
Pondweed Locations**



3,250
Feet

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Sources:
Roads and Hydro: WDNR
Aquatic Plants: Onterra, 2020
Map Date: October 13, 2020 AMS



Project Location in Wisconsin

Legend

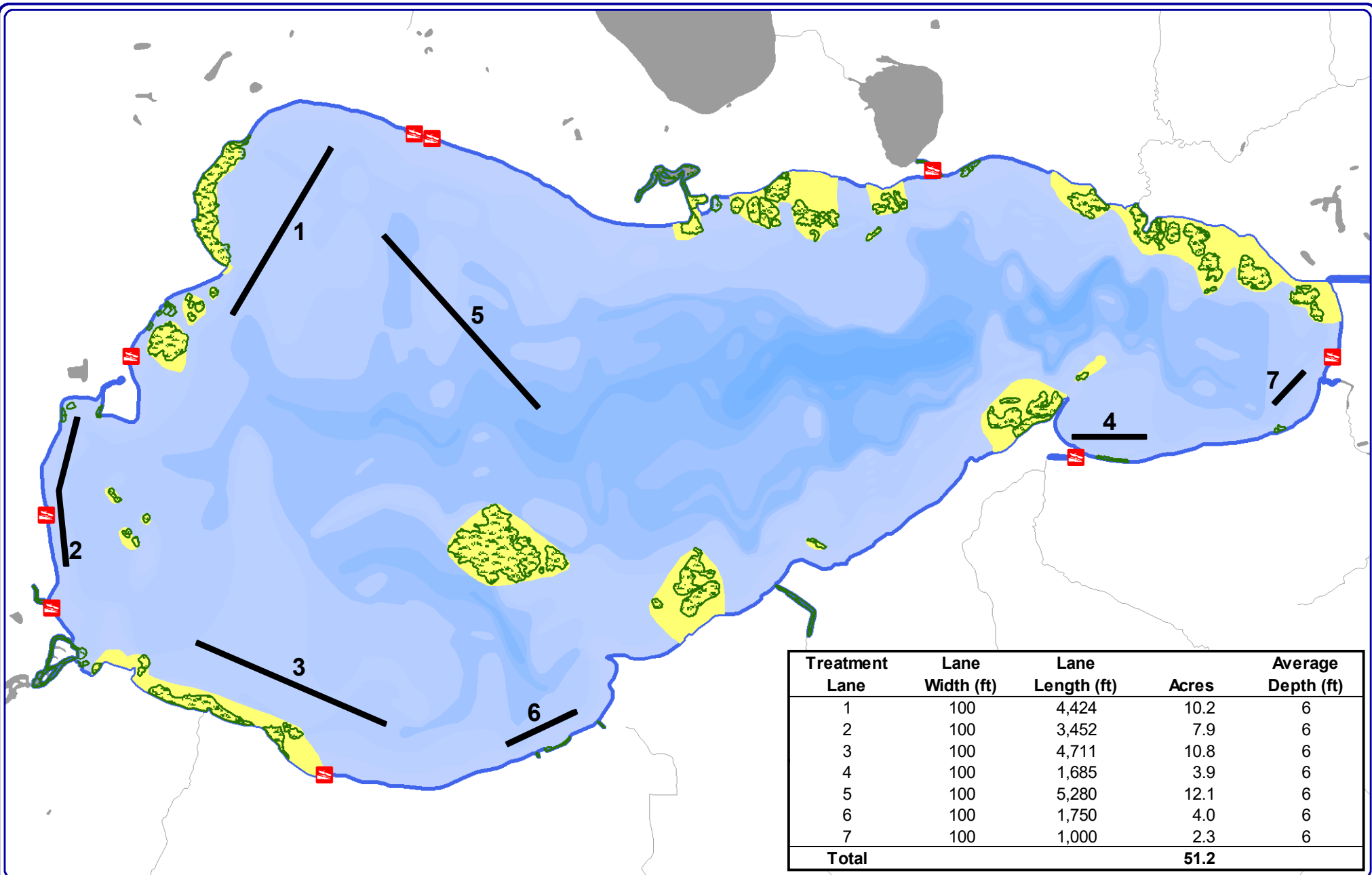
EWM (October 2020)

- | | | |
|---------------------------------------|----------------------|---|
| Highly Scattered | Single or Few Plants | Floating-leaf and/or Emergent Plant Community |
| Scattered | Clumps of Plants | Public Access |
| Dominant | Small Plant Colony | |
| Highly Dominant | | |
| Surface Matting (<i>none found</i>) | | |

Map 7

Shawano Lake
Shawano County, Wisconsin

**2020 EWM
Survey Locations**



Treatment Lane	Lane Width (ft)	Lane Length (ft)	Acres	Average Depth (ft)
1	100	4,424	10.2	6
2	100	3,452	7.9	6
3	100	4,711	10.8	6
4	100	1,685	3.9	6
5	100	5,280	12.1	6
6	100	1,750	4.0	6
7	100	1,000	2.3	6
Total			51.2	



3,000
Feet

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Sources:
Roads and Hydro: WDNR
Aquatic Plants: Onterra, 2013
Sensitive Areas: WDNR, 2003
Nuisance Lanes: Digitized by Onterra
from WDNR permit records
Map Date: December 2, 2013
Filename: Map8_Shawano_NuisanceControl.mxd



Project Location in Wisconsin



Nuisance Navigation
Treatment Lane



Public Access



Floating-leaf and/or
Emergent Plant Community



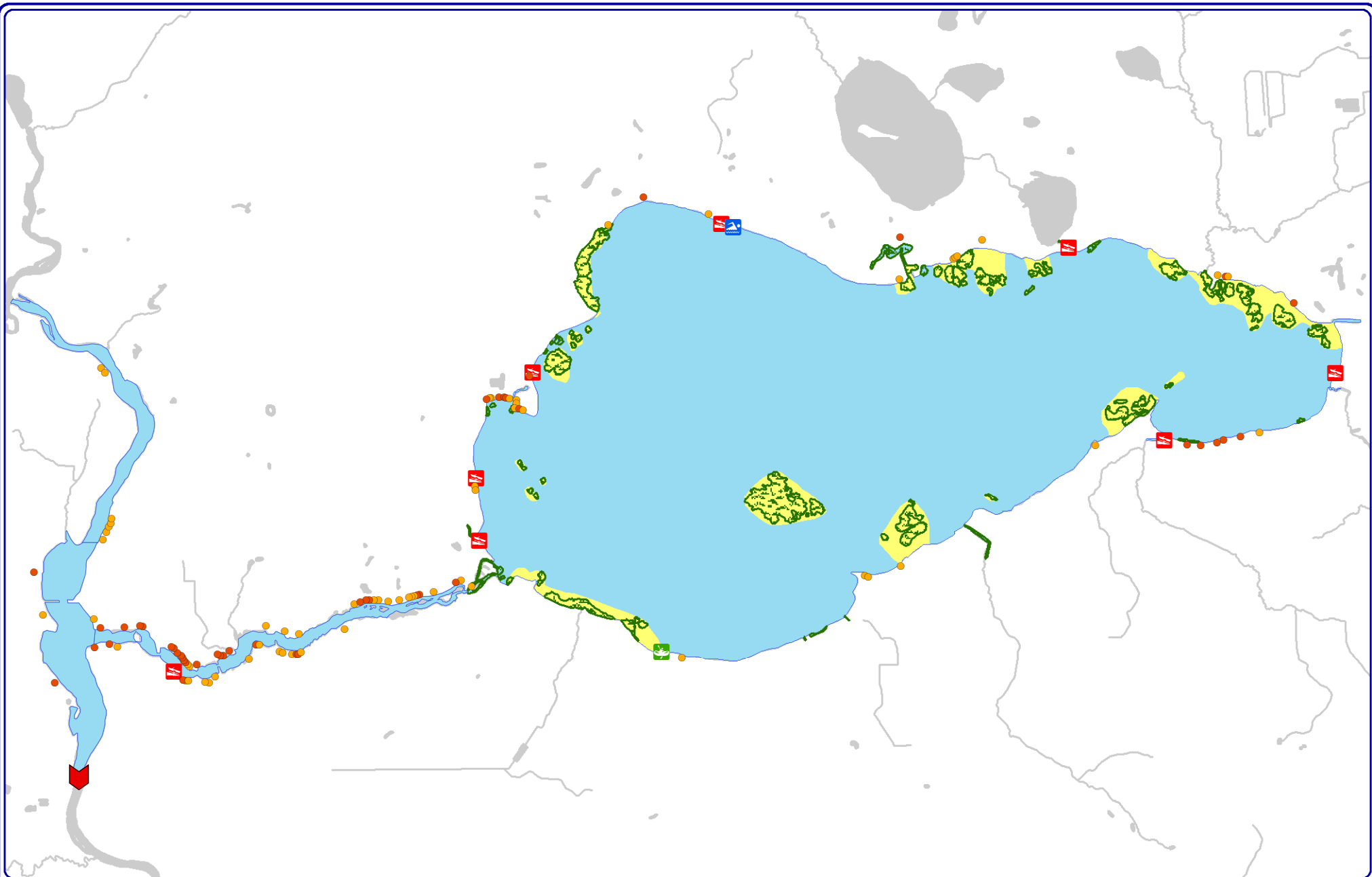
WDNR Sensitive Area

Legend

Map 8

Shawano Lake
Shawano County, Wisconsin

**Nuisance Navigation
Herbicide Lanes**



4,600

Feet

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Sources:
Roads and Hydro: WDNR
Com Map: Onterra, 2013
Sensitive Areas: WDNR, 2003
2020 Harvest Sites: SAWM

Map Date: November 23, 2020 - E.JH



Project Location in Wisconsin

Legend

2020 Riparian Harvest (Symbol on Parcel Center)

- Single Cutting
- Two Cuttings



Floating-leaf and/or
Emergent Plant Community
in Shawano lake (mapped July 2013)

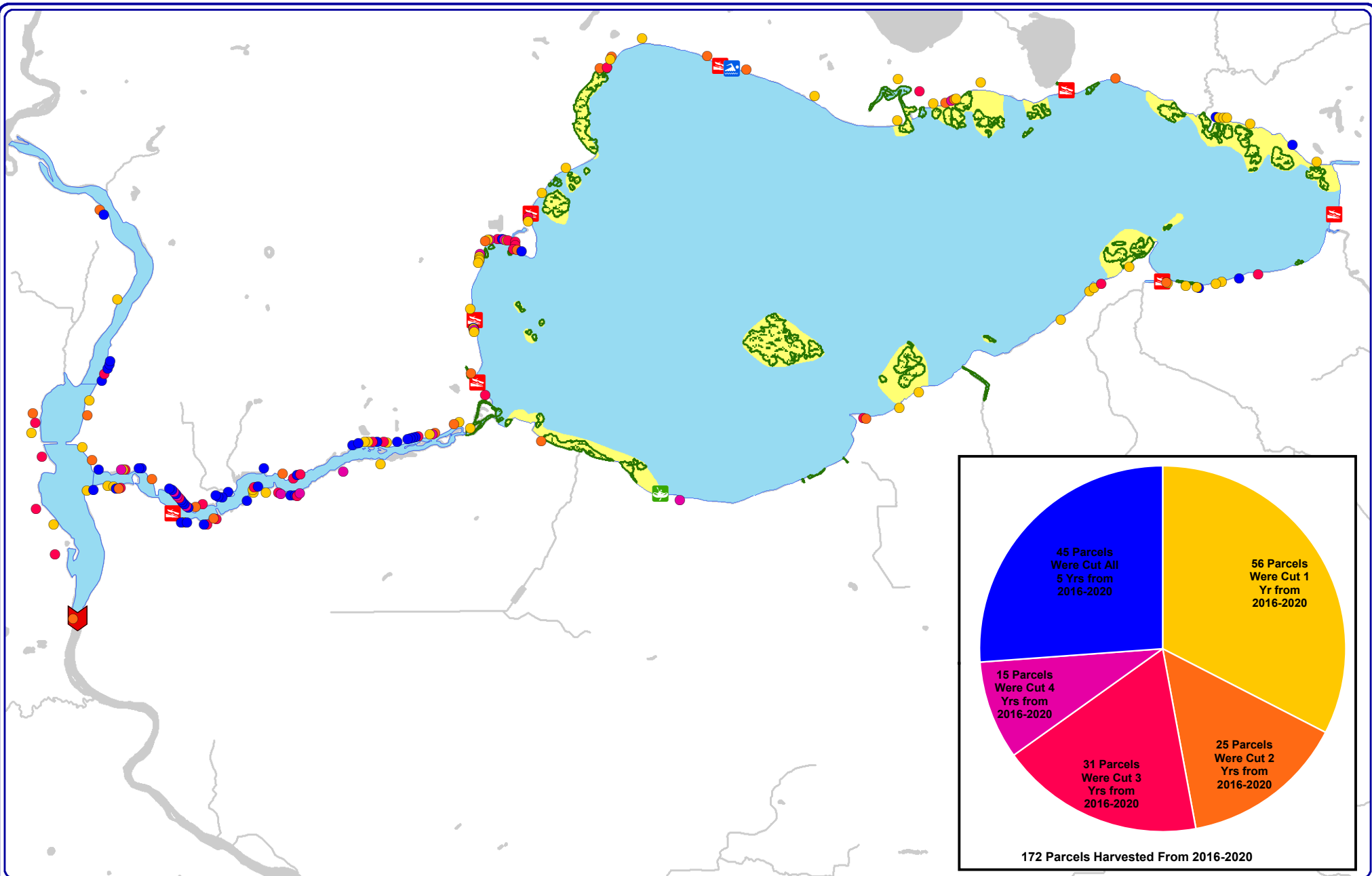


WDNR Sensitive Area
(Designated 2003)

Map 9

Shawano Lake
Shawano County, Wisconsin

**Mechanical Harvest:
2020 Riparian Cuttings**



4,600

Feet

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Sources:
Roads and Hydro: WDNR
Com Map: Onterra, 2013
Sensitive Areas: WDNR, 2003
2020 Harvest Sites: SAWM

Map Date: November 23, 2020 - E.JH



Project Location in Wisconsin

Legend

Riparian Harvest From 2016-2020

(Symbol on Parcel Center)

- Cut One Year
- Cut Two Years
- Cut Three Years
- Cut Four Years
- Cut All Five Years



Floating-leaf and/or
Emergent Plant Community
in Shawano lake (mapped July 2013)

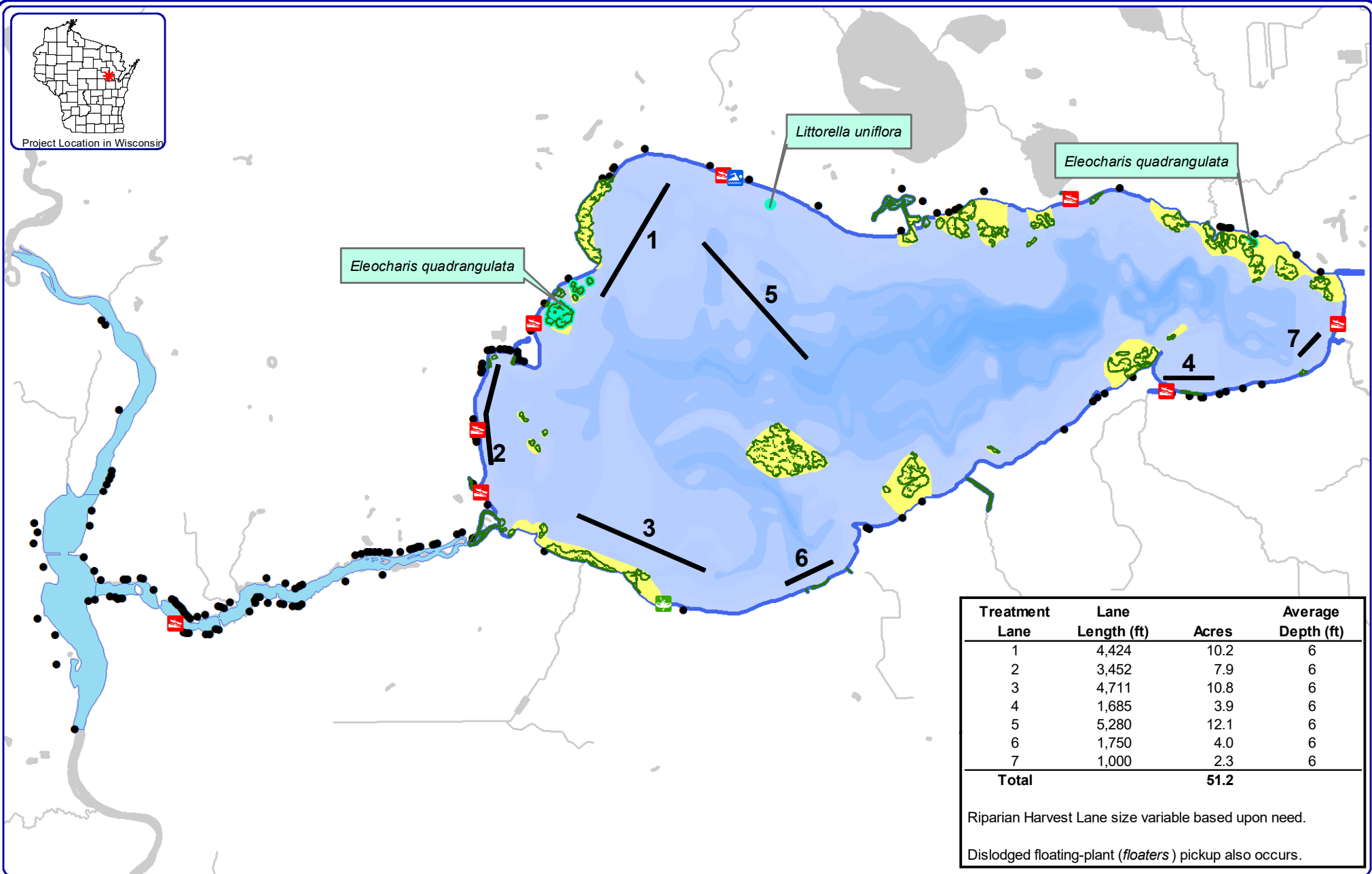


WDNR Sensitive Area
(Designated 2003)

Map 10

Shawano Lake
Shawano County, Wisconsin

**Mechanical Harvest:
2016-2020**



Treatment Lane	Lane Length (ft)	Acres	Average Depth (ft)
1	4,424	10.2	6
2	3,452	7.9	6
3	4,711	10.8	6
4	1,685	3.9	6
5	5,280	12.1	6
6	1,750	4.0	6
7	1,000	2.3	6
Total		51.2	

Riparian Harvest Lane size variable based upon need.

Dislodged floating-plant (*floaters*) pickup also occurs.



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Aquatic Plants: Onterra
Sensitive Areas: WDNR, 2003
Nuisance Lanes: Digitized by Onterra
from WDNR permit records
Map Date: April 27, 2021 - EJH

- Nuisance Navigation Management Lane (100ft wide)
- Riparian Harvest Location (Symbol on Parcel Center; N=172)

- Legend**
- Floating-leaf and/or Emergent Plant Community (Shawano Lake proper only; mapped July 2013)
 - WDNR Sensitive Area (Designated 2003)

- NHI Plant Species Location (Label indicates species)

Map 11
Shawano Lake
Shawano County, Wisconsin
Mechanical Harvest Locations