

5,200

Feet

**Onterra LLC**  
 Lake Management Planning  
 815 Prosper Road  
 De Pere, WI 54115  
 920.338.8860  
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Sources:  
 Roads and Hydro: WDNR  
 Map Date: February 20, 2017  
 Filename: Map1\_Puckaway\_Location.mxd



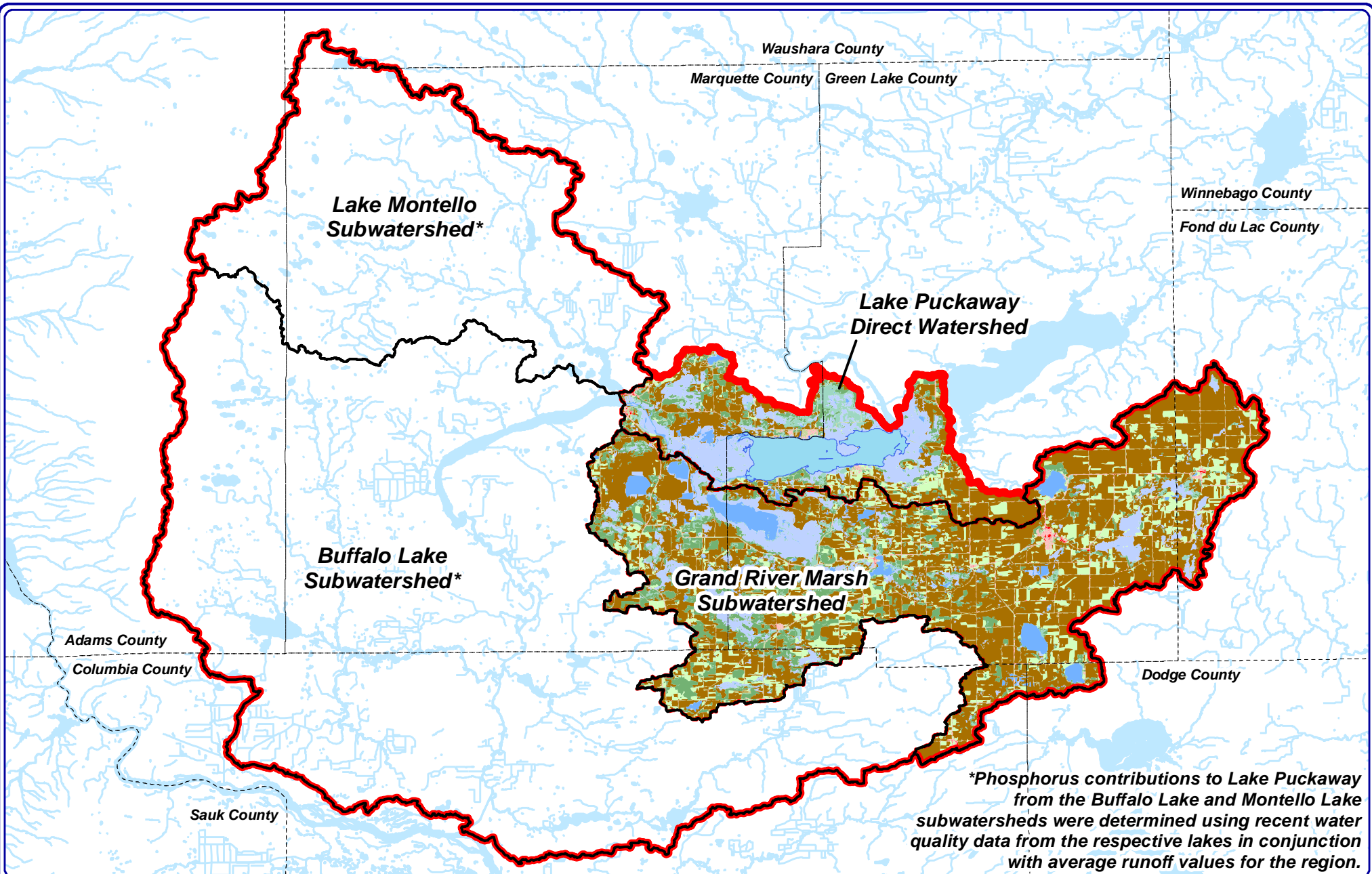
Project Location in Wisconsin

**Legend**

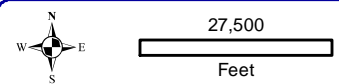
- Lake Puckaway ~ 5039 acres  
*WDNR Definition*
- Point-Intercept Survey Location  
*155-meter spacing, 872 total points*
- Village of Marquette
- Public Access
- Private Access
- Water Quality Sampling Locations

**Map 1**

Lake Puckaway  
 Green Lake County, Wisconsin  
**Project Location & Sampling Information**



*\*Phosphorus contributions to Lake Puckaway from the Buffalo Lake and Montello Lake subwatersheds were determined using recent water quality data from the respective lakes in conjunction with average runoff values for the region.*



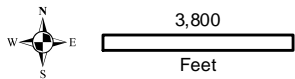
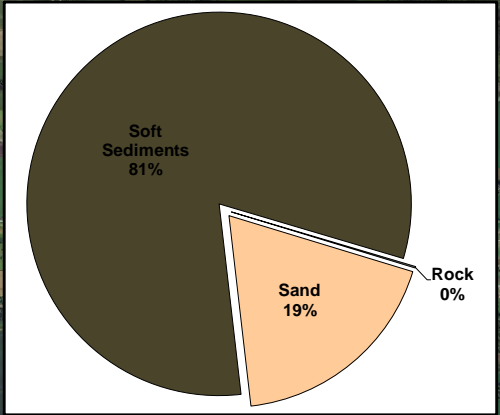
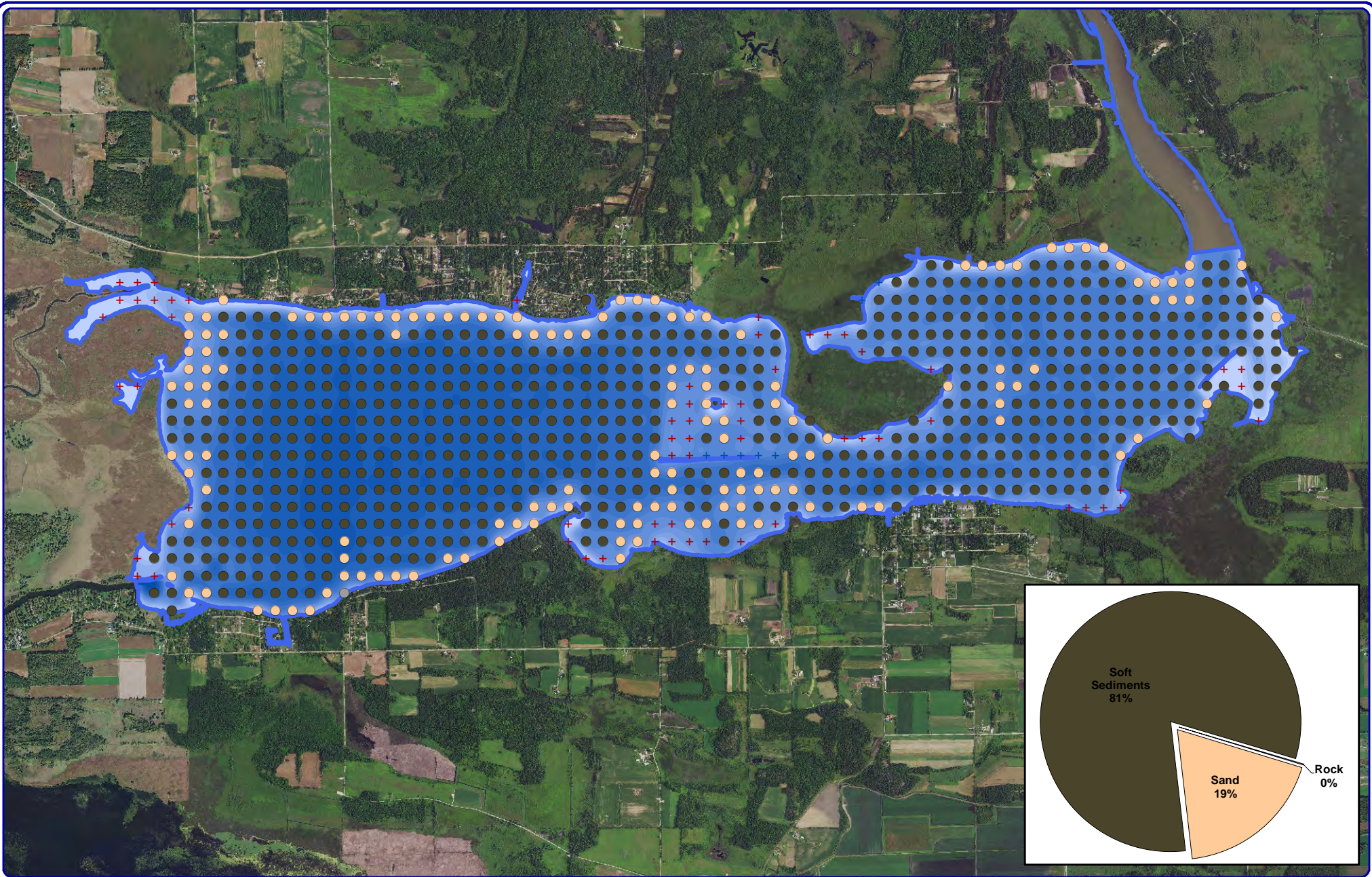
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Sources:  
 Hydro: WDNR  
 Land Cover: NLCD, 2011  
 Orthophotography: NAIP, 2013  
 Map Date: October 17, 2016  
 Filename: Puckaway\_Watershed.mxd



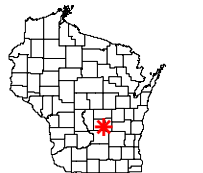
- Legend**
- |                                  |                   |                        |
|----------------------------------|-------------------|------------------------|
| Lake Puckaway Watershed Boundary | Forest            | Pasture/Grass          |
| Sub-Watershed Boundaries         | Forested Wetlands | Row Crops              |
|                                  | Wetlands          | Rural Residential      |
|                                  | Open Water        | Urban - Medium Density |
|                                  | Rural Open Space  | Urban - High Density   |

Map 2  
 Lake Puckaway  
 Green Lake County, Wisconsin  
**Watershed Boundaries  
 & Land Cover Types**



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Sources:  
 Roads and Hydro: WDNR  
 Plant Survey: Onterra, 2015  
 Map Date: September 19, 2016  
 Filename: Map3\_Puckaway\_SedimentPI\_2015.mxd

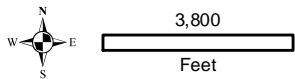
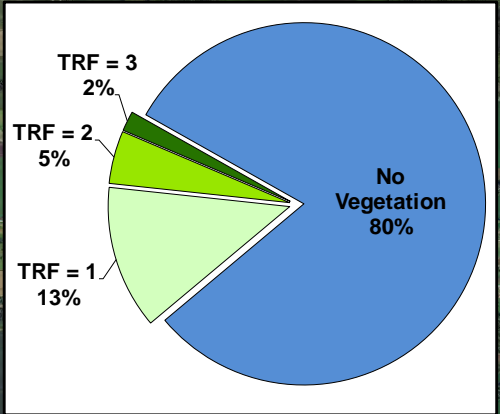
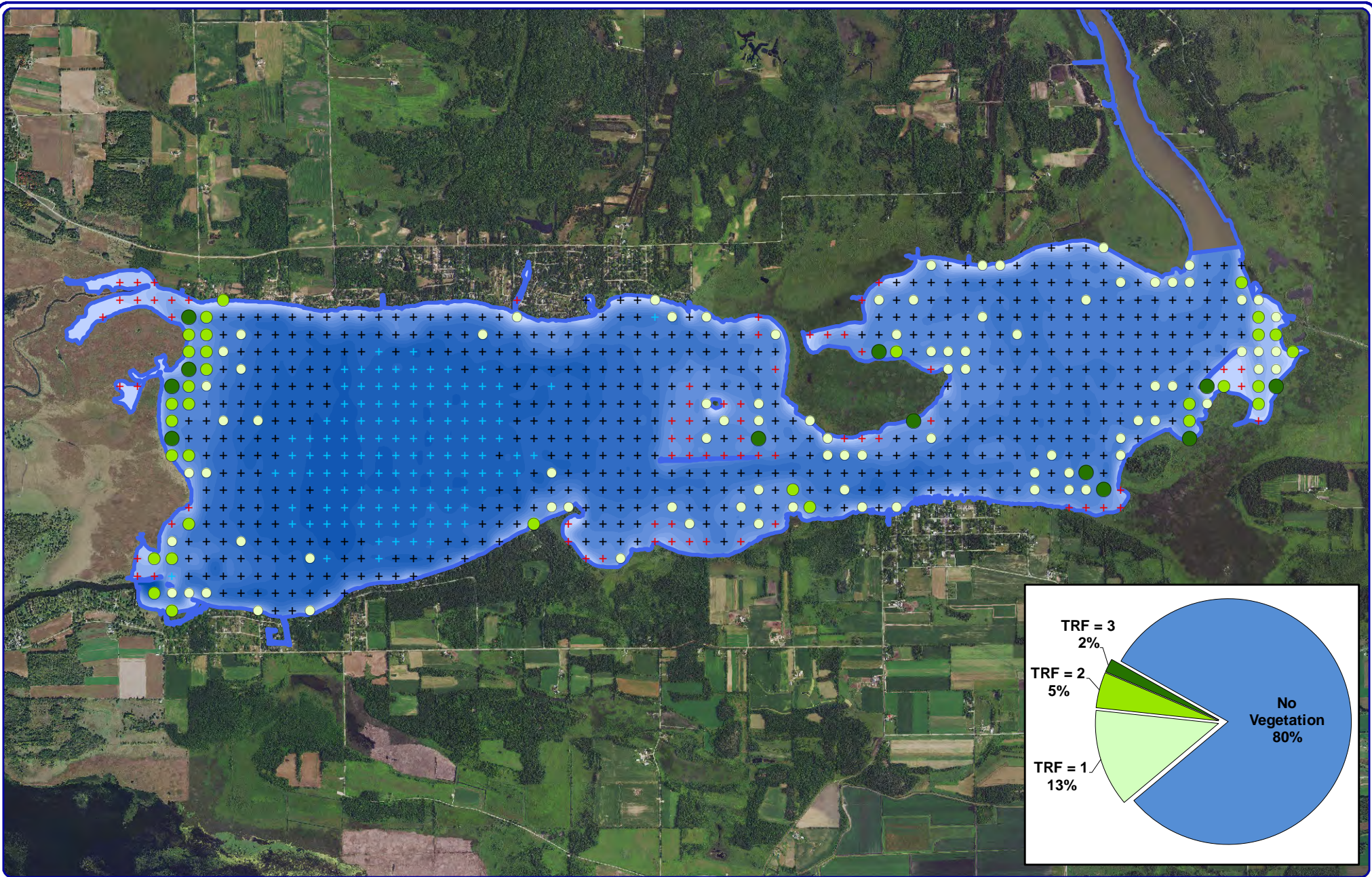


Project Location in Wisconsin

**Legend**

- Soft Sediments
- Rock
- Sand
- + Non-Navigable

Map 3  
 Lake Puckaway  
 Green Lake County, Wisconsin  
**2015 PI Survey:  
 Substrate Types**



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Sources:  
 Roads and Hydro: WDNR  
 Plant Survey: Onterra, 2015  
 Map Date: September 19, 2016  
 Filename: Map4\_Puckaway\_TRFPI\_2015.mxd

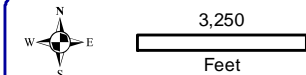
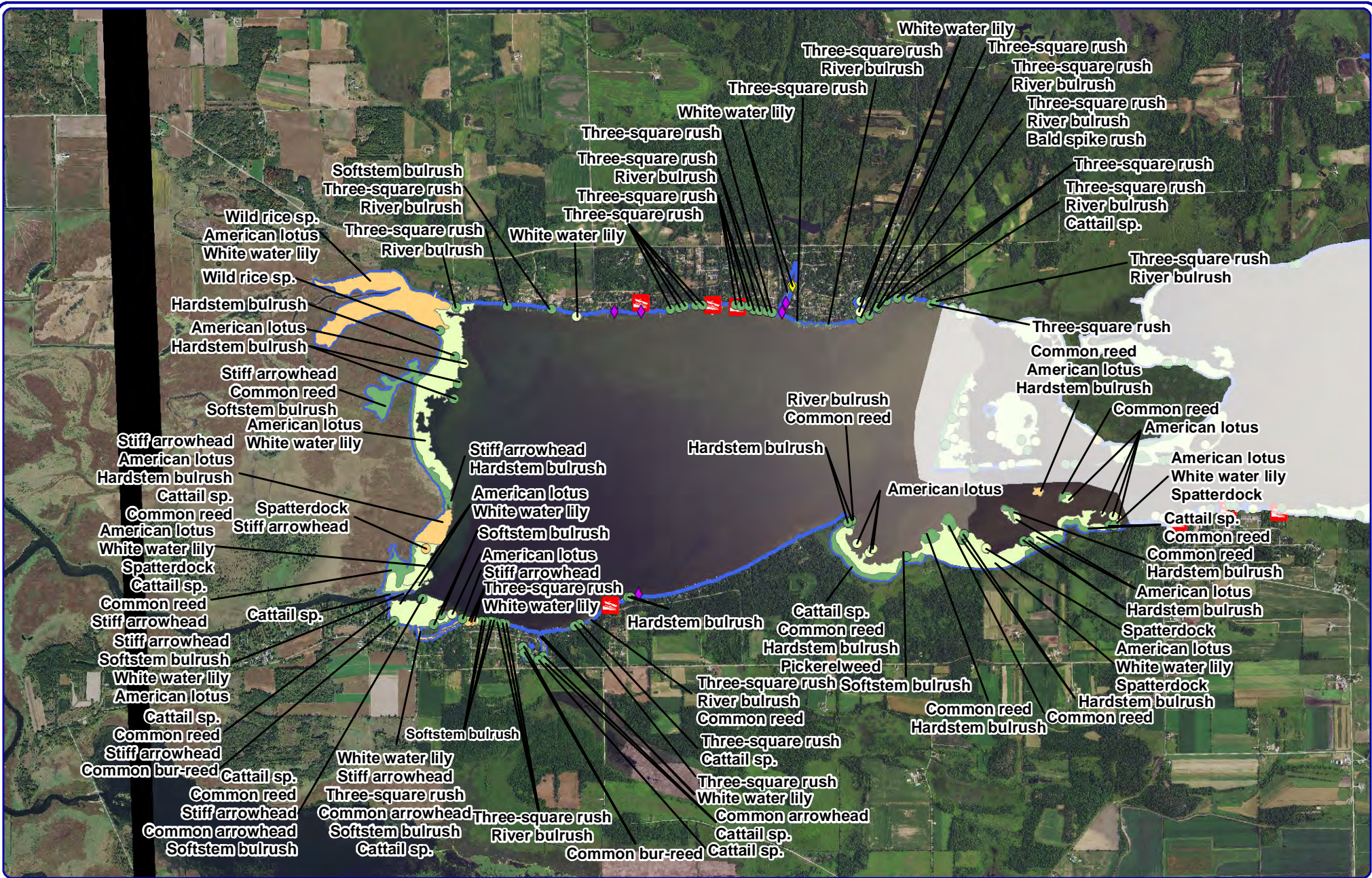


- + No Vegetation
- Total Rake Fullness = 1
- Total Rake Fullness = 2
- Total Rake Fullness = 3

**Legend**

- + Deeper than maximum depth of plant growth
- + Non-navigable/Temporary Obstacle

Map 4  
 Lake Puckaway  
 Green Lake County, Wisconsin  
**2015 PI Survey:  
 Vegetation Distribution**



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Sources:  
 Hydro and Roads: WDNR  
 Bathymetry: WDNR, digitized by Onterra  
 Aquatic Plant Survey: Onterra, 2015  
 Map Date: November 2, 2015  
 Filename: Map5\_Puckaway\_Comm\_Summer15\_west.mxd

Project Location in Wisconsin

**Small Plant Communities**

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

**Legend**

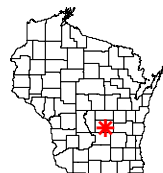
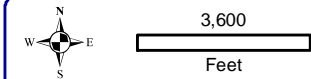
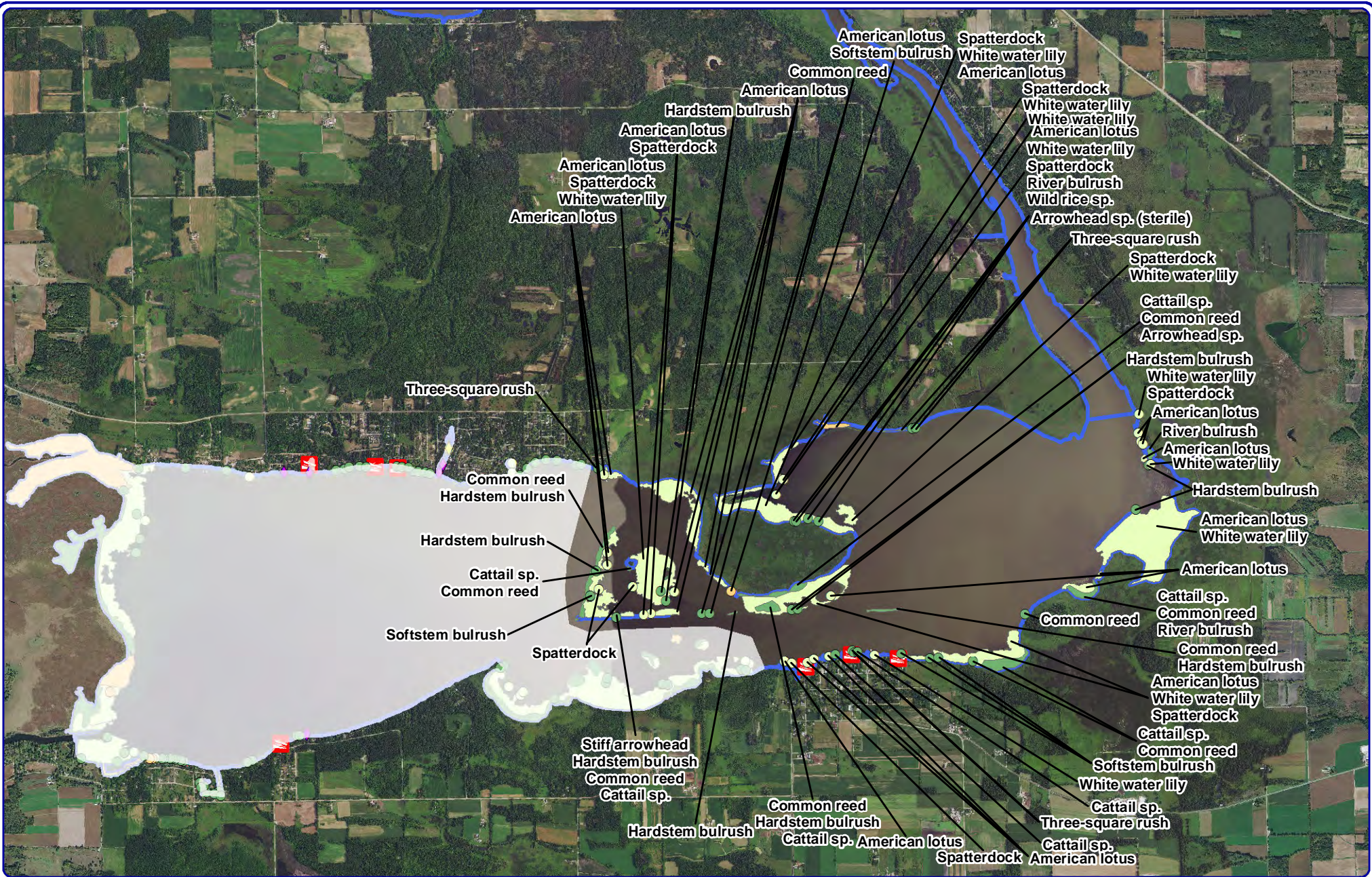
**Large Plant Communities**

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

**Exotic Plant Communities**

- ◆ Purple loosestrife
- ◆ Pale-yellow iris

Map 5  
 Lake Puckaway - West  
 Green Lake County, Wisconsin  
**2015 Community Map**  
**Survey Results**



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Sources:  
 Hydro and Roads: WDNR  
 Bathymetry: WDNR, digitized by Onterra  
 Aquatic Plant Survey: Onterra, 2015  
 Map Date: November 2, 2015  
 Filename: Map6\_Puckaway\_Comm\_Summer15\_east.mxd

Project Location in Wisconsin

**Small Plant Communities**

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

**Legend**

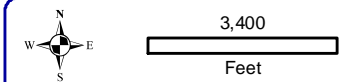
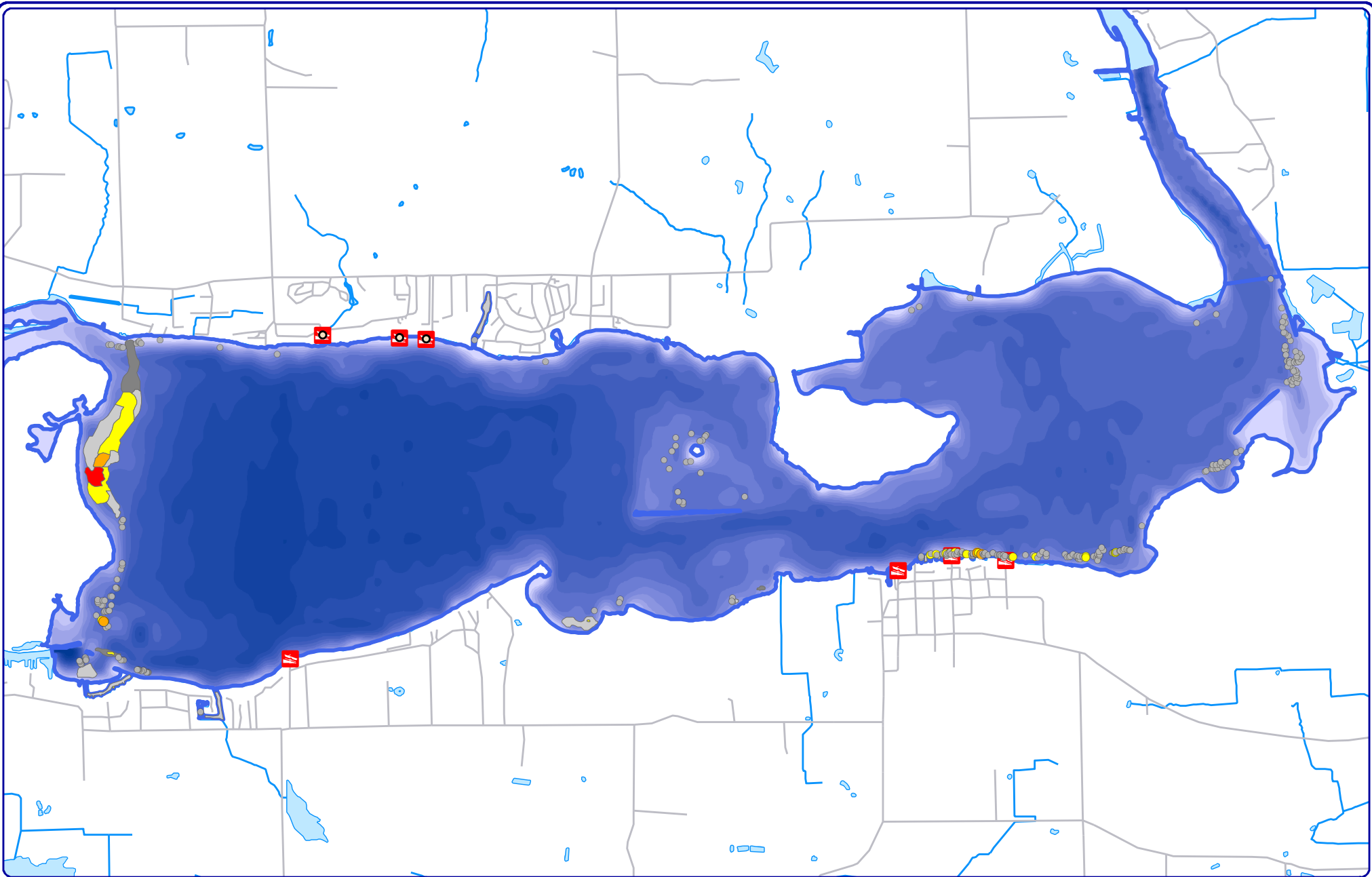
**Large Plant Communities**

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

**Exotic Plant Communities**

- ◆ Purple loosestrife
- ◆ Pale-yellow iris

Map 6  
 Lake Puckaway - East  
 Green Lake County, Wisconsin  
**2015 Community Map**  
**Survey Results**



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Sources:  
 Hydro and Roads: WDNR  
 Bathymetry: WDNR, digitized by Onterra  
 Aquatic Plant Survey: Onterra, 2015  
 Map Date: October 15, 2015  
 Filename: Map7\_Puckaway\_EWMPB\_Sept15.mxd

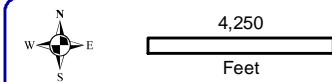
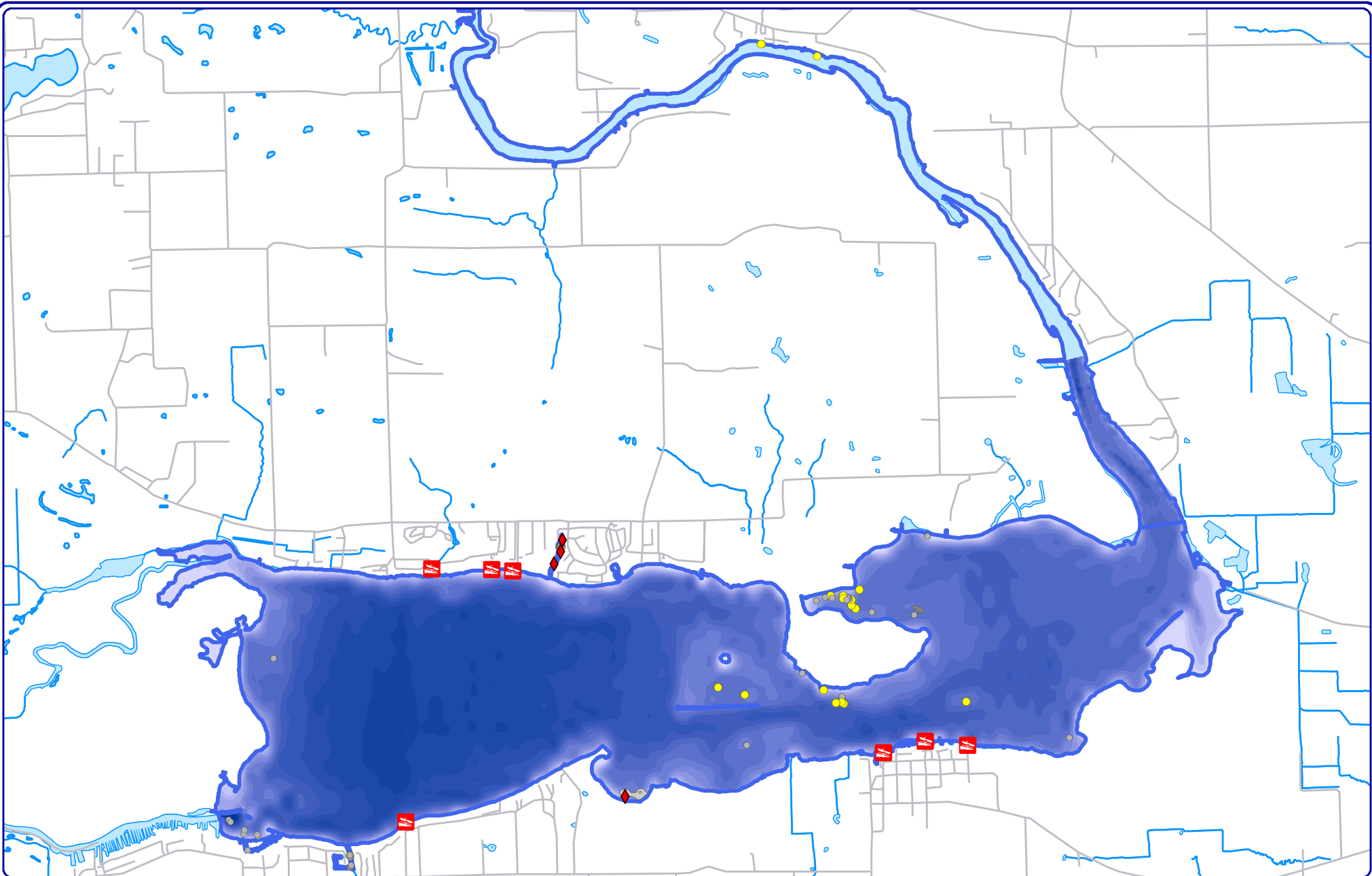


Project Location in Wisconsin

**Legend**

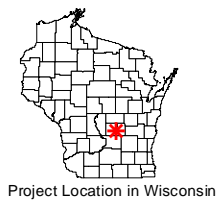
- Highly Scattered
- Scattered
- Dominant
- Highly Dominant
- Surface Matting
- Single or Few Plants
- Clump of Plants
- Small Plant Colony

**Map 7**  
**Lake Puckaway**  
 Green Lake County, Wisconsin  
**August 2015**  
**EWM Results**



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Sources:  
 Hydro and Roads: WDNR  
 Bathymetry: WDNR, digitized by Onterra  
 Aquatic Plant Survey: Onterra, 2015  
 Map Date: July 6, 2015  
 Filename: Map8\_Puckaway\_CLP\_June15.mxd



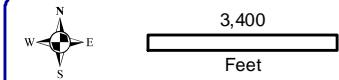
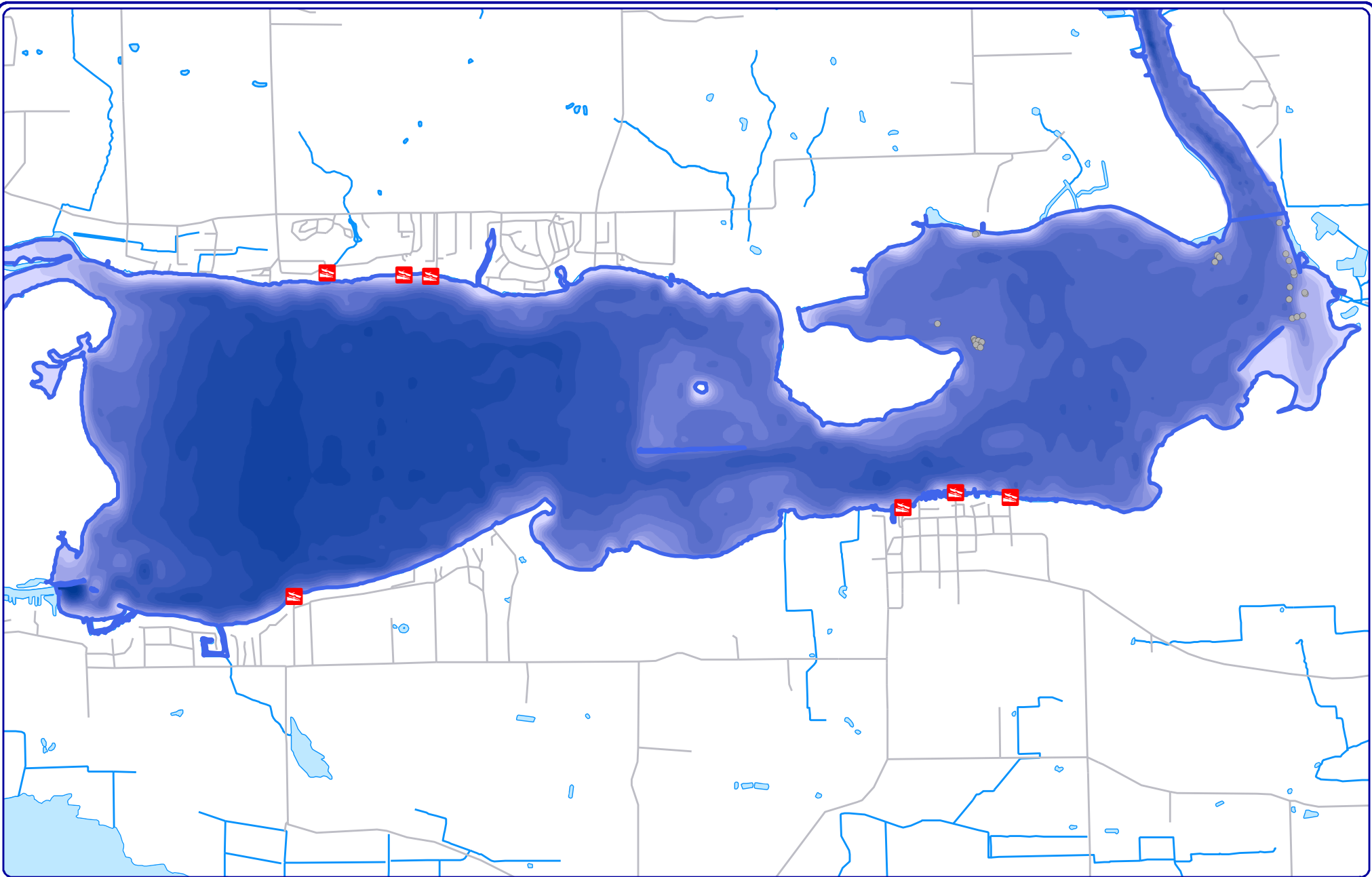
Project Location in Wisconsin

**Legend**

- Highly Scattered
- Scattered
- Dominant
- Highly Dominant
- Surface Matting
- Single or Few Plants
- Clump of Plants
- Small Plant Colony
- Potamogeton undulatus

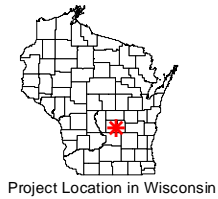
**Map 8**  
**Lake Puckaway**  
 Green Lake County, Wisconsin  
**June 2015**  
**CLP Results**





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Sources:  
 Hydro and Roads: WDNR  
 Bathymetry: WDNR, digitized by Onterra  
 Aquatic Plant Survey: Onterra, 2015  
 Map Date: October 15, 2015  
 Filename: Map9\_Puckaway\_NAJMI\_Aug15.mxd



### Legend

- Highly Scattered
- Scattered
- Dominant
- Highly Dominant
- Surface Matting
- Single or Few Plants
- Clump of Plants
- Small Plant Colony

**Map 9**  
**Lake Puckaway**  
 Green Lake County, Wisconsin  
**August 2015**  
**Brittle Naiad Results**