

CATFISH LAKE SUMMARY AND CONCLUSIONS

There was a significant decline in EWM on Catfish Lake after the treatment (Figure 9). The density of EWM at all sites on Catfish Lake decreased by at least one density level and many sites contained little or no EWM following the treatment. Most of the treatment sites on the lake were relatively small and contained less than eight point-intercept locations. Therefore these sites were not considered sufficient for analysis individually. The two sites that were large enough to run chi square statistical analysis on were: Cat-A and Cat-C. Both of these sites had a significant decline in EWM after the treatment. The lake as a whole had a 76.4% reduction in EWM after the treatment. Figure 10 shows that 64 sub-sample locations contained EWM before the treatment, and only 16 contained EWM following the treatment. Additionally, none of the sub-sample locations had a rake fullness rating of greater than one after the treatment (Figure 10).

Table 3 shows that the only four of the 24 treatment areas on Catfish Lake did not meet the qualitative treatment criteria. The 2008 peak biomass survey revealed a few new EWM colonies within Catfish Lake that are proposed to be treated in 2009 (Map 12).

Table 3. Evaluation of 2008 EWM treatment on Catfish Lake following success criteria standards. N= Number of point-intercept sub-sample locations.

Site	Acres	Dose	EWM Occurrence			EWM Density			Notes
			N	% Change	Criteria Met	Before	After	Criteria Met	
Cat - A	2.6	100	8	100.0	Yes	D=2	Few	Yes	
Cat - B	0.7	150	4	100.0	ISS	D=2	Single	Yes	
Cat - C	15.5	150	48	67.9	Yes	D=2 & D=1	D=1 & Few	Yes	One D=1 colony was located on Margins of TA. Otherwise only few EWM plants observed
Cat - D	1.3	150	4	N/A	N/A	D=2	D=1	Yes	TA was added during spring survey and therefore data was not collected in August '07.
Cat - E	1.3	150	4	100.0	ISS	D=1	D-2 & Scat	No	Center colony is D=2, but rest of colony only contains scattered EWM.
Cat - F	0.5	150	1	100.0	ISS	D=2	None	Yes	
Cat - G	1.8	150	4	66.7	ISS	D=1	Few	Yes	
Cat - H	0.2	150	1	100.0	ISS	D=2	Single	Yes	
Cat - I	0.2	150	1	100.0	ISS	D=2	None	Yes	
Cat - J	0.7	150	4	100.0	ISS	D=2	Few	Yes	Most of the EWM located was slightly outised TA.
Cat - K	1.6	150	4	100.0	ISS	D=1	None	Yes	
Cat - L	0.3	150	1	100.0	ISS	D=2	None	Yes	
Cat - M	1.6	100	4	100.0	ISS	D=2 & D=1	None	Yes	Few plants observed between Cat-M & Cat-N.
Cat - N	0.2	150	1	100.0	ISS	D=1	None	Yes	
Cat - O	1.3	150	4	0.0	ISS	D=1	D=1 & Few	Yes	2 sub-sample locations contained EWM in both August surveys.
Cat - P	0.3	150	1	100.0	ISS	D=1	Few	Yes	
Cat - Q	0.2	150	1	100.0	ISS	D=1	D=1	No	
Cat - R	0.9	150	4	0.0	ISS	D=2	Scat & Single	Yes	Scattered EWM colony extends east of '08 TA.
Cat - S	0.9	150	4	50.0	ISS	D=1	Few	Yes	
Cat - T	0.4	150	1	0.0	ISS	D=1	D=1 & Few	No	The single sub-sample location yielded EWM in both August surveys. EWM colony extends northeast outside of TA.
Cat - U	0.6	100	1	N/A	ISS	D=1	D=1 & Scat	No	Treatment effects observed, but EWM colony extends north outside of '08 TA.
Cat - V	1.8	150	4	100.0	ISS	D=1	Scat	Yes	EWM was not observed within sub-sampling surveys. EWM colony observed extending north from '08 TA.
Cat - W	0.7	100	4	100.0	ISS	D=1	Single	Yes	
Voy - D	0.5	150	1	-100.0	ISS	D=1	None	Yes	Single sub-sample location did not yield EWM in August '07, but did in August '08.

ISS = Insufficient Sample Size

During the post treatment survey, native plant frequencies were monitored in Catfish Lake (Figure 11), as discussed in the Treatment Monitoring section above. Three native monocots, coontail, stiff pondweed, and Vasey’s pondweed, were found to have significantly increased since 2007 within the treatment areas (Figure 11). Vasey’s pondweed is of particular interest because it is listed as a species of special concern in Wisconsin. Dicot species are susceptible to the selective herbicide used in 2008. Northern water milfoil, a broad-leaved species, was shown to decline in occurrence within the treatment areas by a statistically significant 7.1% (Figure 11). Another dicot species, coontail, showed an increase in occurrence by over 20% within the treatment areas during the same time period.

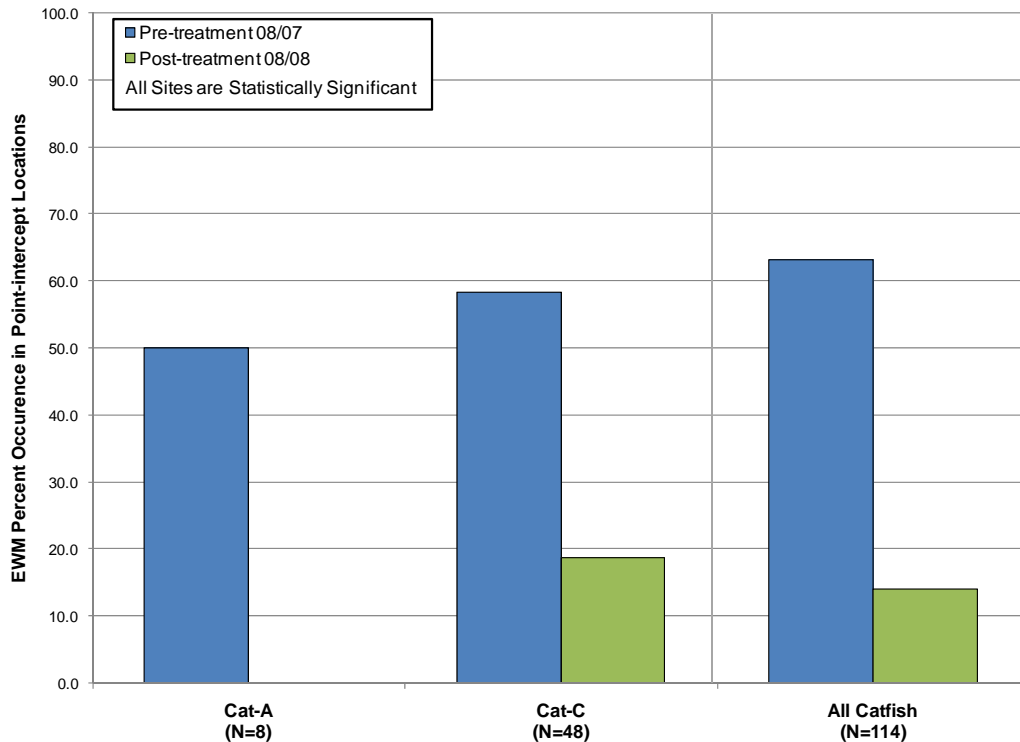


Figure 9. EWM percent occurrence in point-intercept locations displayed by treatment site on Catfish Lake. Please note only those treatment sites with eight or more point-intercept locations are displayed on the graph. Statistical significance is determined by Chi-square distribution analysis (alpha = 0.05).

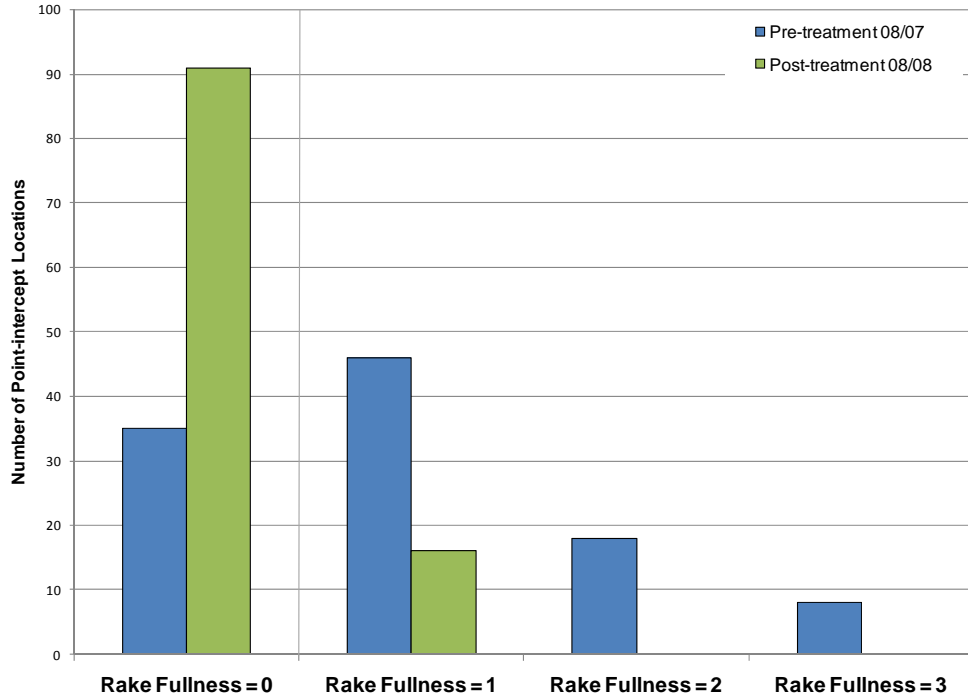


Figure 10. EWM rake fullness distribution within treated areas on Catfish Lake.

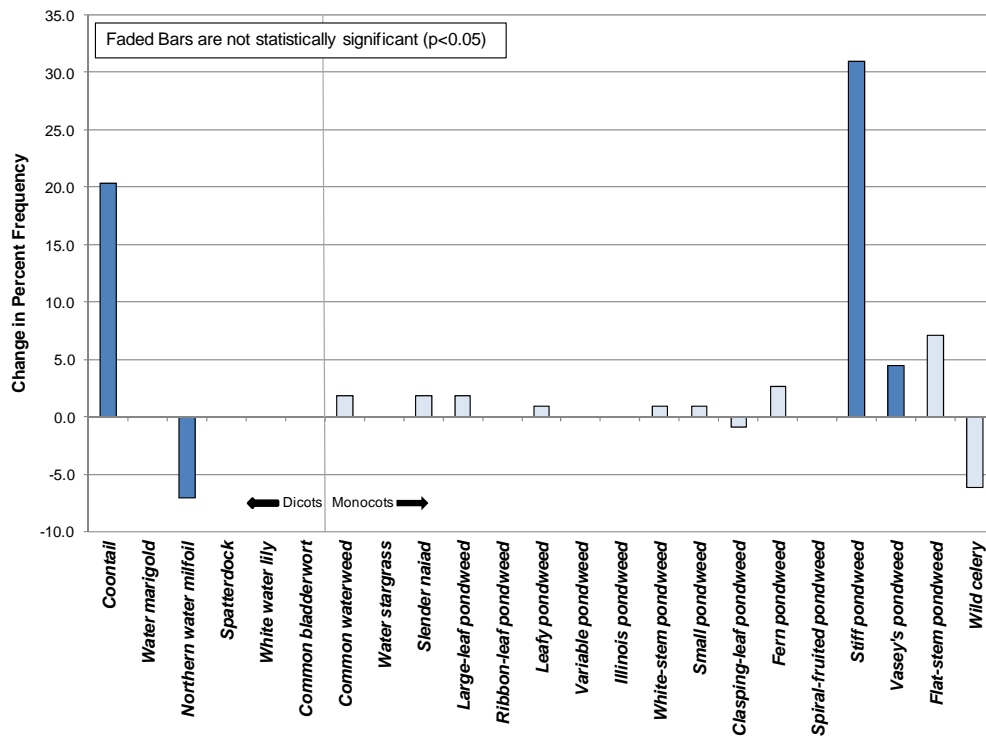


Figure 11. Native plant change in percent frequency from 2007 to 2008 within treatment areas on Catfish Lake.

Treatment Areas - 100 lbs/acre

Site	Acres
Cat - A	2.6
Cat - M	1.6
Cat - U	0.6
Cat - W	0.7

Sub Total 5.4

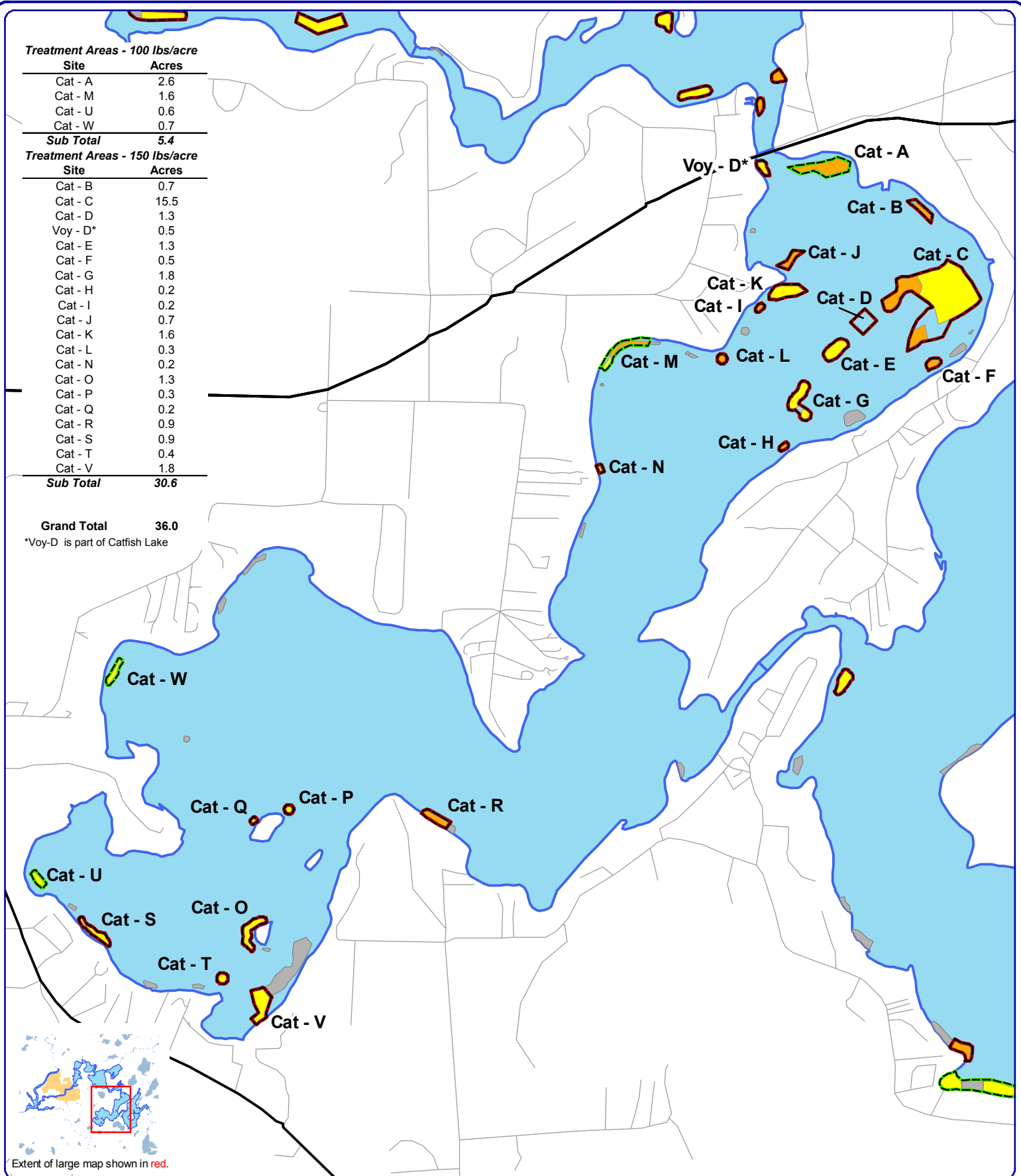
Treatment Areas - 150 lbs/acre

Site	Acres
Cat - B	0.7
Cat - C	15.5
Cat - D	1.3
Voy - D*	0.5
Cat - E	1.3
Cat - F	0.5
Cat - G	1.8
Cat - H	0.2
Cat - I	0.2
Cat - J	0.7
Cat - K	1.6
Cat - L	0.3
Cat - N	0.2
Cat - O	1.3
Cat - P	0.3
Cat - Q	0.2
Cat - R	0.9
Cat - S	0.9
Cat - T	0.4
Cat - V	1.8

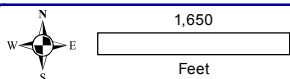
Sub Total 30.6

Grand Total 36.0

*Voy-D is part of Catfish Lake



Extent of large map shown in red.



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Source:
 Roads & Hydro: WDNR
 Aquatic Plants: Onterra, 2008
 Map Date: December 31, 2008
 File Name: ERC_2008Treat_Cat.mxd

Legend

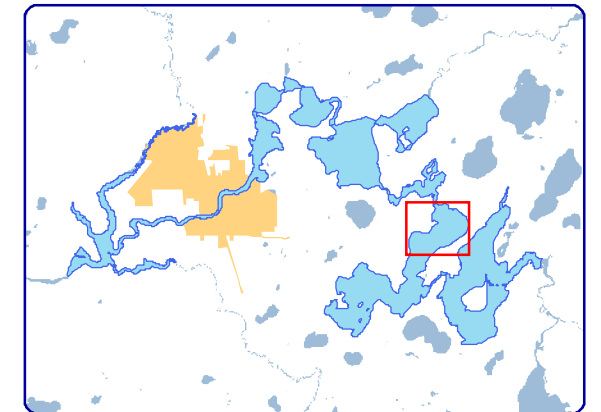
- 2007 EWM Colonies
 - Highly Scattered (none found)
 - Scattered
 - Dominant
 - Highly Dominant
 - Surface Matting (none found)
- 2008 Treatment Areas
 - Proposed Treatment Area (150 lbs/acre)
 - Proposed Treatment Area (100 lbs/acre)

Map 2
Catfish Lake
 Vilas County, Wisconsin
2008 EWM Final Treatment Areas

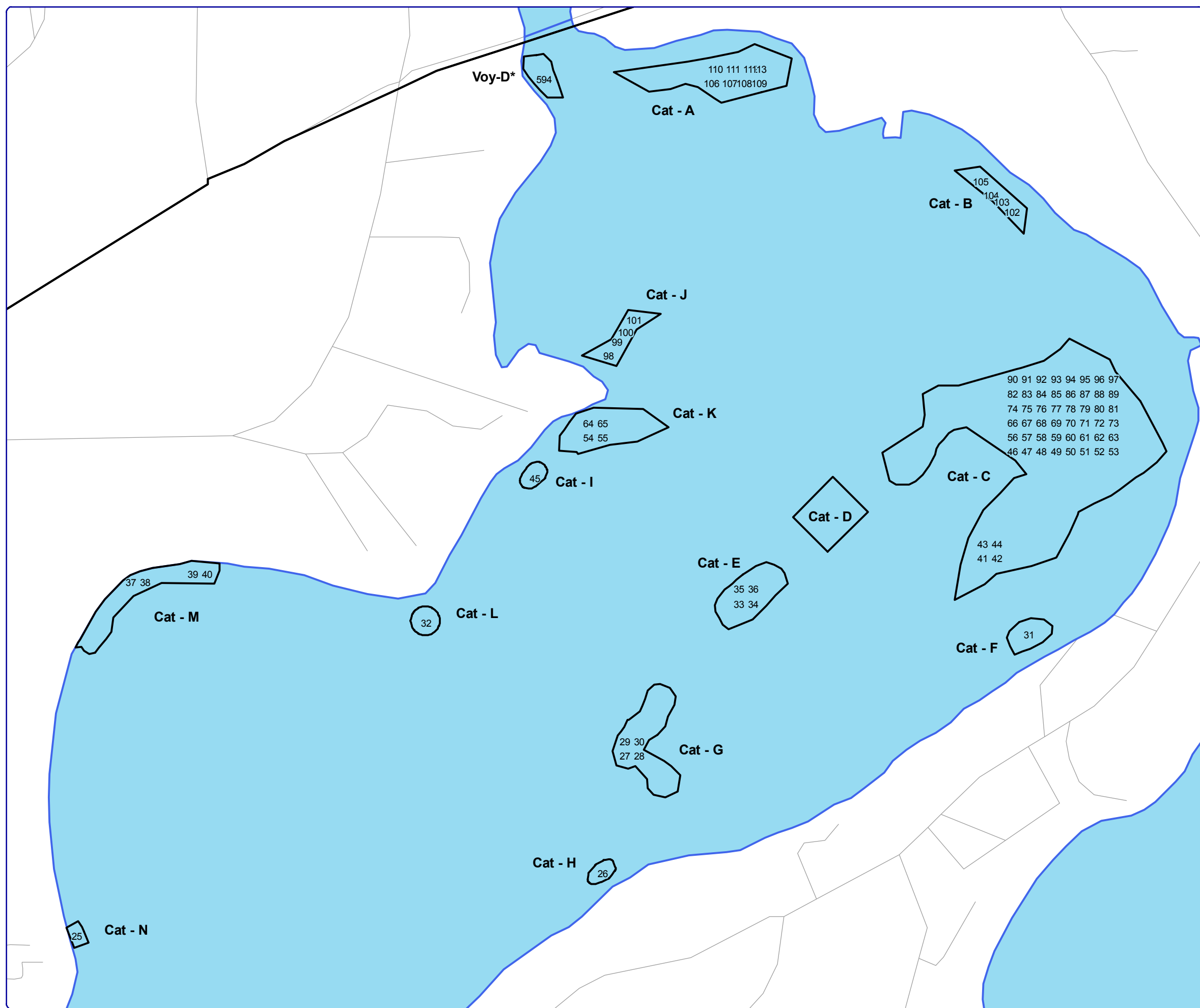
Appendix A Northern Catfish Lake

Vilas County, Wisconsin

2008 Eurasian Water Milfoil Treatment Point-Intercept Monitoring Locations



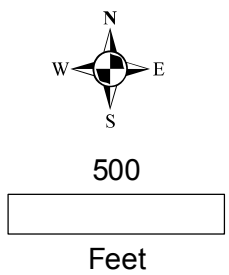
Extent of large map shown in red.



Legend

- # EWM Point-Intercept Location
 - 2008 Treatment Area
- *This site should be included as part of Catfish Lake.*

Sources:
 Roads & Hydro: WDNR
 Bathymetry: WDNR - Digitized by Onterra
 Aquatic Plant Data: Onterra, 2008
 Map Date: December 30, 2008
 File Name: ERC_Cat_north_EWM_Treat_T08_PI.mxd

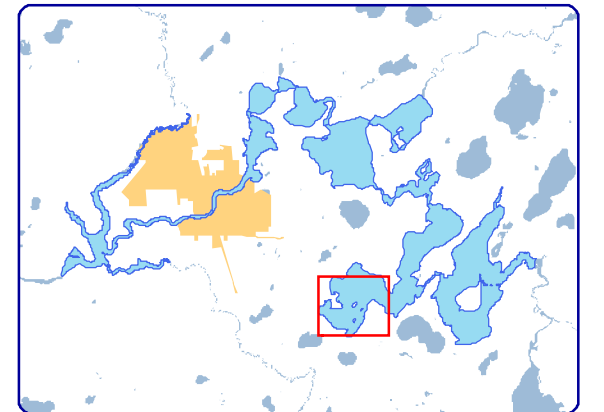


Appendix A

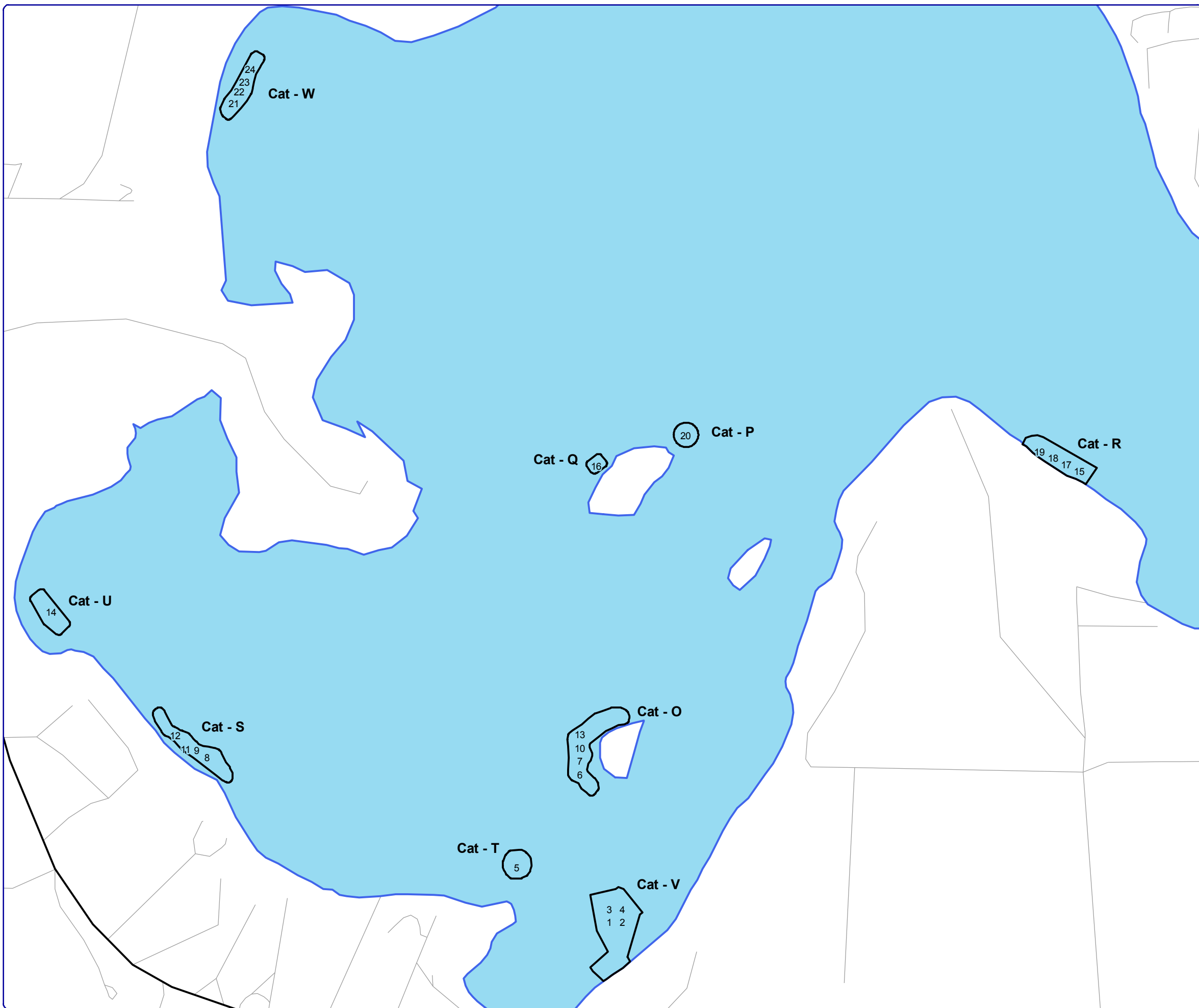
Southern Catfish Lake

Vilas County, Wisconsin

2008 Eurasian Water Milfoil Treatment Point-Intercept Monitoring Locations

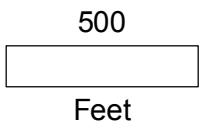
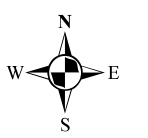


Extent of large map shown in red.



Legend

- # EWM Point-Intercept Location
- 2008 Treatment Area



Sources:
 Roads & Hydro: WDNR
 Bathymetry: WDNR - Digitized by Onterra
 Aquatic Plant Data: Onterra, 2008
 Map Date: December 30, 2008
 File Name: ERC_Ca_south_EWM_Treat_T08_PI.mxd

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