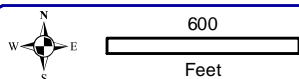


Project Location in Wisconsin



Onterra LLC
Lake Management Planning

815 Prosper Road
De Pere, WI 54115
920.338.8860
www.onterra-eco.com

Sources:
Roads and Hydro: WDNR
Map Date: November 3, 2015
Filename: Loon_Shawano_Location&Boundary.mxd

Legend



Loon Lake ~ 327 acres
WDNR Definition



Point-intercept Sample Location
60-meter spacing, 365 total locations



District-Owned
Conservation Lands



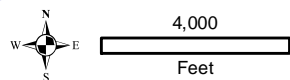
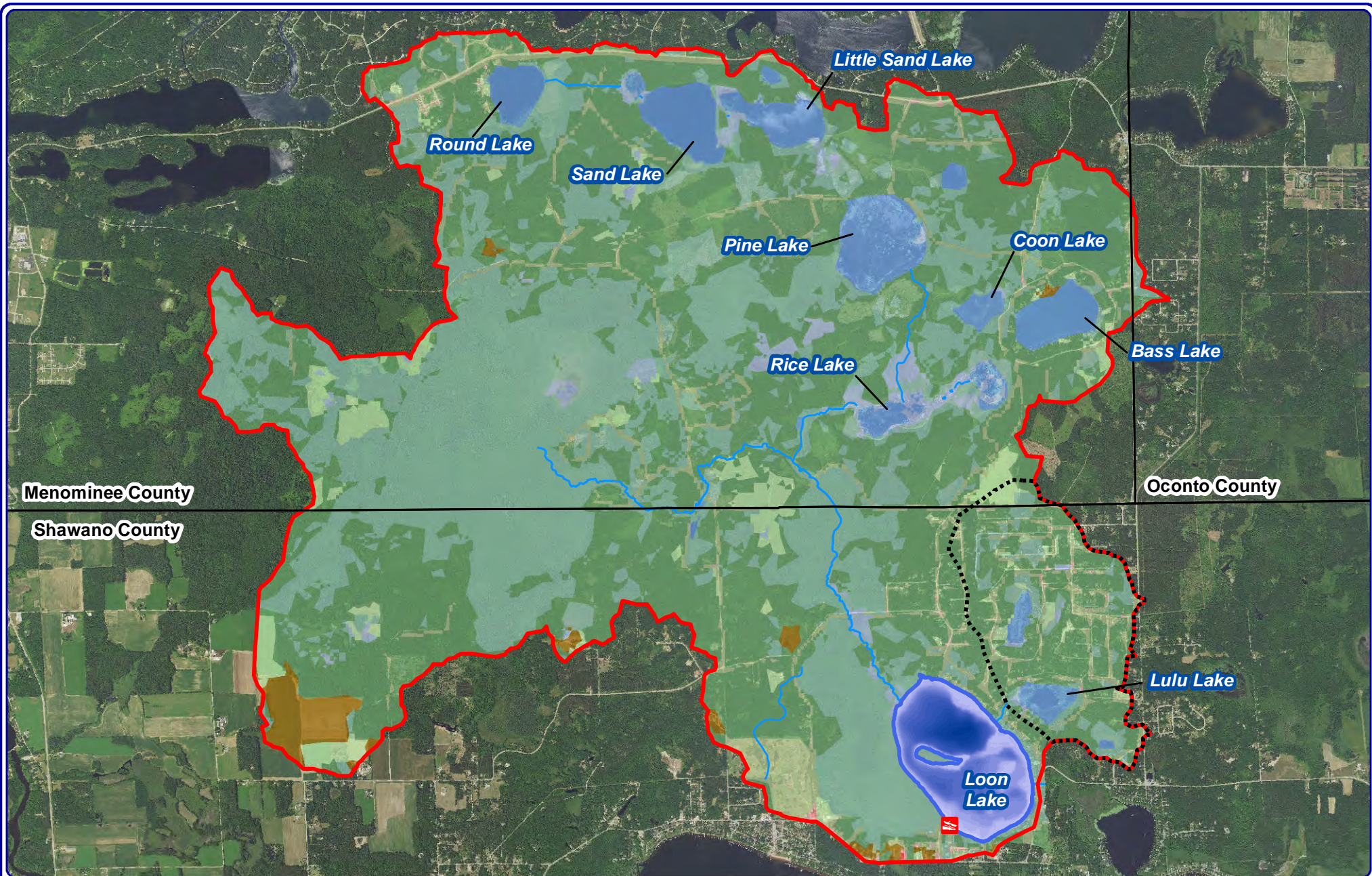
Township-Owned
Access Location

Map 1

Loon Lake

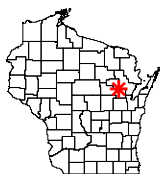
Shawano County, Wisconsin

**Project Location
& Lake Boundary**



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

Sources:
 Hydro: WDNR
 Bathymetry: Onterra 2016
 Orthophotography: NAIP 2015
 Land Cover: NLCD 2011
 Watershed Boundaries: Onterra 2016
 Map Date: January 6, 2017
 Filename: Loon_WS.mxd



Project Location in Wisconsin

Legend

Land Cover Types

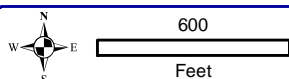
- | | |
|-------------------|----------------------|
| Forest | Rural Open Space |
| Forested Wetlands | Pasture/Grass |
| Wetlands | Row Crops |
| Open Water | Rural Residential |
| | Medium Density Urban |

- Loon Lake Watershed Boundary
- Lulu Lake Watershed Boundary
- River/Stream

Map 2

Loon Lake
 Shawano County, Wisconsin

Watershed & Land Cover Types



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

Sources:
 Roads and Hyrdo: WDNR
 Shoreland Condition: Onterra, 2016
 Orthophotograph: NAIP 2015
 Map Date: December 9, 2016
 Filename: Loon_ShorelandCondition_2016.mxd

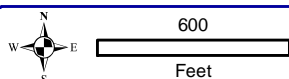
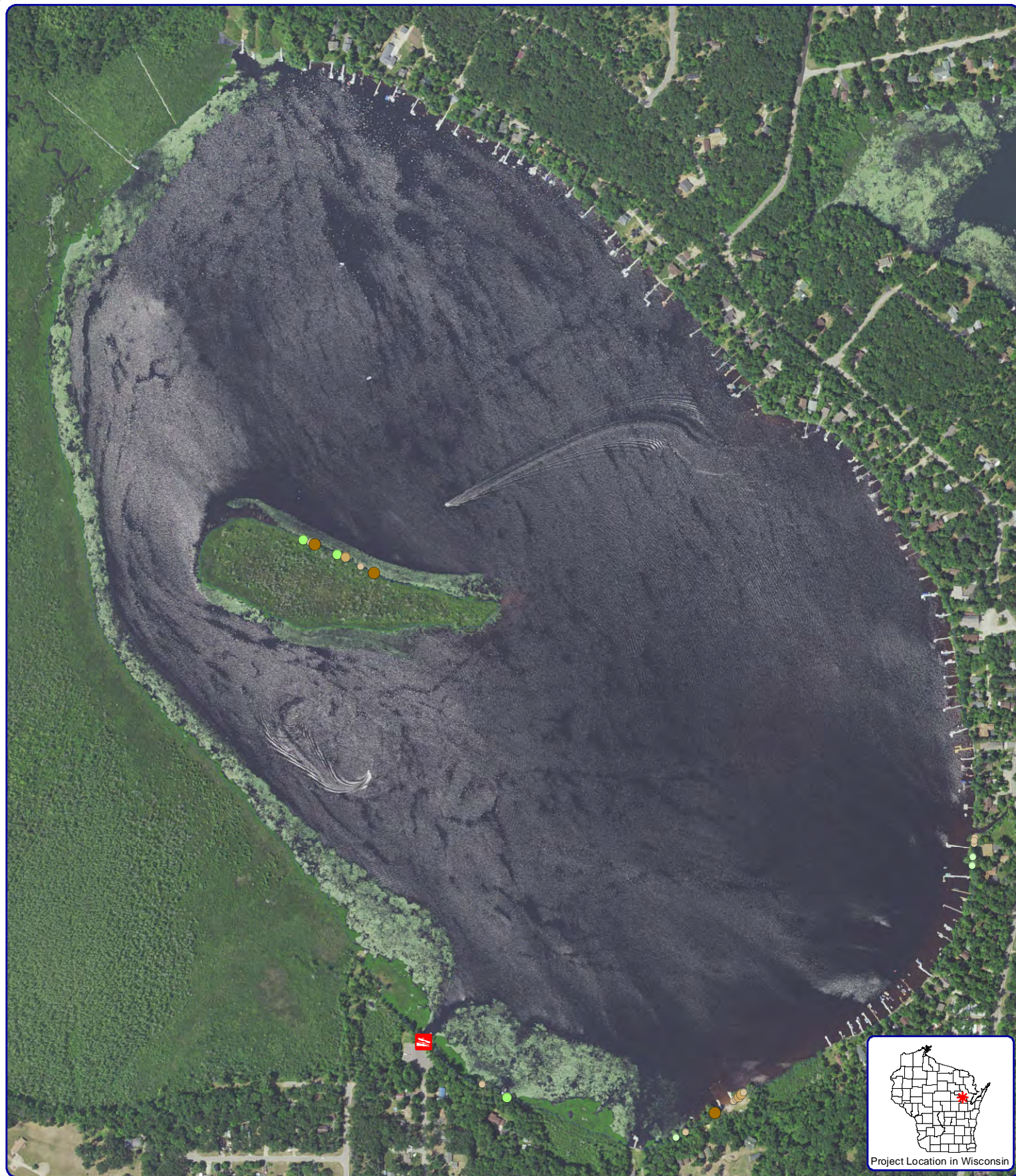
Legend

- ~ Natural/Undeveloped
- ~ Developed-Natural
- ~ Developed-Semi-Natural
- ~ Developed-Unnatural
- ~ Urbanized
- Seawall
- Rip-Rap
- Masonry/Wood/Metal



Project Location in Wisconsin

Map 3
Loon Lake
 Shawano County, Wisconsin
2016 Shoreline
Condition Assessment



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

Sources:
 Roads and Hyrdo: WDNR
 Coarse Woody Habitat: Onterra, 2016
Map Date: December 9, 2016
 Filename: Loon_CWH_2016.mxd

Legend

2-8 Inch Pieces

- No Branches
- Minimal Branches
- Moderate Branches
- Full Canopy (None)

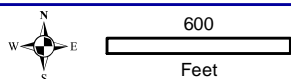
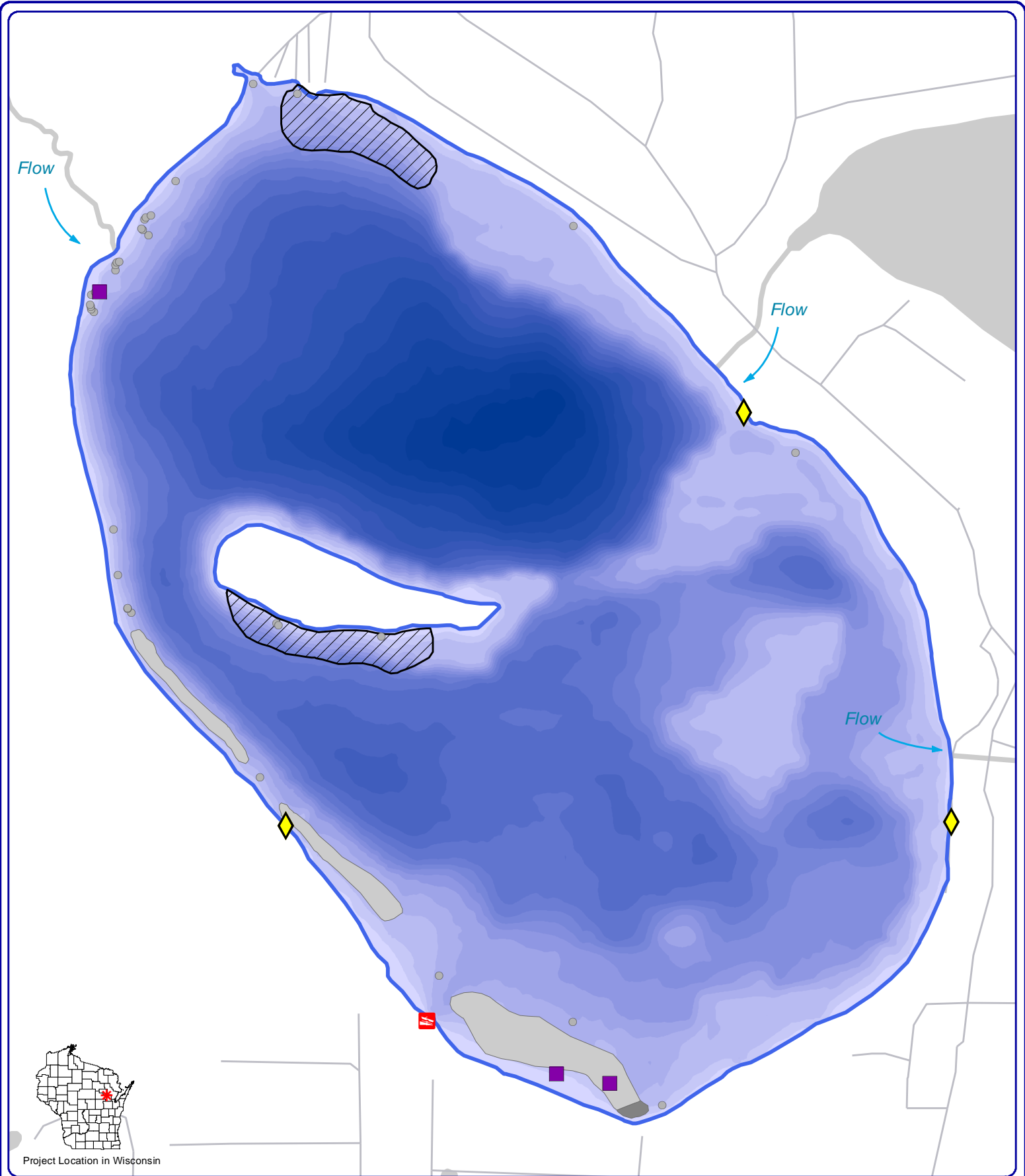
8+ Inch Pieces

- No Branches
- Minimal Branches
- Moderate Branches (None)
- Full Canopy (None)

Cluster of Pieces

- No Branches (None)
- Minimal Branches (None)
- Moderate Branches (None)
- Full Canopy (None)

Map 4
Loon Lake
 Shawano County, Wisconsin
**2016 Coarse
 Woody Habitat**



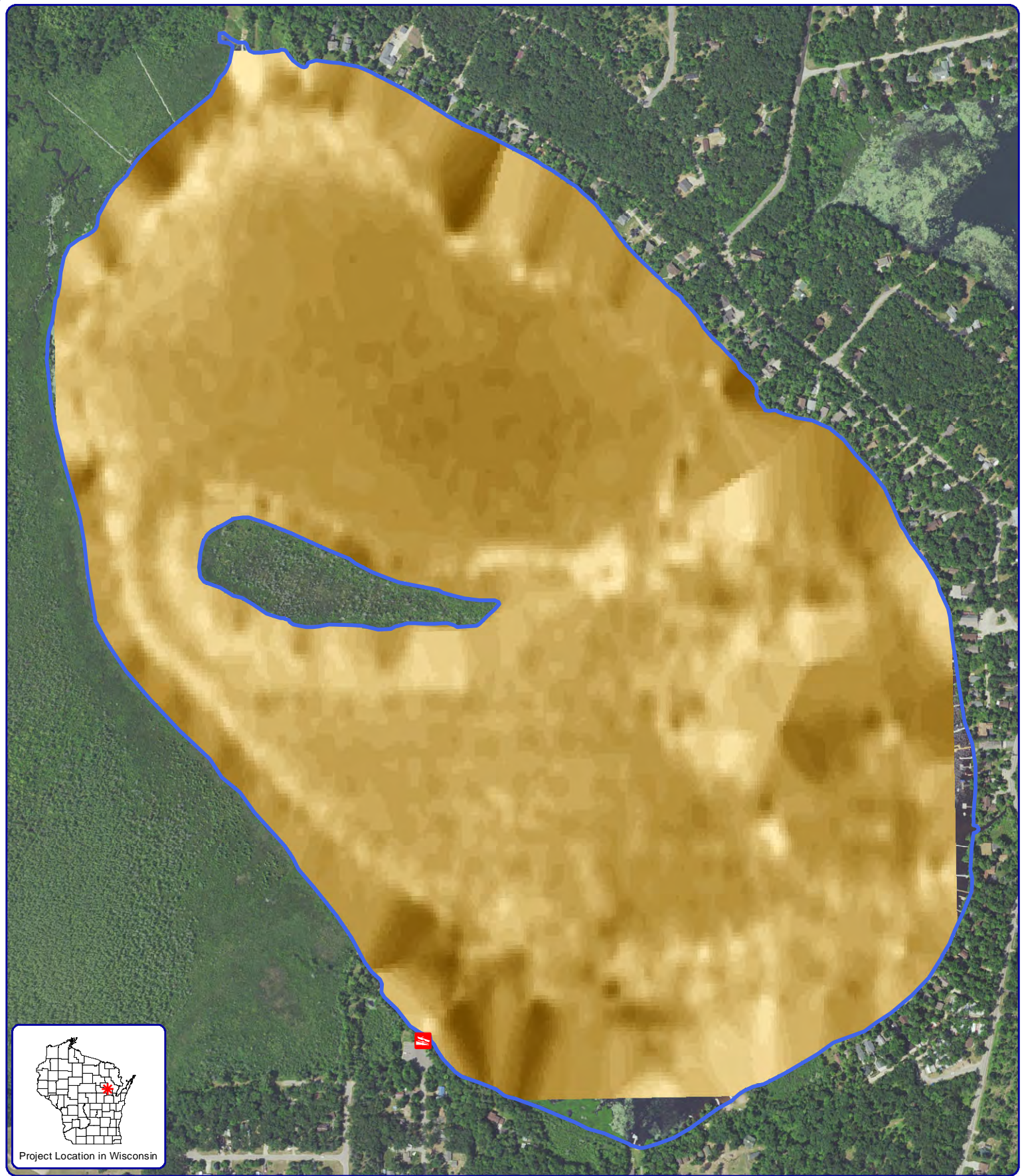
Onterra LLC
 Lake Management Planning
 815 Prosper Road
 De Pere, WI 54115
 920.338.8860
 www.onterra-eco.com

Sources:
 Roads and Hydro: WDNR
 Aquatic Plants: Onterra, 2016
Map Date: June 15, 2016
 Filename: LoonShawano_HWM_June16.mxd

Legend

- | | | |
|------------------------|-------------------------------------|---------------------|
| Highly Scattered | Single or Few Plants | Pale Yellow Iris |
| Scattered (None) | Clumps of Plants (None) | Curly-leaf Pondweed |
| Dominant (None) | Small Plant Colony (None) | |
| Highly Dominant (None) | 5/9/2016 Herbicide Application Area | |
| Surface Matting (None) | | |

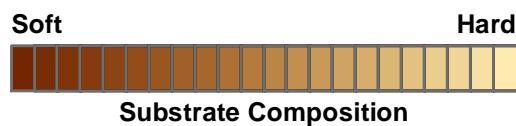
Map 5
Loon Lake
 Shawano County, Wisconsin
2016 ESAIS
Survey Results



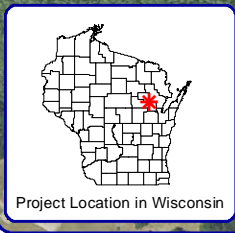
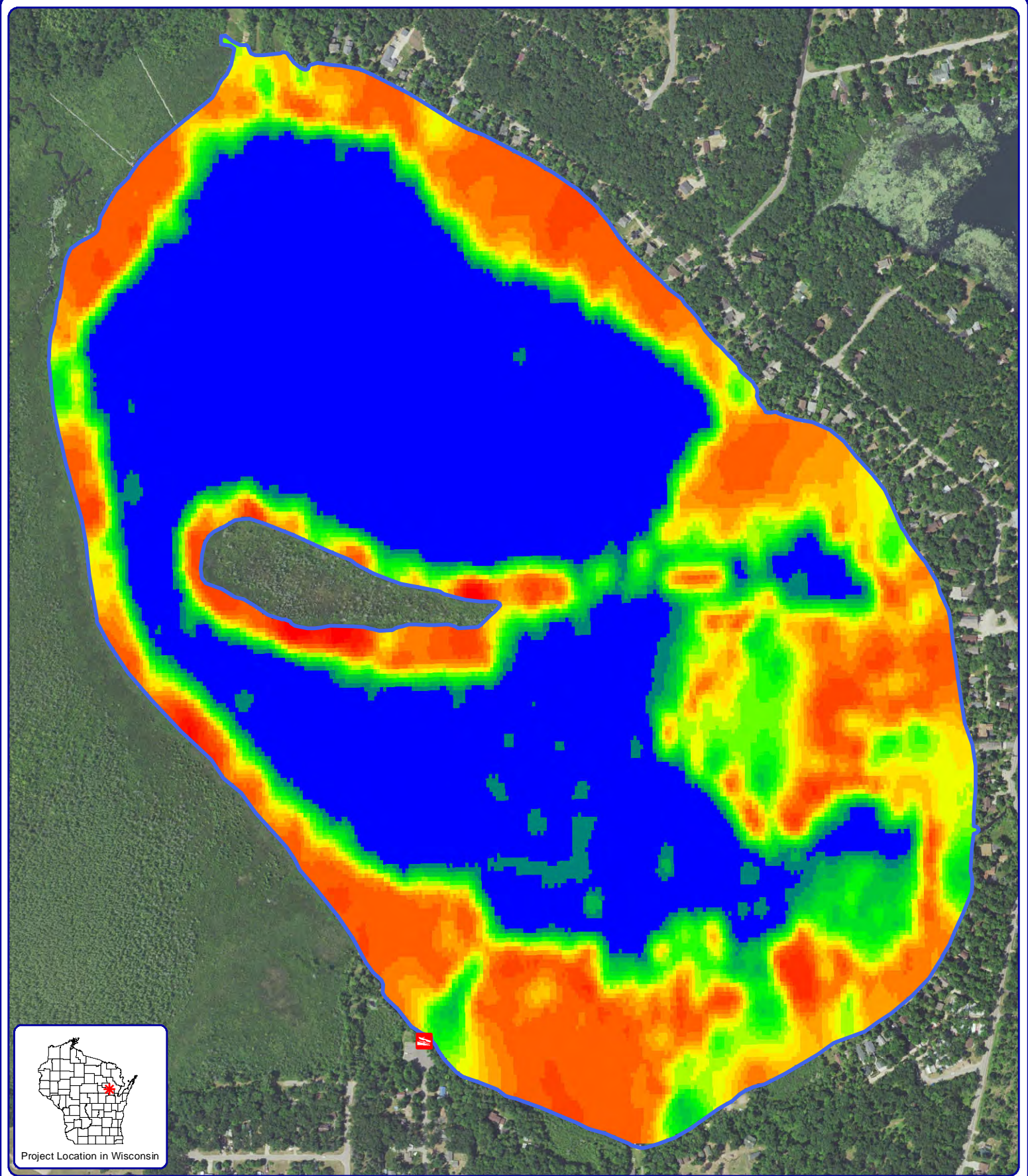
Onterra LLC
 Lake Management Planning
 815 Prosper Rd
 De Pere, WI 54115
 920.338.8860
www.onterra-eco.com

Sources:
 Hydro: WDNR
 Orthophotography: NAIP 2015
 Substrate Hardness: Onterra, 2016
 Map Date: April 4, 2017
 Filename: Loon_Acoustic_Sediment.mxd

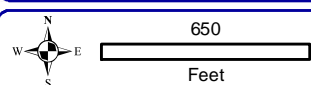
Legend



Map 6
 Loon Lake
 Shawano County, Wisconsin
**2016 Bio-Acoustic
 Survey Results -
 Substrate Hardness**



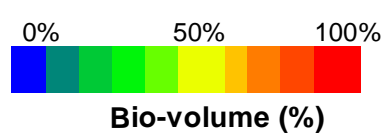
Project Location in Wisconsin



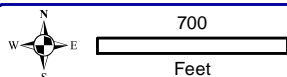
Onterra LLC
Lake Management Planning
815 Prosper Rd
De Pere, WI 54115
920.338.8860
www.onterra-eco.com

Sources:
Hydro: WDNR
Orthophotography: NAIP 2015
Bio-Volume: Onterra, 2016
Map Date: April 4, 2017
Filename: Loon_Acoustic_Veg.mxd

Legend



Map 7
Loon Lake
Shawano County, Wisconsin
**2016 Bio-Acoustic
Survey Results -
Aquatic Plant Bio-Volume**



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

Sources:
Roads and Hyrdo: WDNR
Aquatic Plants: Onterra, 2016
Map Date: October 31, 2016
Filename: Loon_Comm_2016.mxd



Project Location in Wisconsin

Legend

Small Plant Communities

- Emergent
- Floating-leaf
- Mixed Floating-leaf & Emergent
- Pale yellow iris

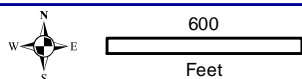
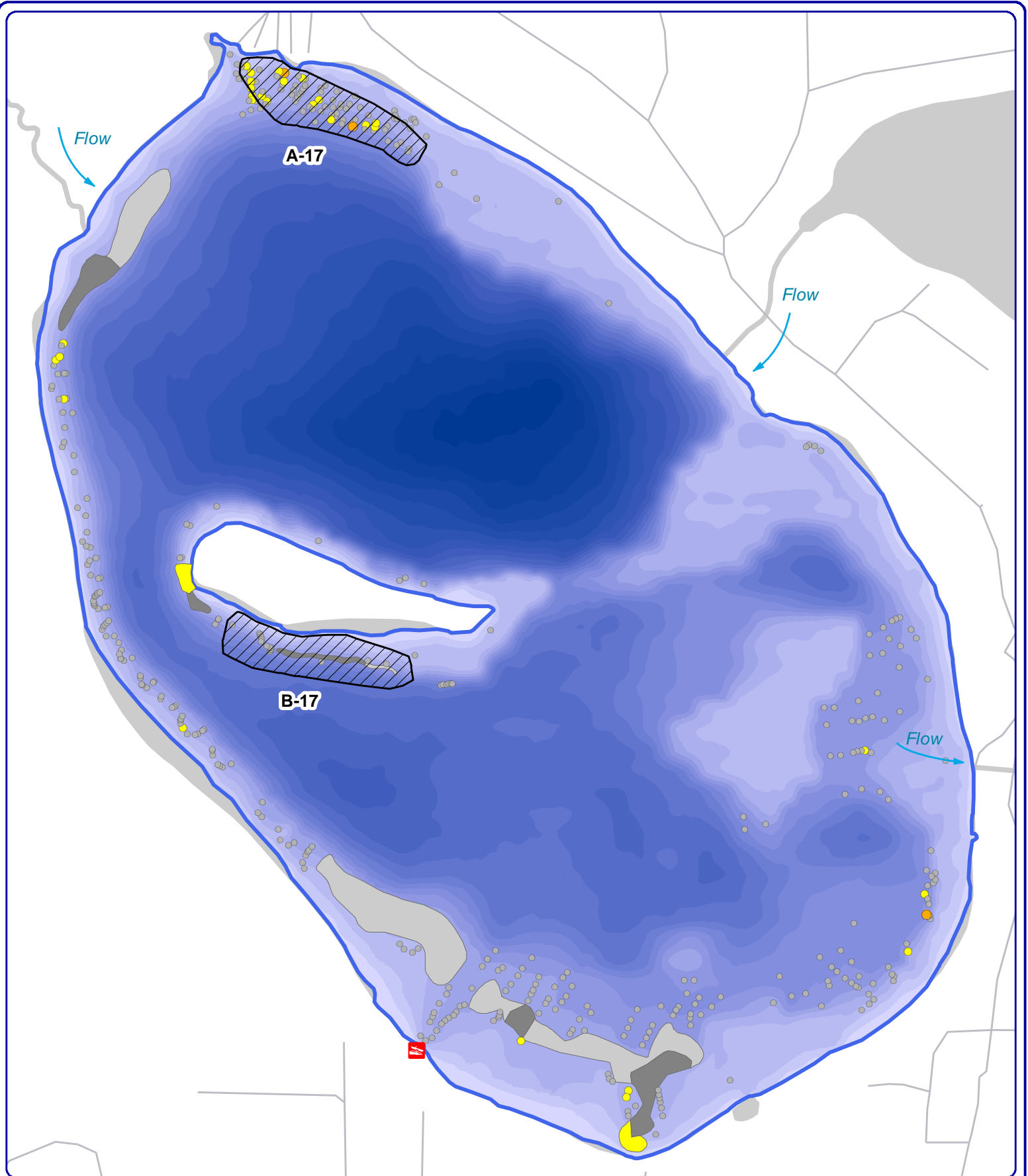
Large Plant Communities

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

Map 8

Loon Lake
Shawano County, Wisconsin

**2016 Plant Survey:
Community Mapping**



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

Sources:
Roads and Hydro: WDNR
Aquatic Plants: Onterra, 2017
Map Date: August 29, 2017
Filename: LoonShawano_HWM_Aug17.mxd



Project Location in Wisconsin

Legend

Hybrid watermilfoil (August 25, 2017)

- Highly Scattered
- Scattered
- Dominant
- Highly Dominant (None)
- Surface Matting (None)
- Single or Few Plants
- Clumps of Plants
- Small Plant Colony
- 5/23/2017 Herbicide Application Area

Map 9
Loon Lake
Shawano County, Wisconsin
2017 HWM
Survey Results