

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: December 7, 2015
 Filename: Map1_LSG_Location.mxd

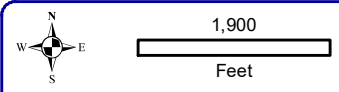
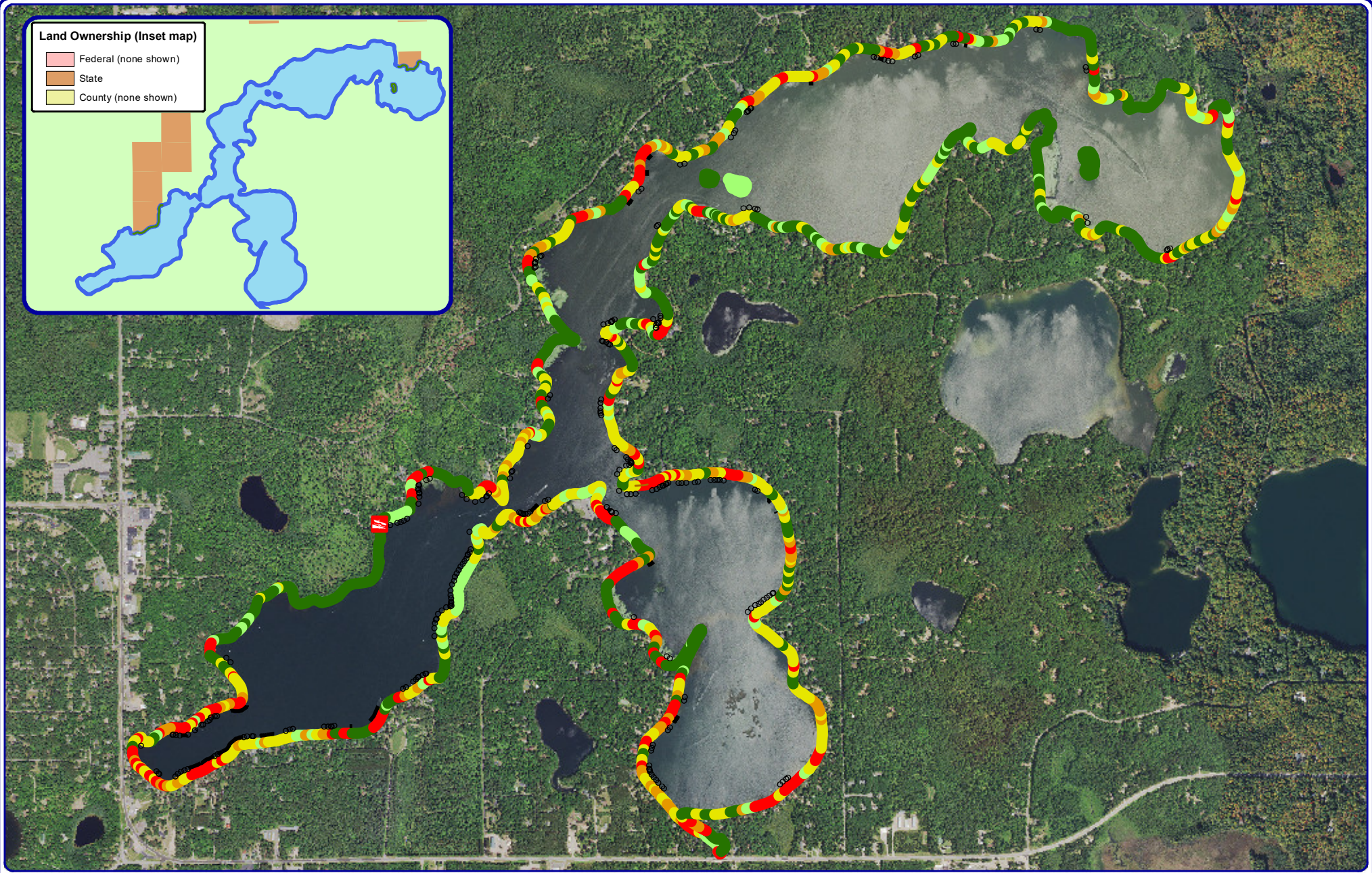
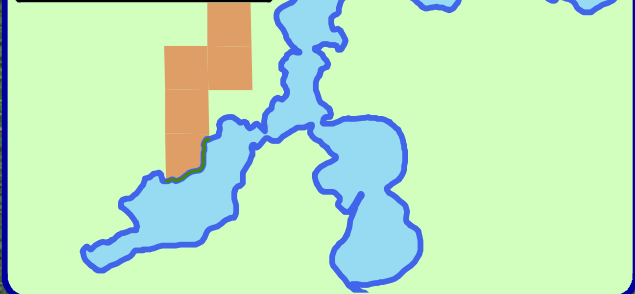


- Legend**
- Little Saint Germain ~972 acres
WDNR Definition
 - WDNR Managed Lands
 - County Forest
 - Public Access Location

Map 1
 Little Saint Germain Lake
 Vilas County, Wisconsin
**Project Location
 & Lake Boundaries**

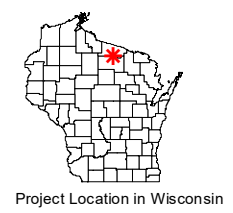
Land Ownership (Inset map)

- Federal (none shown)
- State
- County (none shown)



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Sources:
 Hydro: WDNR
 Orthophotography: NAIP, 2015
 Shoreline Assessment: Onterra, 2016
 Map Date: December 9, 2016
 Filename: Map3_LSG_ShorelandCondition_2016.mxd



Legend

- Natural/Undeveloped
- Developed-Natural
- Developed-Semi-Natural
- Developed-Unnatural
- Urbanized

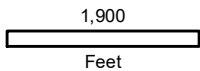
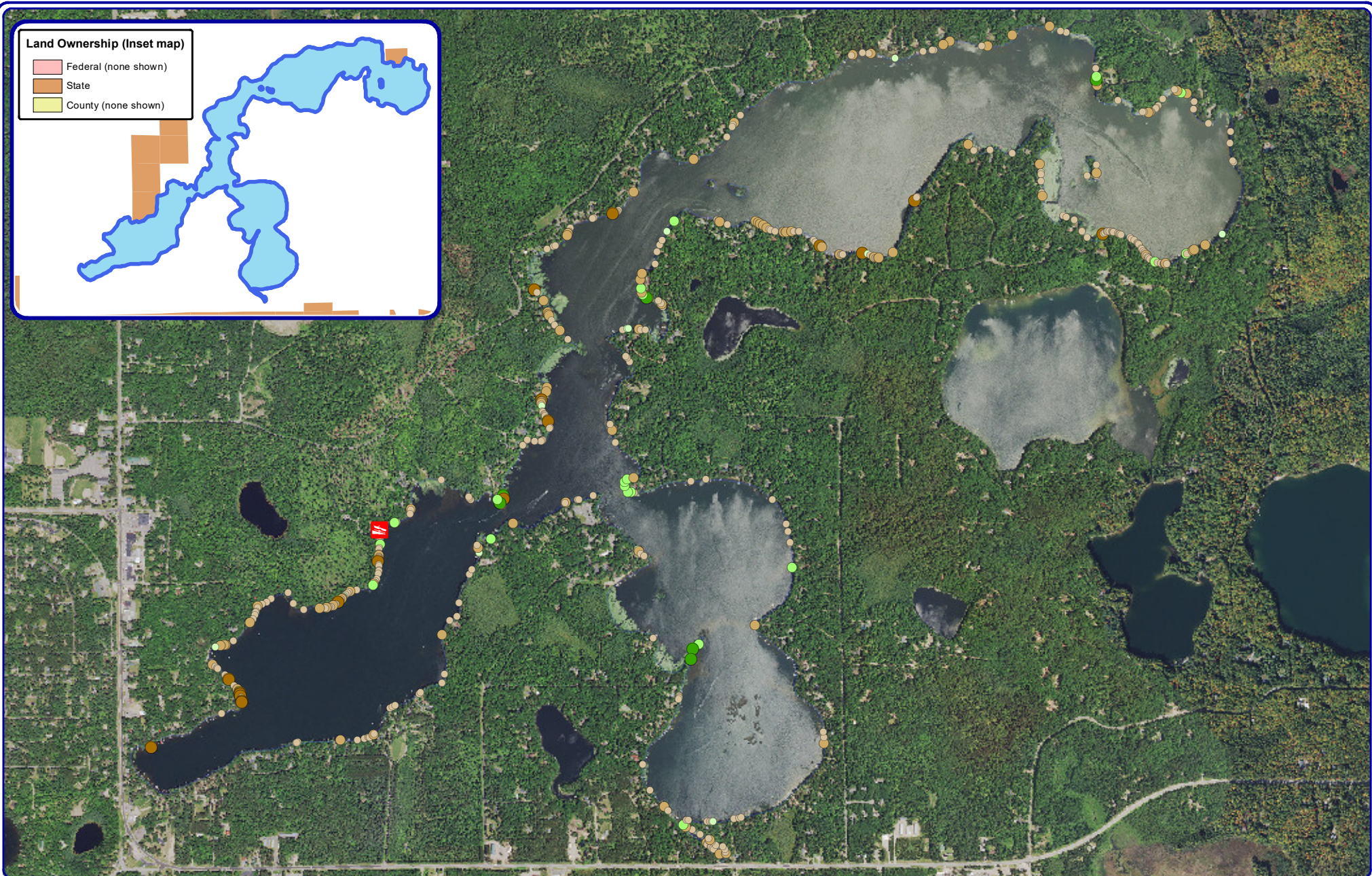
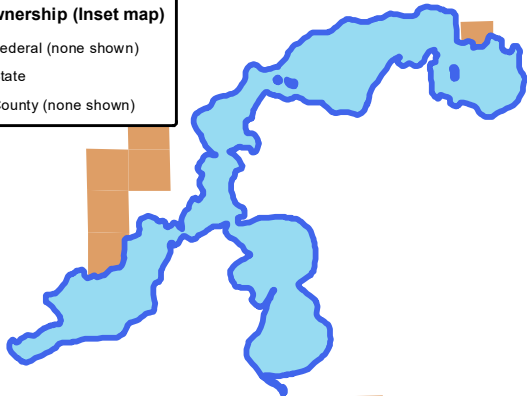
Seawall

- Rip-Rap
- Wood/Masonry/Metal

Map 2
 Little Saint Germain Lake
 Vilas County, Wisconsin
**2016 Shoreland
 Condition**

Land Ownership (Inset map)

- Federal (none shown)
- State
- County (none shown)



Project Location in Wisconsin

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Sources:
 Hydro: WDNR
 Orthophotography: NAIP, 2015
 CWH Survey: Onterra, 2016
 Map Date: December 9, 2016
 Filename: Map4_LSG_CWH_2016.mxd

Legend

2-8 Inch Pieces

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

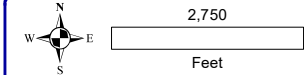
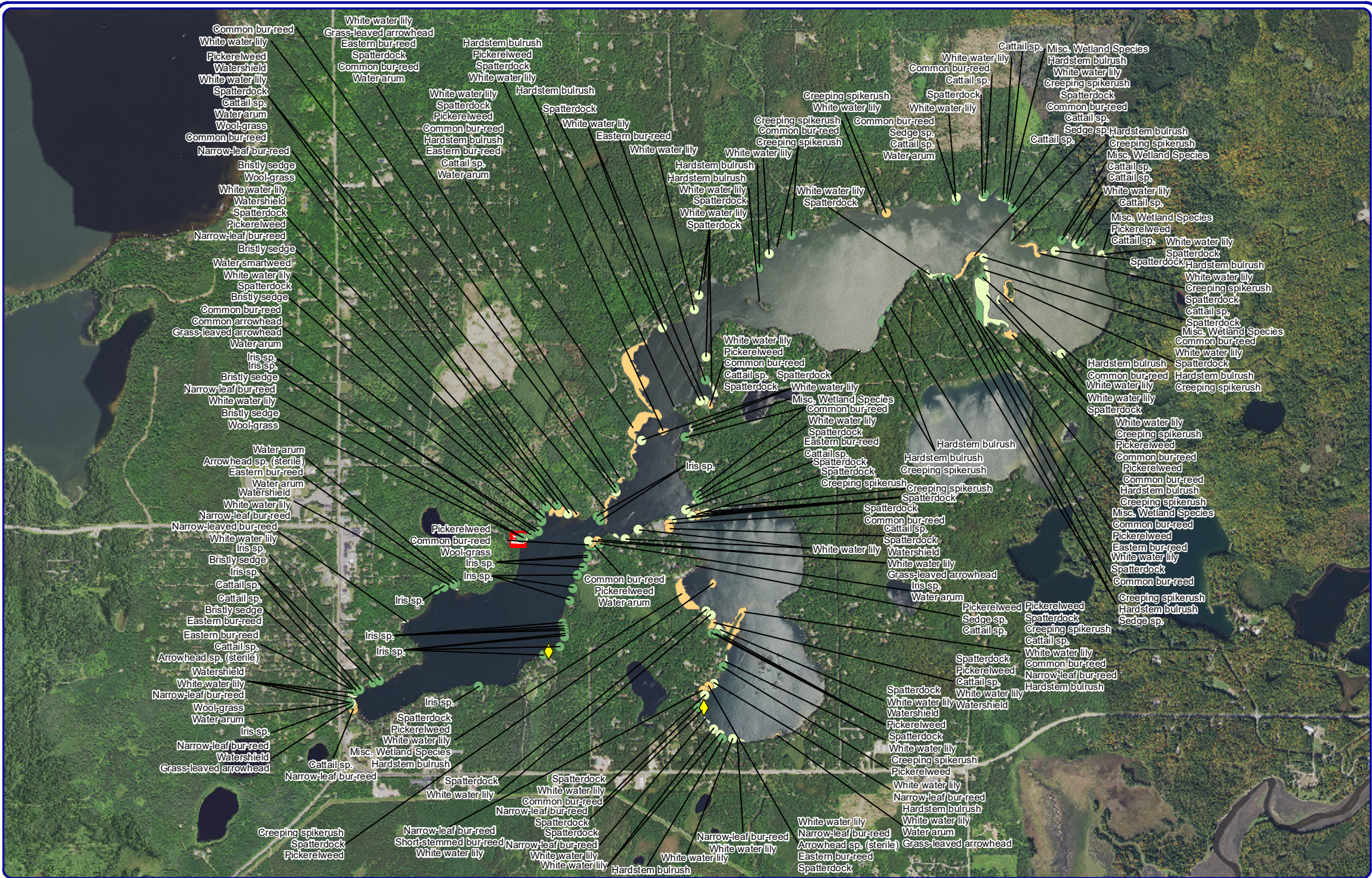
8+ Inch Pieces

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

Cluster of Pieces

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

Map 3
Little Saint Germain Lake
 Vilas County, Wisconsin
Coarse Woody
Habitat



Project Location in Wisconsin

Sources:
 Hydro: WDNR
 Aquatic Plants: Onterra, 2016
 Orthophotography: NAIP, 2015
Map date: November 10, 2016
 Filename: Map5_LSG_Comm_2016.mxd

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Legend

Small Plant Communities

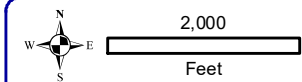
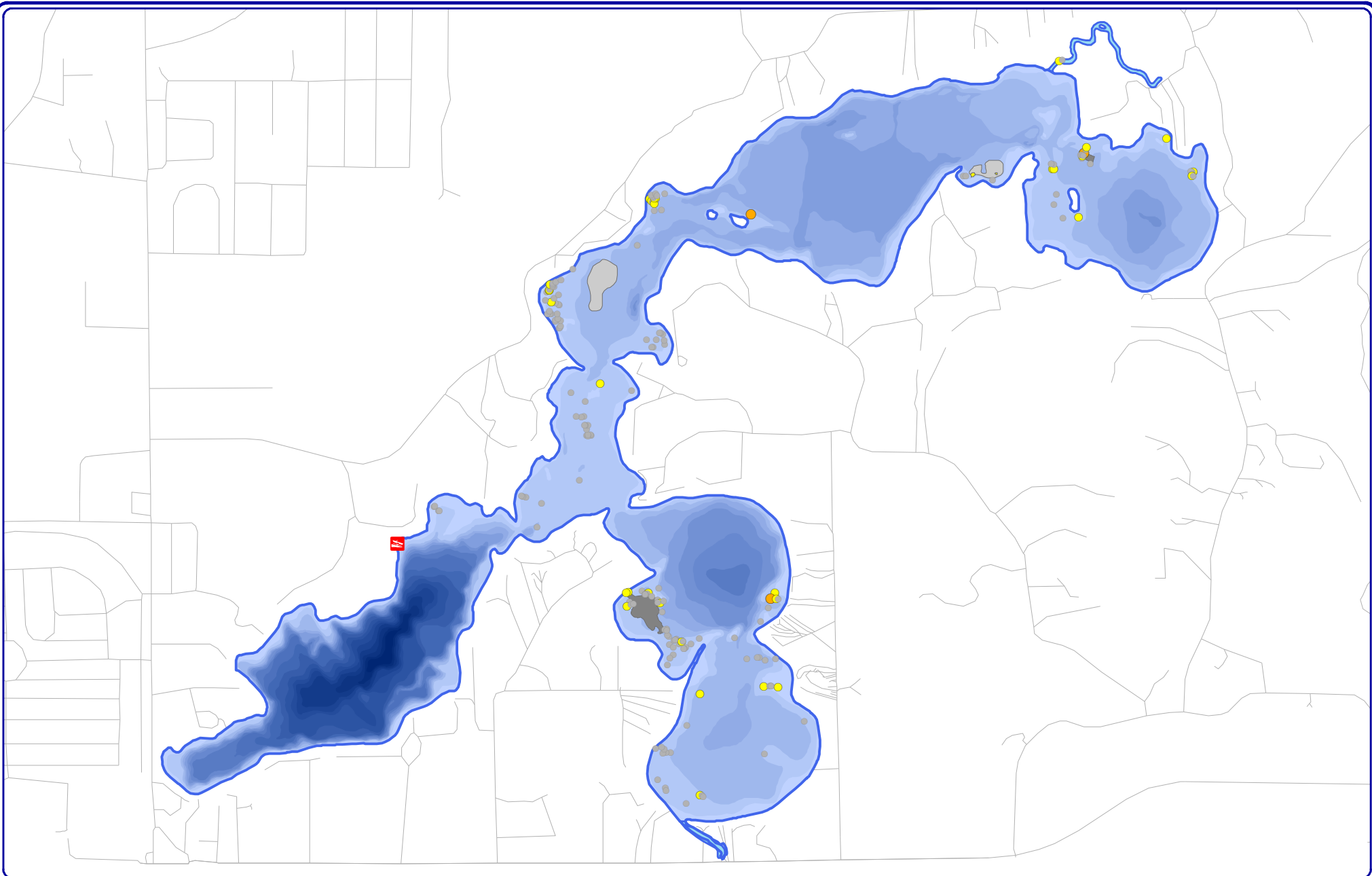
- Emergent
- Floating-leaf
- Mixed Floating-leaf & Emergent
- ◆ Pale yellow iris

Large Plant Communities

- ◀▶ Emergent
- ◀▶ Floating-leaf
- ◀▶ Mixed Floating-leaf & Emergent

Map 4

Little Saint Germain
 Vilas County, Wisconsin
Aquatic Plant Communities



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Sources:
 Roads and Hydro: WDNR
 Aquatic Plants: Onterra, 2017
 Map Date: July 7, 2017
 File Name: LSG_CLP_June17.mxd

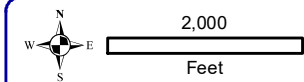
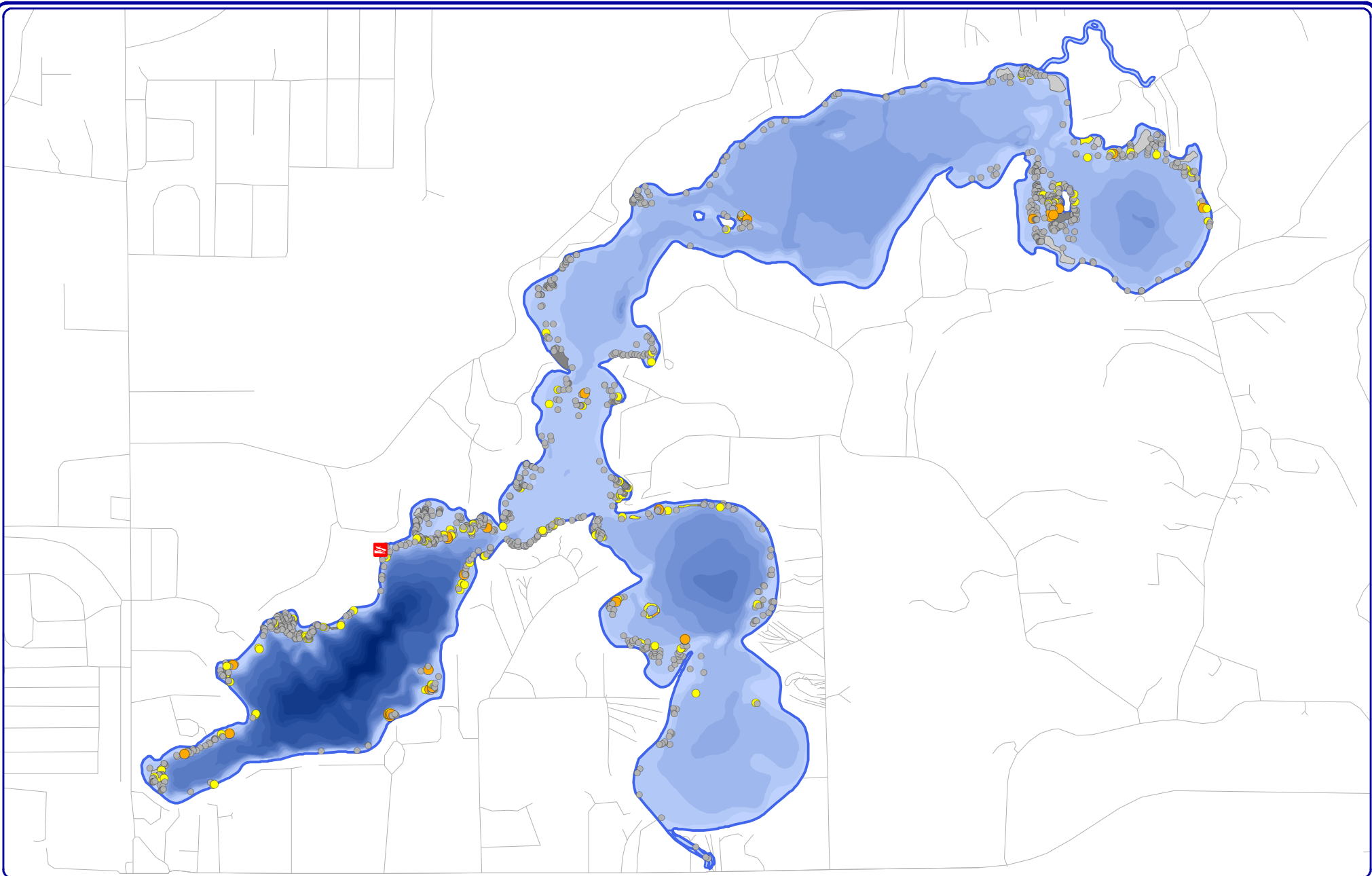


Project Location in Wisconsin

Legend

- | | | | |
|---|------------------------|---|----------------------|
|  | Highly Scattered |  | Single or Few Plants |
|  | Scattered |  | Clump of Plants |
|  | Dominant |  | Small Plant Colony |
|  | Highly Dominant (none) | | |
|  | Surface Matting (none) | | |

Map 5
Little Saint Germain Lake
 Vilas County, Wisconsin
June 2017
CLP Survey Results



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Sources:
 Roads and Hydro: WDNR
 Aquatic Plants: Onterra, 2017
 Map Date: September 12, 2017
 File Name: LSG_EWM_PB_Sept17.mxd

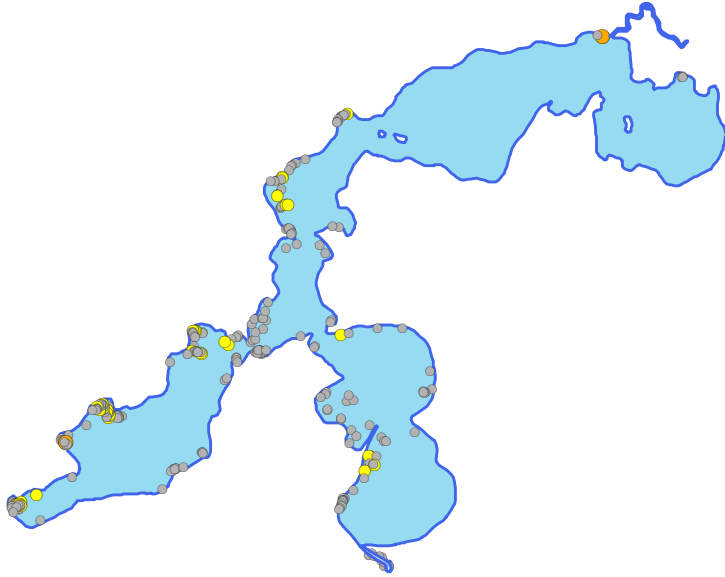


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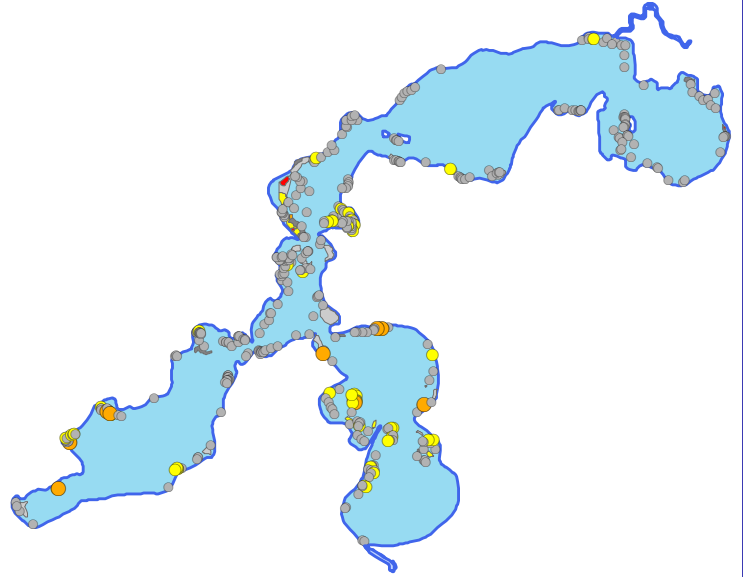
- | | | | |
|--|------------------------|--|----------------------|
| | Highly Scattered | | Single or Few Plants |
| | Scattered | | Clump of Plants |
| | Dominant | | Small Plant Colony |
| | Highly Dominant | | |
| | Surface Matting (none) | | |

Map 6
 Little Saint Germain Lake
 Vilas County, Wisconsin
September 2017
EWM Survey Results

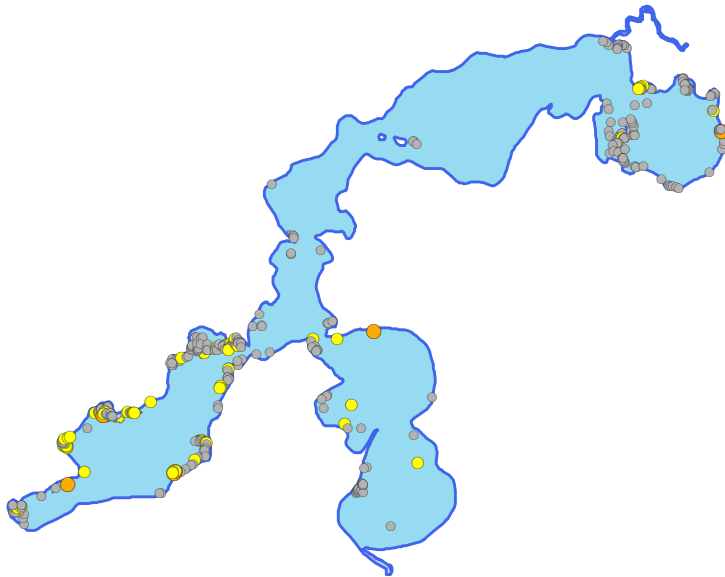
2014



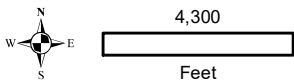
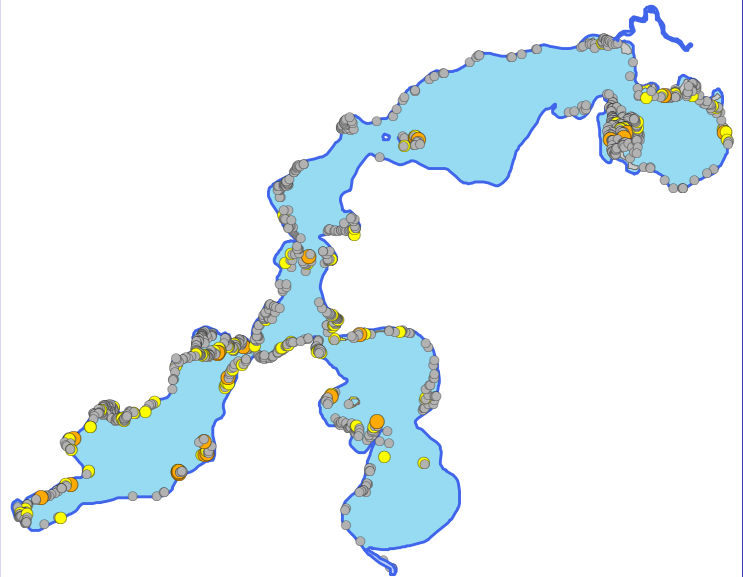
2015



2016



2017



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Sources:
 Roads and Hynd: WDNR
 Aquatic Plants: Onterra, 2016
 Map Date: September 2, 2016
 Filename: Map8_LSG_EWM_PB_2014-2016.mxd

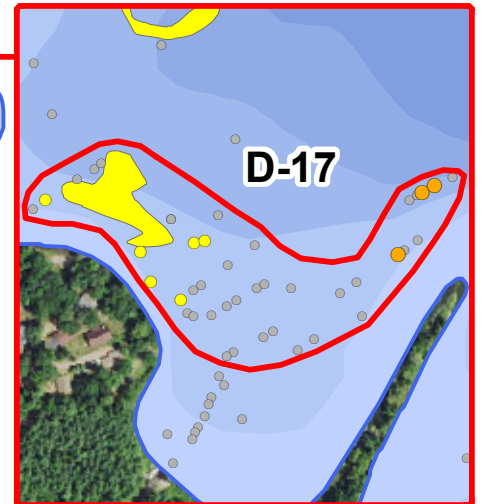
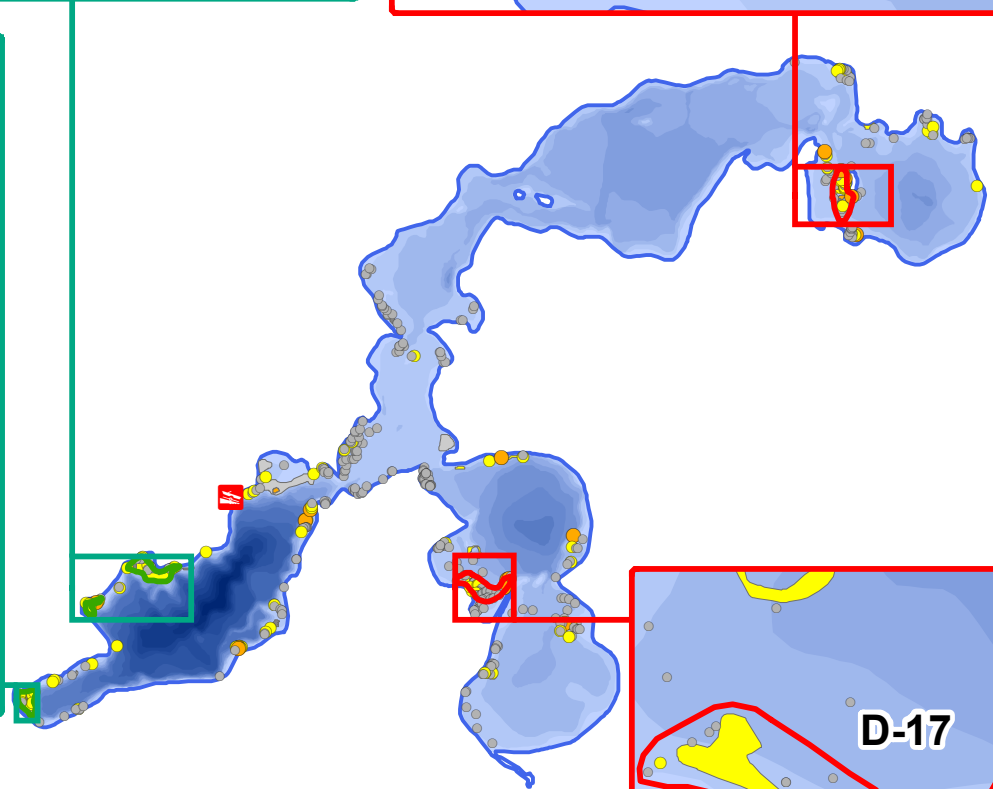
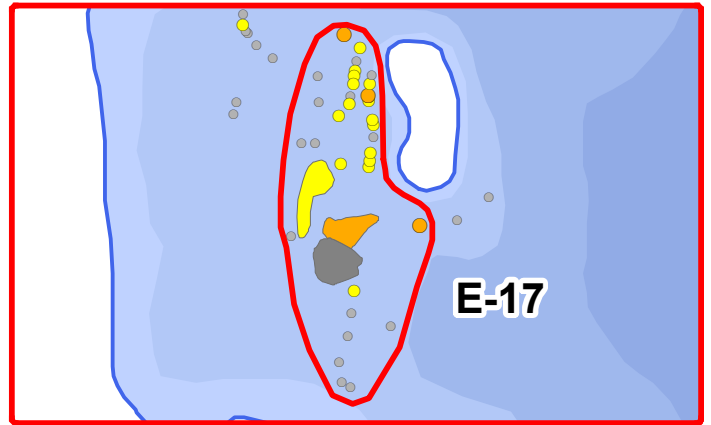
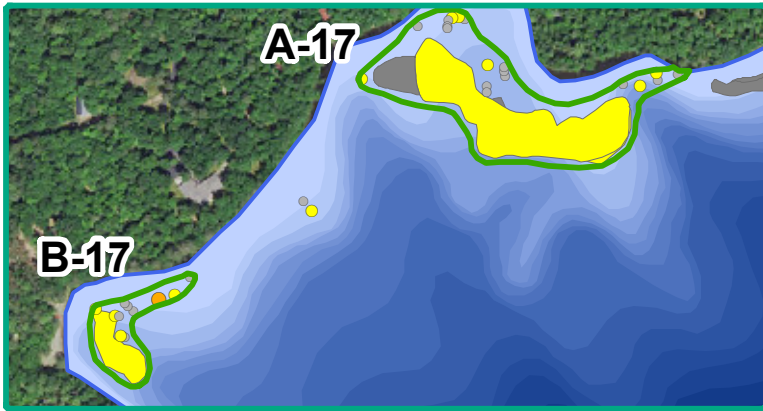
Legend

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

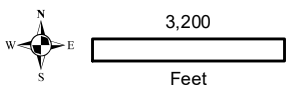
Map 7

Little Saint Germain Lake
 Vilas County, Wisconsin

EWM Peak-Biomass
2014-2017 Comparison



2017 Final Hand-Harvest Areas				
Site	Final Acres	Ave Depth (feet)	Sediment	Obstructions / Notes
A-17	3.6	6.0	soft/organic	shallow rock bars in vicinity
B-17	0.8	7.0	soft/organic	moderate to heavy native vegetation
C-17	2.1	5.0	soft/organic	moderate to heavy native vegetation
D-17	4.8	4.0	soft/organic	moderate to heavy native vegetation
E-17	4.6	3.0	soft/organic	moderate to heavy native vegetation
15.9				



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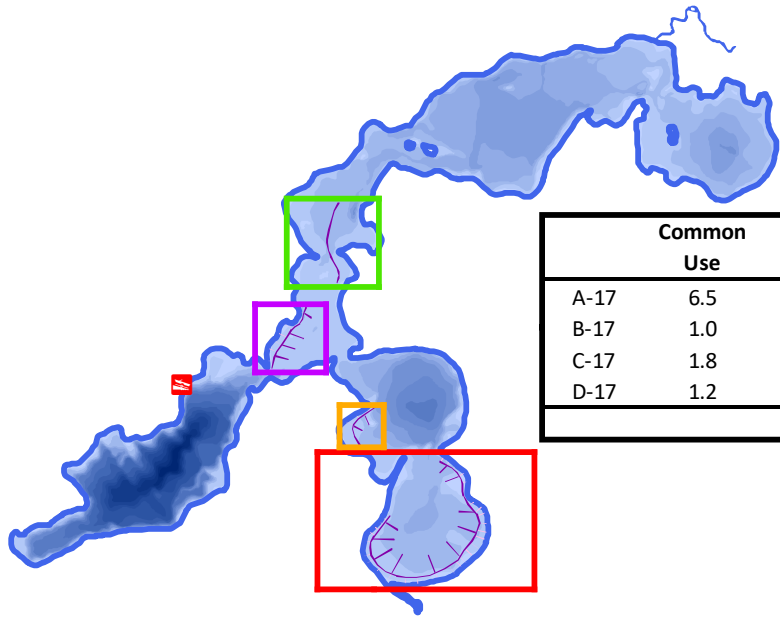
Sources:
 Roads and Hynd: WDNR
 Aquatic Plants: Onterra, 2017
 Map Date: July 7, 2017

Legend

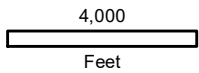
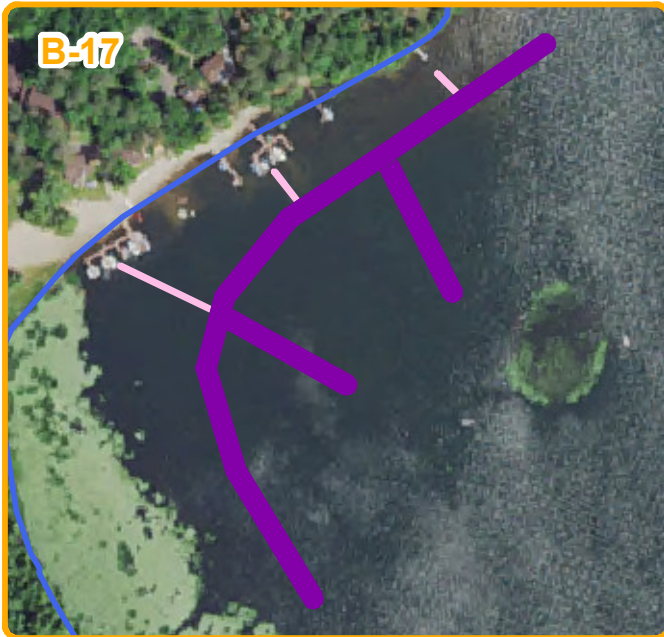
- Highly Scattered
- Scattered
- Dominant
- Highly Dominant
- Surface Matting
- Single or Few Plants
- Clumps of Plants
- Small Plant Colony
- DASH Harvest Sites (6.5 acres)
- Hand Harvest Sites (9.4 acres)

Map 8
 Little Saint Germain Lake
 Vilas County, Wisconsin

Final 2017 Hand-Harvesting Control Strategy



	Common Use	Inward Lanes	Total
A-17	6.5	0.8	7.2
B-17	1.0	0.1	1.1
C-17	1.8	0.2	2.0
D-17	1.2	0.0	1.2
			11.5



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Sources:
 Hydro & Bathymetry: WDNR
 Orthophotograph: NAIP 2015
 Map Date: January 16, 2017
 Filename: LSG_2017_Harvest.mxd

Legend

- Mechanical Harvest Plan**
- Common Use Center and Lakeward Lanes (30-ft wide)
 - Individual Use Lanes (10-ft wide)

Map 9

Little Saint Germain Lake
 Vilas County, Wisconsin

Mechanical Harvesting Plan