YELLOW BIRCH LAKE SUMMARY AND CONCLUSIONS

Lake-wide there was a 34.1% reduction in EWM after the treatment. The 2008 treatment on Yellow Birch Lake consisted of treating a bay locally known as *The Bullpen* using a multi-dose herbicide regime. The lakeward part of the 12.5-acre site was treated at 150 lbs/acre and the shallow, sheltered shoreward part was treated at 100 lbs/acre. The treatment reduced the surface matting colony to a dominant colony (two level reductions in density) and eliminated the EWM along most of the shore from the public boat landing (locally known as the *T-docks*) into the bullpen (Map 19, Table 10).

The lakeward part of this treatment (YBL-A2) showed a statistically significant reduction in EWM after the treatment, but the shoreward part (YBL-A1) was not found to be significant (Figure 26). Before the treatment, approximately half of all occurrences contained rake fullness rating of greater than one. After the treatment, only three of the 24 (12.5%) contained rake fullness ratings of greater than one (Figure 27), showing a large reduction in EWM density within the treatment areas. The remaining EWM within this treatment area is proposed to be treated in 2009 (YBL-B-09, Map 19) at 150 lbs/acre.

Parts of the Eagle River from the boat landing to Highway 32/45/17, were not surveyed by volunteers in 2007 and subsequently there was not a full understanding of the EWM within that area. Therefore no treatments were proposed within this area during 2008. A thorough peak biomass survey conducted in 2008 revealed that much EWM exists in the area and several sites are proposed for treatment in 2009 (Map 19). Also, three small and isolated areas in Yellow Birch Lake are proposed for treatment in 2009 (Map 19).

Two native species declined in frequency within the treatment areas since 2007: Illinois pondweed and wild celery (Figure 28). Similar to Illinois pondweed, wild celery is a monocot and therefore should not be affected by the dicot-specific herbicide. However, five native species were found to have significantly increased within the treatment area, including large increases in coontail (dicot), common waterweed, fern pondweed, Vasey's pondweed (species of special concern in Wisconsin), and flat-stemmed pondweed (Figure 28).

Table 10. Evaluation of 2008 EWM treatment on Yellow Birch Lake following success criteria standards. N= Number of point-intercept sub-sample locations.

			EWM % Occurrence			EWM Density			
Site	Acres	Dose	N	% Change	Criteria Met	Before	After	Criteria Met	Notes
YBL - A1	6.9	100	23	12.5	No - NSS	D=3	D=2 & D=1	Yes	
YBL - A2	5.6	150	25	48.0	No	D=3 & D=2	D=1	Yes	

NSS = Not Statistically Significant

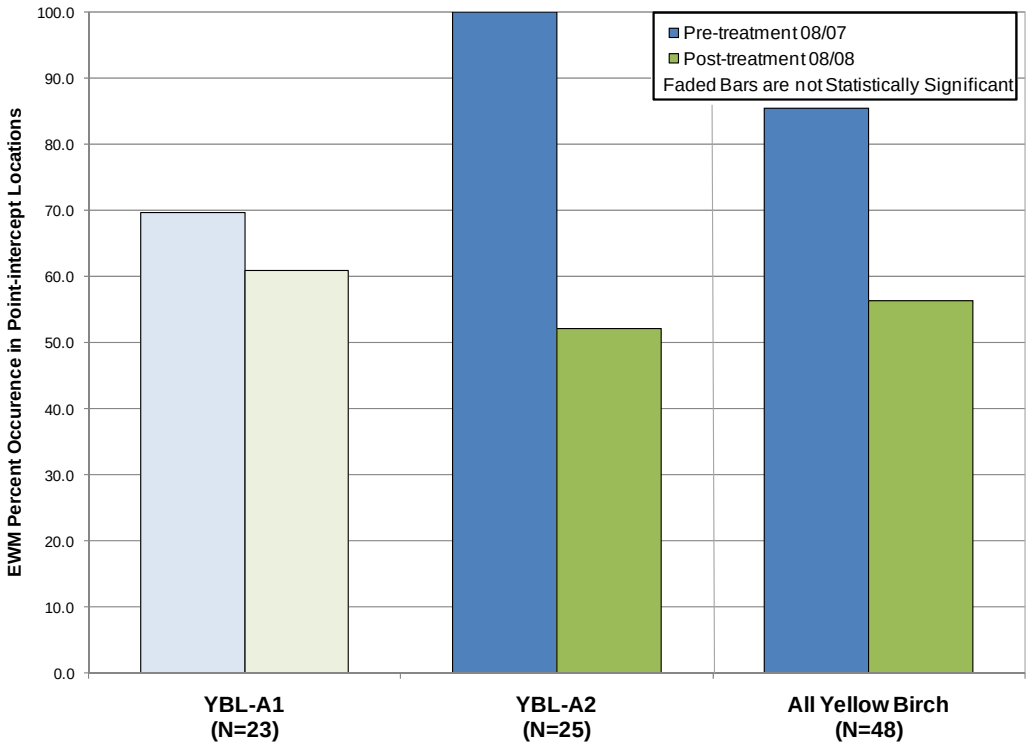


Figure 26. EWM percent occurrence in point-intercept locations displayed by treatment site on Yellow Birch Lake. Statistical significance is determined by Chi-square distribution analysis (alpha = 0.05).

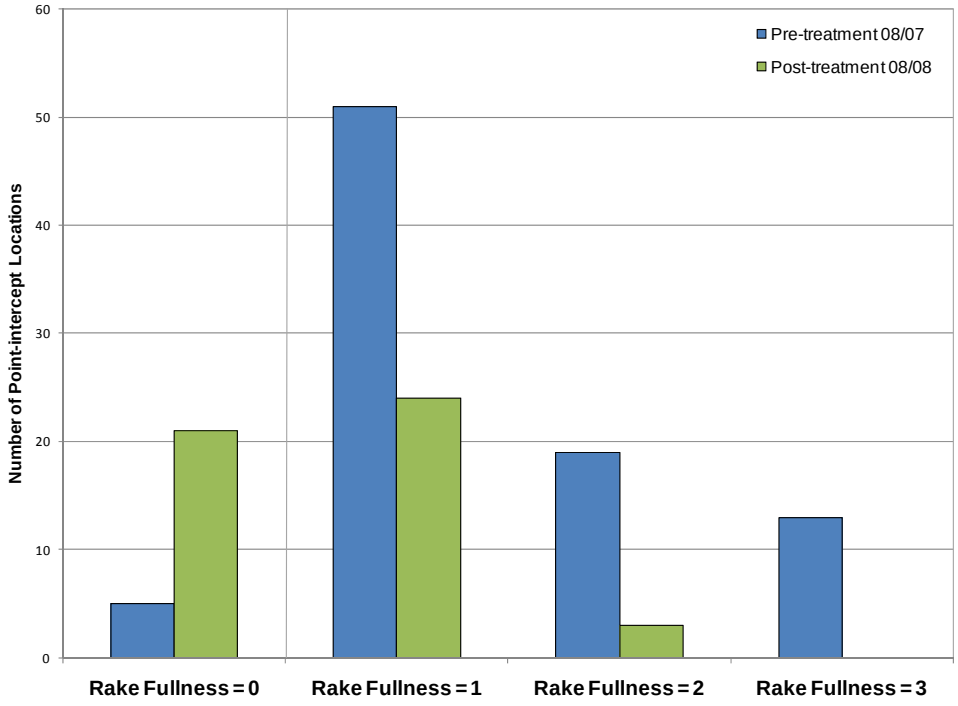


Figure 27. EWM rake fullness distribution within treated areas on Yellow Birch Lake.

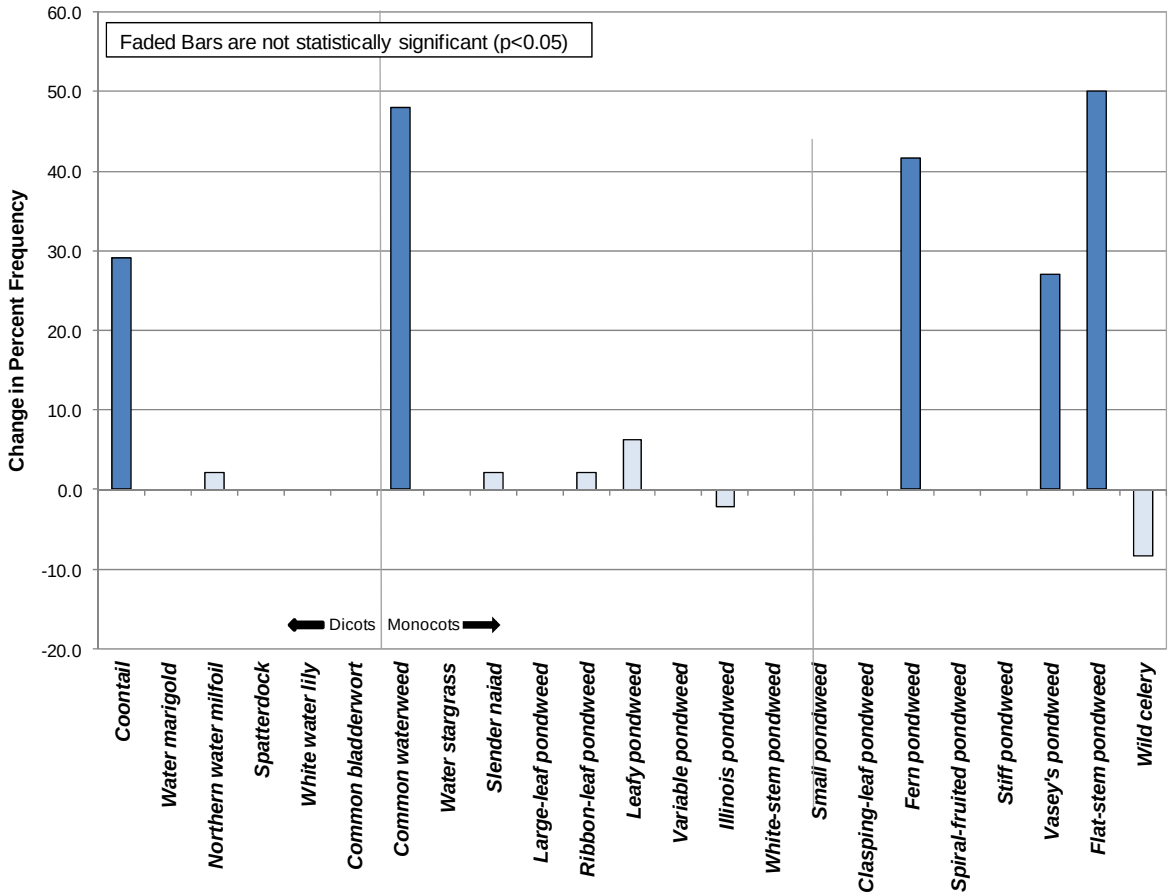
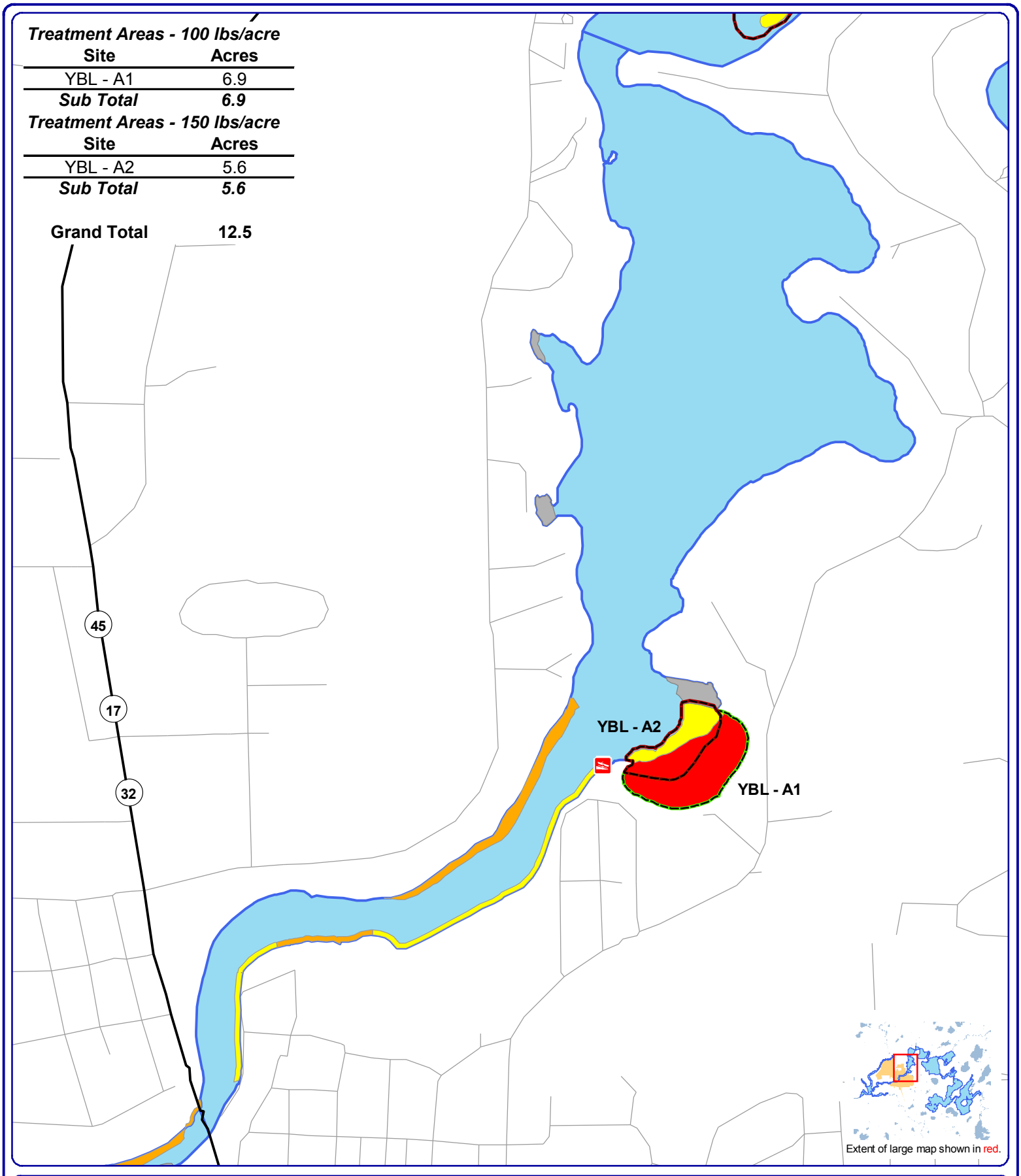


Figure 28. Native plant change in percent frequency from 2007 to 2008 within treatment areas on Yellow Birch Lake.



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Source:
Roads & Hydro: WDNR
Aquatic Plants: Onterra, 2008
Map Date: December 31, 2008
File Name: ERC_2008Treat_YBL.mxd

Legend

2007 EWM Colonies
- Highly Scattered *(none found)*
- Scattered
- Dominant
- Highly Dominant *(none found)*
- Surface Matting

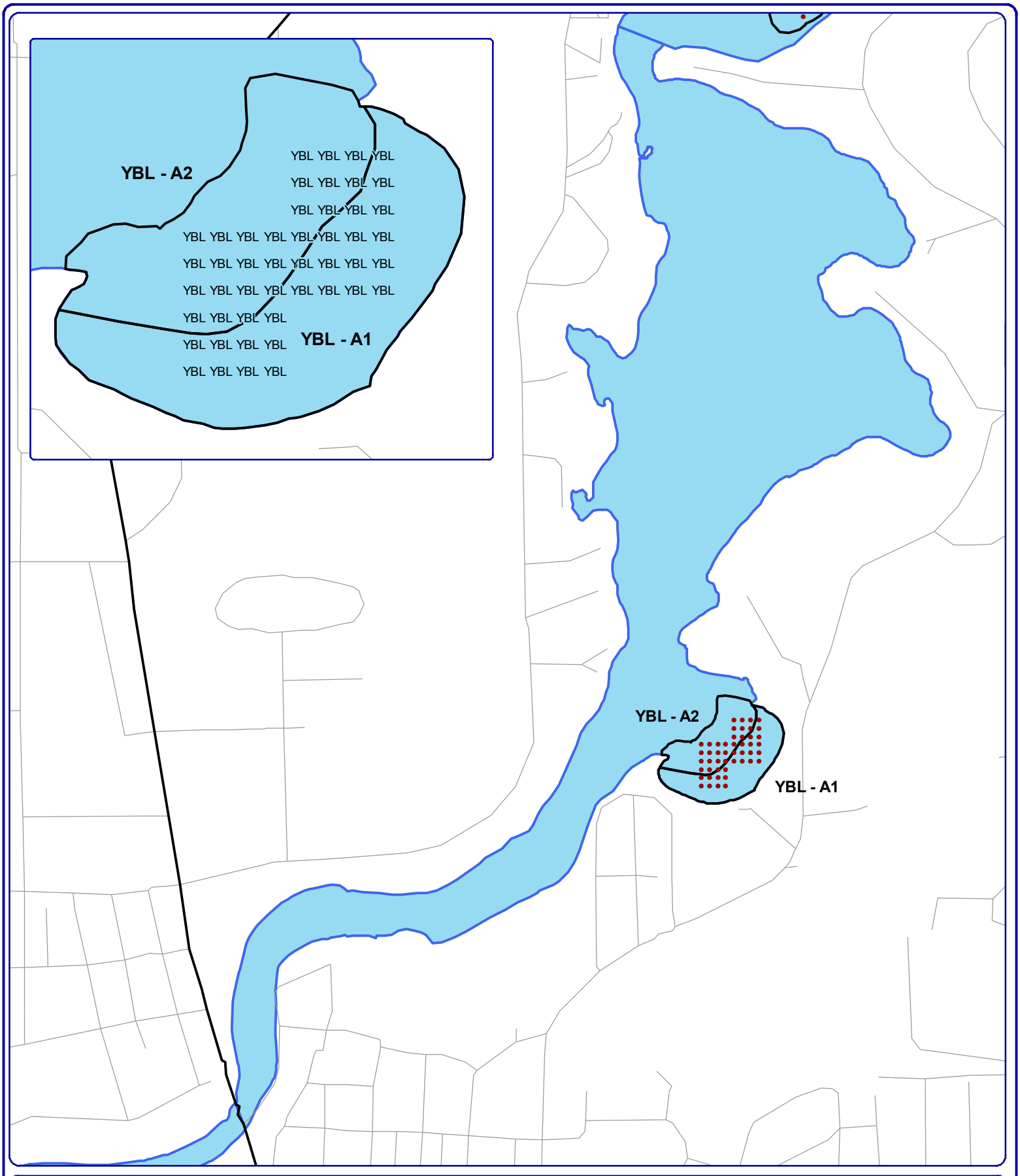
2008 Treatment Areas
- Proposed Treatment Area (150 lbs/acre)
- Proposed Treatment Area (100 lbs/acre)

Map 9

Yellow Birch Lake

Vilas County, Wisconsin

2008 EWM Final Treatment Areas



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Sources:
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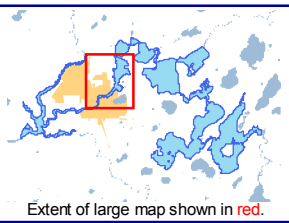
Aquatic Plants: Onterra, 2008
Map date: December 30, 2008
File Name: ERC_YBL_EWM_Treat_T08_PI.mxd


Extent of large map shown in red.

Legend

\# Point-intercept sub-sample location

2008 EWM Treatment Area

Appendix A

Yellow Birch Lake

Vilas County, Wisconsin

2008 EWM Treatment Point-Intercept Monitoring Locations