

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: October 2, 2012  
 Filename: Map1\_BAV\_Location.mxd

**Legend**

-  Big Arbor Vitae Lake ~1,090 Acres  
WDNR Definition
-  Point-Intercept Survey Location  
63-meter spacing, 1,090 total points
-  Water Quality Sampling Location
-  Public Access

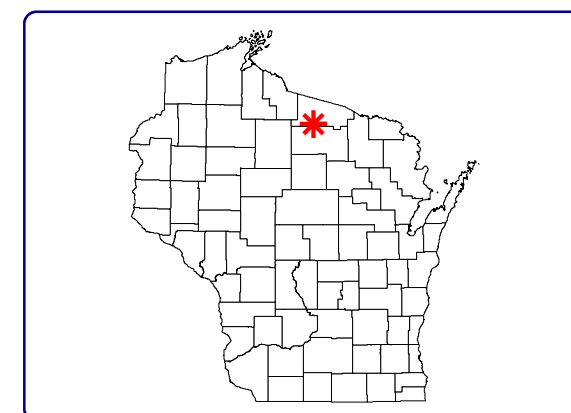
Map 1  
 Big Arbor Vitae Lake  
 Vilas County, Wisconsin  
**Project Location &  
 Lake Boundaries**

# Map 2

## Big Arbor Vitae Lake











Vilas County, Wisconsin

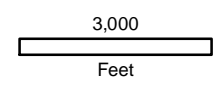
### Watershed Boundary & Land Cover Types



Project Location in Wisconsin

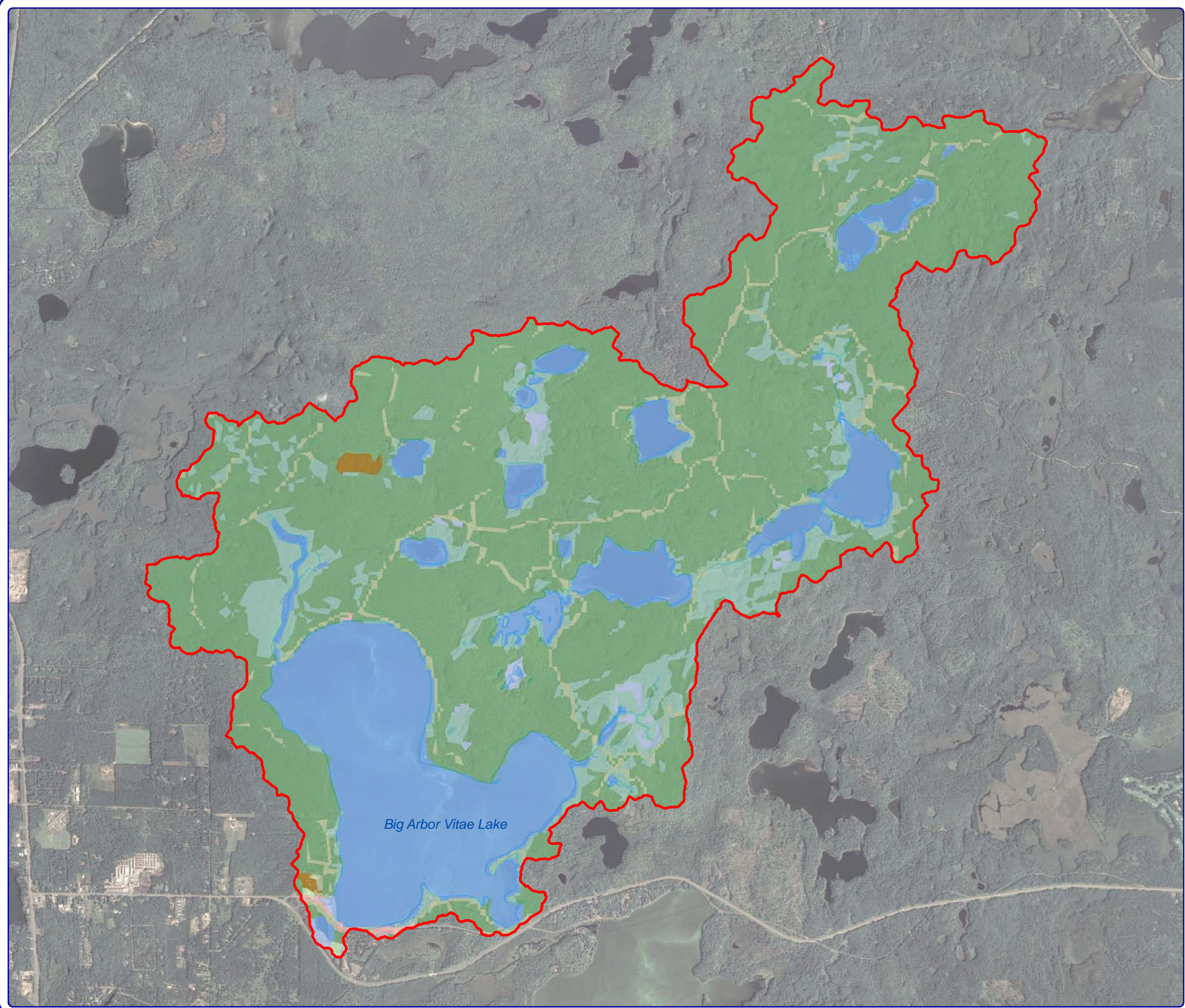
#### Legend

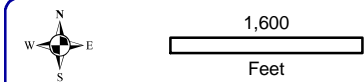
-  Watershed Boundary
- Land Cover Types**
-  Forest
-  Forested Wetlands
-  Wetlands
-  Open Water
-  Big Arbor Vitae Lake
-  River or Stream
-  Rural Open Space
-  Pasture/Grass
-  Rural Residential



**Sources:**  
 Land Cover: NCLD, 2006  
 Hydro: WDNR  
 Orthophotography: NAIP, 2010  
**Map Date:** October 2, 2012  
 Filename: Map2\_BAV\_Watershed.mxd

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Sources:  
 Roads and Hydro: WDNR  
 Map Date: October 3, 2012  
 Filename: Map3\_BAV\_SA.mxd

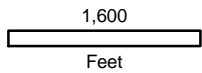
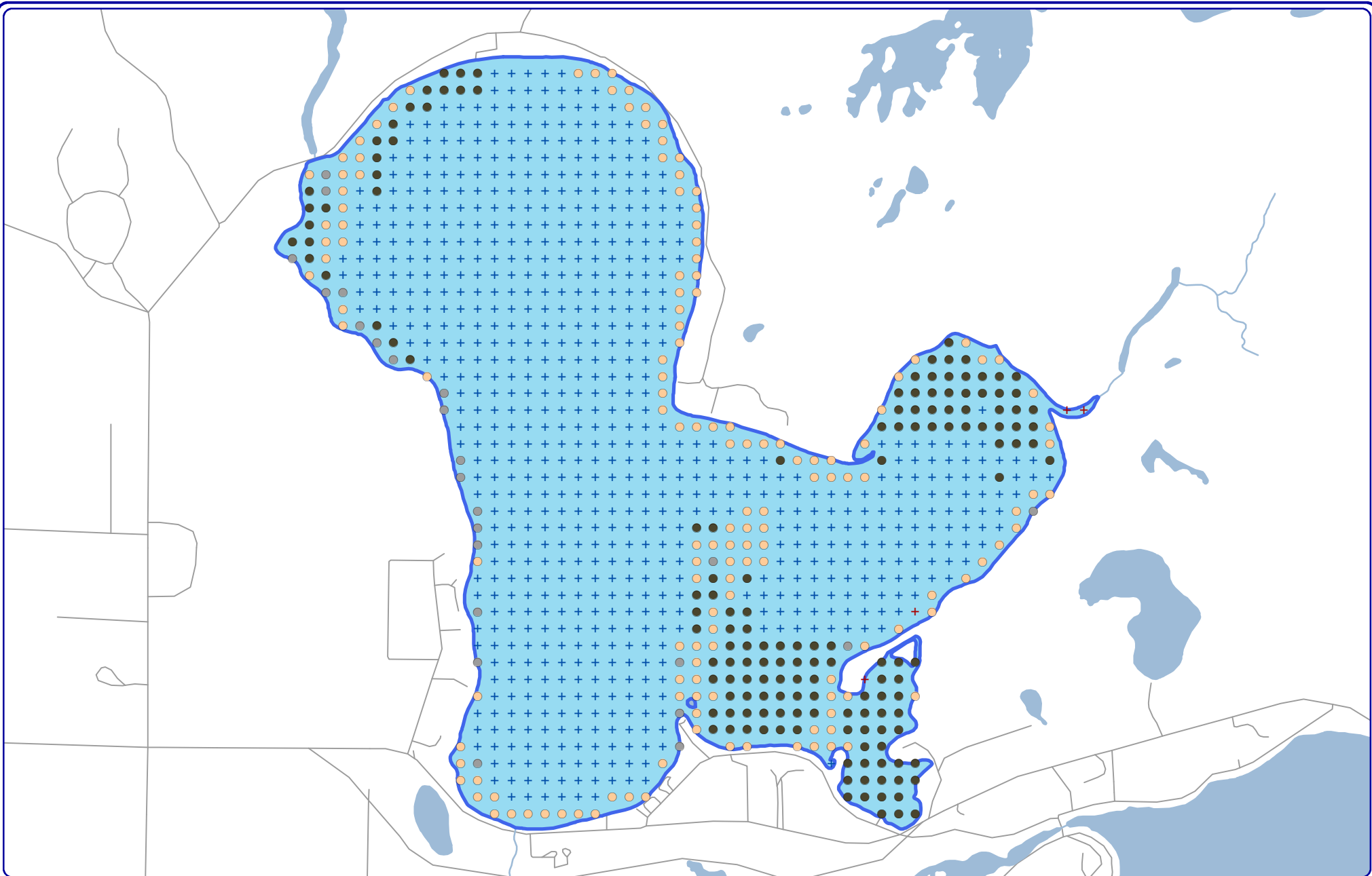


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**Legend**

- |                        |                        |
|------------------------|------------------------|
| Natural/Undeveloped    | Wisconsin State Forest |
| Developed-Natural      | Public Access          |
| Developed-Semi-Natural |                        |
| Developed-Unnatural    |                        |
| Urbanized              |                        |

Map 3  
 Big Arbor Vitae Lake  
 Vilas County, Wisconsin  
**2011 Shoreline  
 Condition**



Project Location in Wisconsin

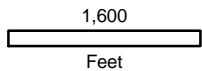
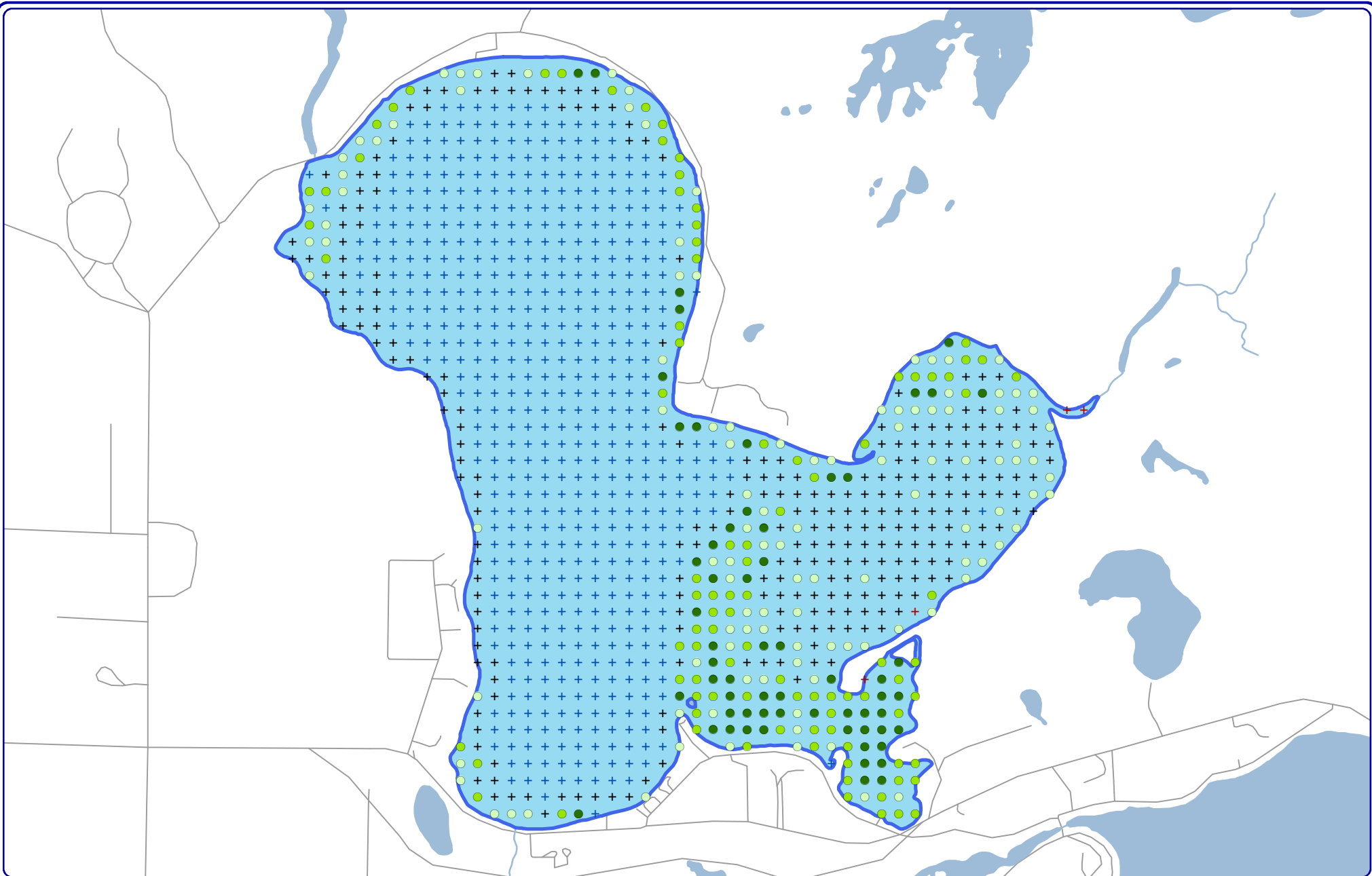
**Legend**

- Muck
- Sand
- Rock
- + Too Deep, No Data
- + Non-navigable, No Data

**Map 4**  
**Big Arbor Vitae Lake**  
 Vilas County, Wisconsin  
**2011 PI Survey:**  
**Substrate Types**

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Sources:  
 Roads and Hydro; WDNR  
 Map Date: October 3, 2012  
 Filename: Map4\_BAV\_SubstratePI.mxd



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Sources:  
 Roads and Hydro; WDNR  
 Map Date: October 3, 2012  
 Filename: Map5\_BAV\_TRF1P1.mxd

**Legend**

- |                           |                          |
|---------------------------|--------------------------|
| ○ Total Rake-fullness = 1 | + No Vegetation          |
| ● Total Rake-fullness = 2 | + Too Deep, No Data      |
| ● Total Rake-fullness = 3 | + Non-navigable, No Data |

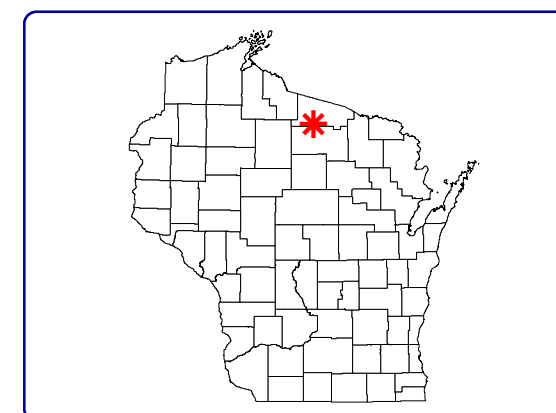
Map 5  
 Big Arbor Vitae Lake  
 Vilas County, Wisconsin  
**2011 PI Survey:**  
**Aquatic Vegetation Distribution**

# Map 6

## Big Arbor Vitae Lake

Vilas County, Wisconsin

### Emergent & Floating-leaf Aquatic Plant Communities



Project Location in Wisconsin

#### Legend

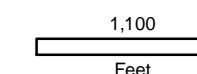
##### Small Plant Communities

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

##### Large Plant Communities

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

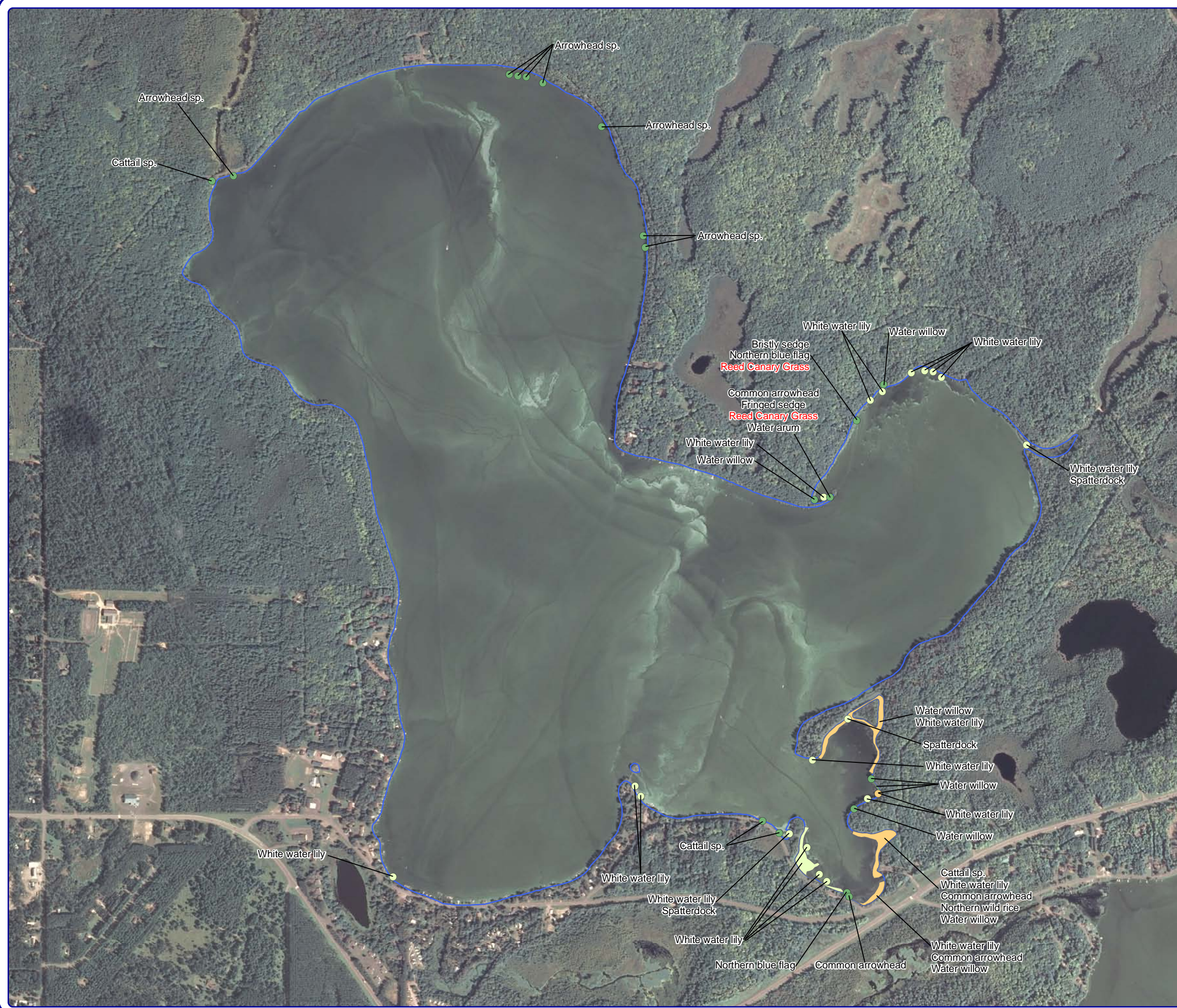
Non-native Species Indicated in Red

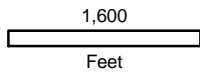
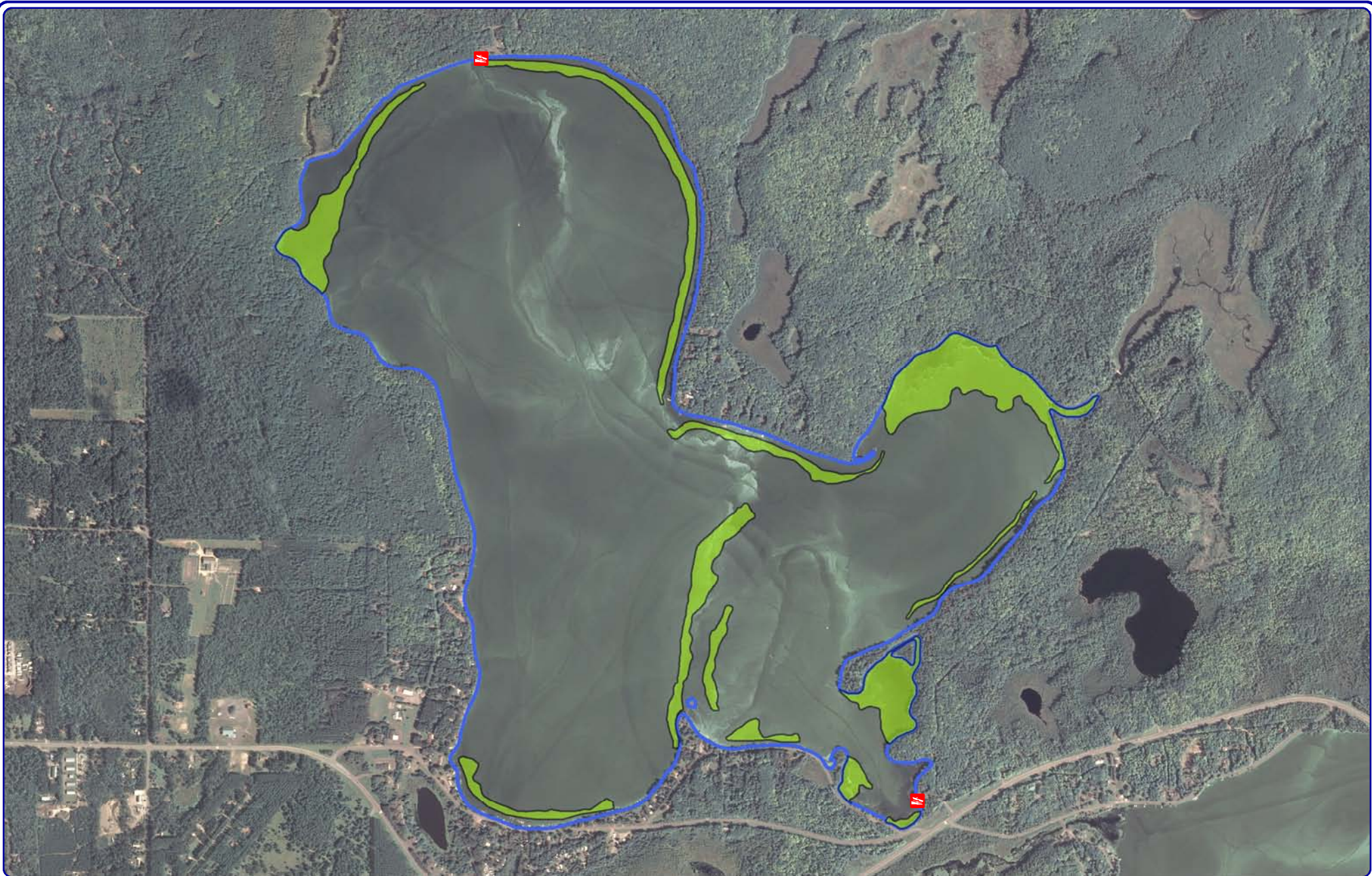


Sources:  
Hydro: WDNR  
Orthophotography: NAIP, 2010  
Map Date: October 3, 2012  
Filename: Map6\_BAV\_Comm.mxd

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Sources:  
 Roads and Hydro: WDNR  
 Map Date: October 3, 2012  
 Filename: Map7\_BAV\_NuisanceNatives12.mxd



Project Location in Wisconsin

**Legend**

August 2012

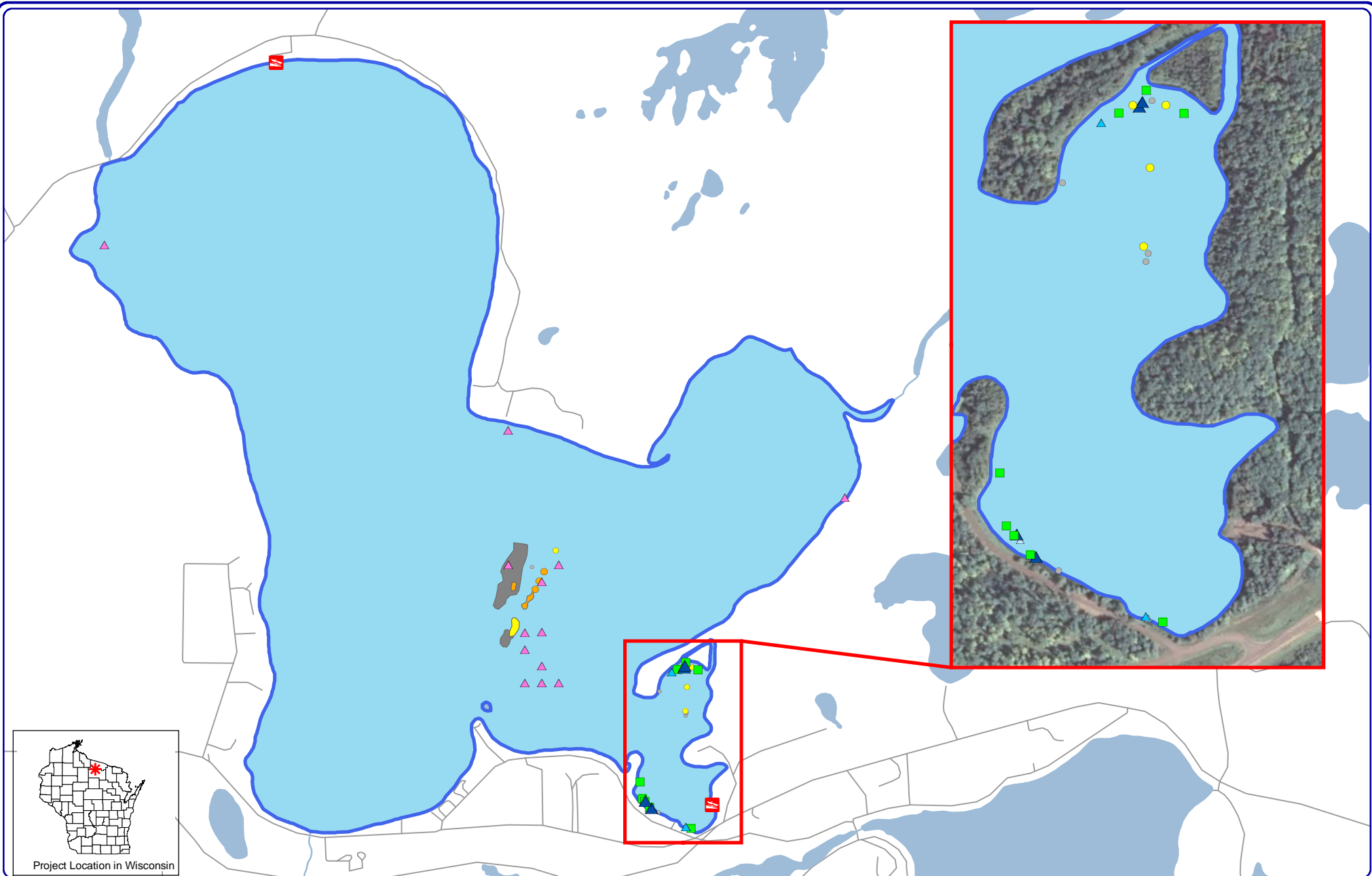


Surface-matted Native Aquatic Vegetation  
 (*C. demersum*, *M. sibiricum*, *E. canadensis*)



Public Access

Map 7  
 Big Arbor Vitae Lake  
 Vilas County, Wisconsin  
**Excessive Native  
 Aquatic Plant Growth  
 August 2012**



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Sources:  
 Roads and Hydro: WDNR  
 Map Date: October 3, 2012  
 Filename: Map8\_BAV\_CLP\_PB\_Summer11.mxd

**Legend**

- |                            |                   |                                 |                  |                           |  |
|----------------------------|-------------------|---------------------------------|------------------|---------------------------|--|
| <b>Onterra 2011 Survey</b> |                   | <b>Vilas County 2009 Survey</b> |                  | <b>GLIFWC 2008 Survey</b> |  |
| ● Single or Few Plants     | ☼ Scattered       | ▲ PI Survey CLP Location        | ▲ Single Plant   | ■ CLP Location            |  |
| ● Clumps of Plants         | ☼ Dominant        | ▲ 1 - 10 Plants                 | ▲ 10 - 50 Plants |                           |  |
| ● Small Plant Colony       | ☼ Highly Dominant |                                 |                  |                           |  |

**Map 8**

**Big Arbor Vitae Lake**  
 Vilas County, Wisconsin  
**Curly-leaf Pondweed**  
**Survey Results**