

CRANBERRY LAKE SUMMARY AND CONCLUSIONS

The EWM at Cran-B was reduced from highly dominant, with surface matting in the northern portion of the site, to dominant and highly scattered density ratings (Map 1). All of the other sites treated had little or no EWM found within them after the treatment and therefore are not recommended for treatment in 2009 (Map 11). Three of the four sites with greater than eight point-intercept locations, Cran-A, Cran-E, and Cran-H, had a significant reduction in EWM from 2007 to 2008 (Figure 6). All treatment sites on Cranberry Lake were pooled, including those sites with fewer than eight point-intercept locations, and a chi square test confirmed a reduction of EWM lake-wide (Figure 6). Before the treatment on Cranberry Lake, 72.2% of the point-intercept locations contained EWM and 30.6% contained EWM after the treatment – a 57.7% reduction in EWM occurrence (Figure 6). Figure 7 displays the number of point-intercept locations exhibiting each of the EWM rake fullness ratings within the areas treated on Cranberry Lake. The results show that of the 78 locations that contained EWM before treatment, 18 of the sub-sample locations had a rake fullness of greater than one (Figure 7). After the treatment, only 33 locations contained EWM and none had a rake fullness rating of greater than one (Figure 7).

Table 2 shows that the qualitative success criteria were met for all treatment areas on Cranberry Lake and only Cran-H did not meet the quantitative success criteria. Overall the treatment was successful, however EWM was found in a few other areas within the lake and are recommended for treatment in 2009 (Map 11).

As mentioned in the Treatment Monitoring section, native plant frequencies were monitored in Cranberry Lake during the post treatment survey (Figure 8). Two plants were found to have a significant reduction in frequency within the treatment areas since 2007, northern water milfoil and small pondweed (Figure 8). Small pondweed is a monocot, and therefore was likely not affected by the treatment. However northern water milfoil is a dicot and it is plausible that the treatment has caused a decline in this species within the treatment areas. Three native monocots were found to have significantly increased since 2007, slender naiad, flat-stem pondweed, and Vasey's pondweed (Figure 8). As stated above, Vasey's pondweed is of particular interest because it is a species of special concern in Wisconsin.

Table 2. Evaluation of 2008 EWM treatment on Cranberry 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	
Cran - A	2.3	150	8	100.0	Yes	D=1	None	Yes	
Cran - B	0.7	150	4	100.0	ISS	D=1	Single	Yes	
Cran - C	1.7	150	4	66.7	ISS	D=2	None	Yes	
Cran - D	1.0	150	4	66.7	ISS	D=1	None	Yes	Few Plants located south (outside) of '08 TA.
Cran - E	2.3	100	8	83.3	Yes	D=1	Clump	Yes	Only one clump observed after treatment.
Cran - F	4.5	100	16	80.0	Yes - NSS	D=1 & Scat	Few	Yes	
Cran - G	0.9	150	4	25.0	ISS	D=2	None	Yes	D=1 colony observed northwest of TA along shoreline, just outside '08 TA.
Cran - H	15.4	100	60	44.7	No	D=2 & D=3	D=1 & Scat	Yes	Although EWM was observed throughout this TA, density reduction was large.

ISS = Insufficient Sample Size
NSS = Not Statistically Significant

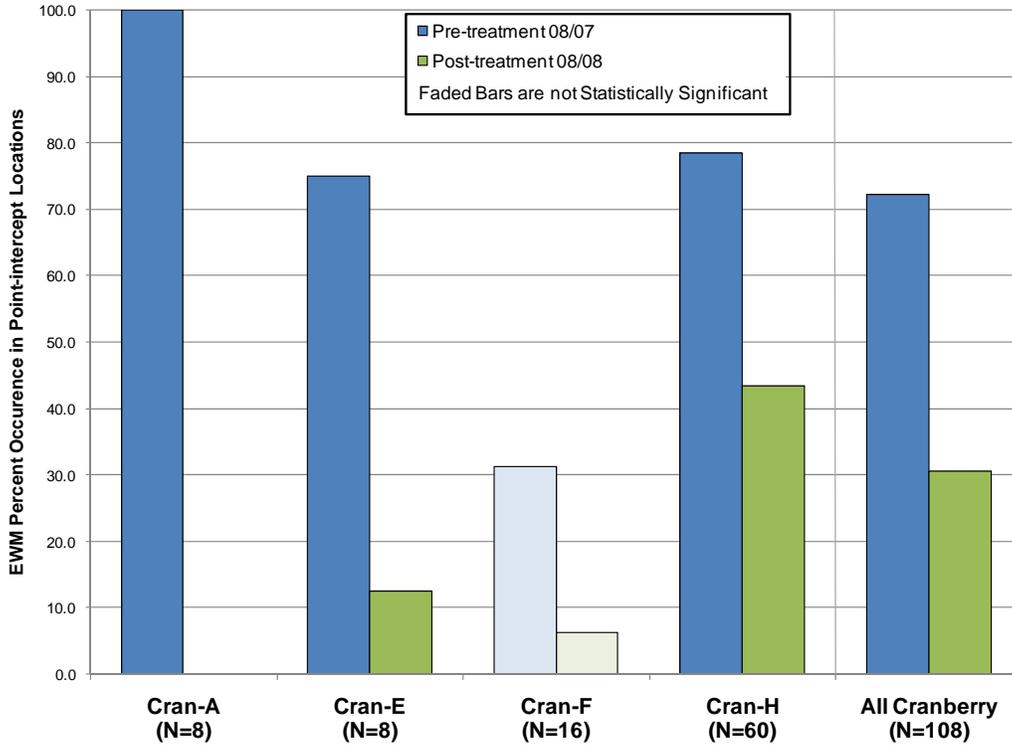


Figure 6. EWM percent occurrence in point-intercept locations displayed by treatment site on Cranberry Lake. Please note only those treatment sites with eight or more point-intercept locations are displayed on the graph. Statistical significance is determined by Chi-square distribution analysis (alpha = 0.05).

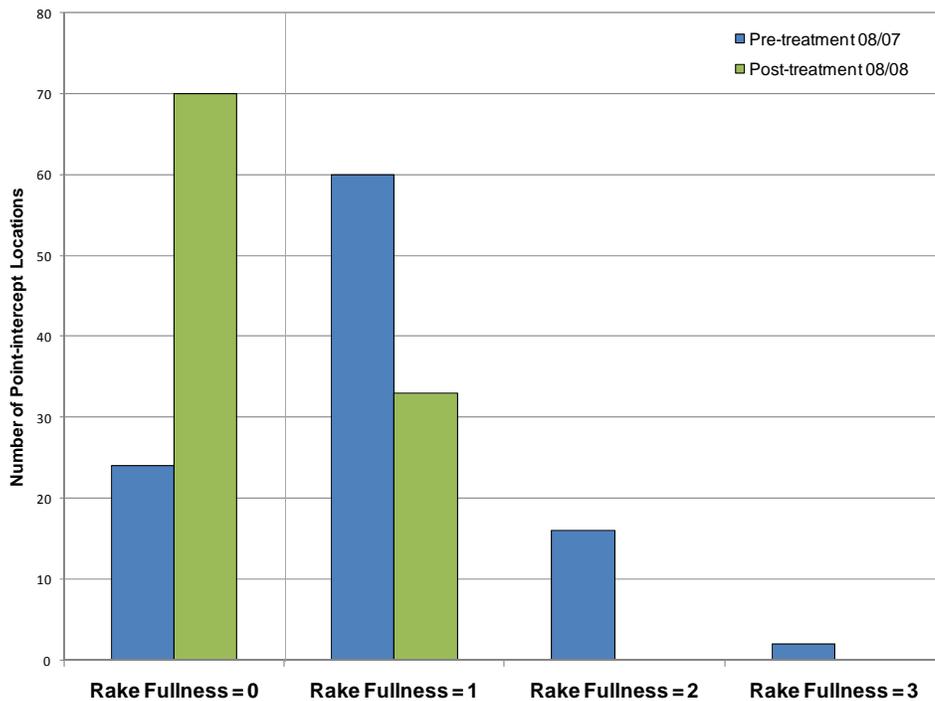


Figure 7. EWM rake fullness distribution within treated areas on Cranberry Lake.

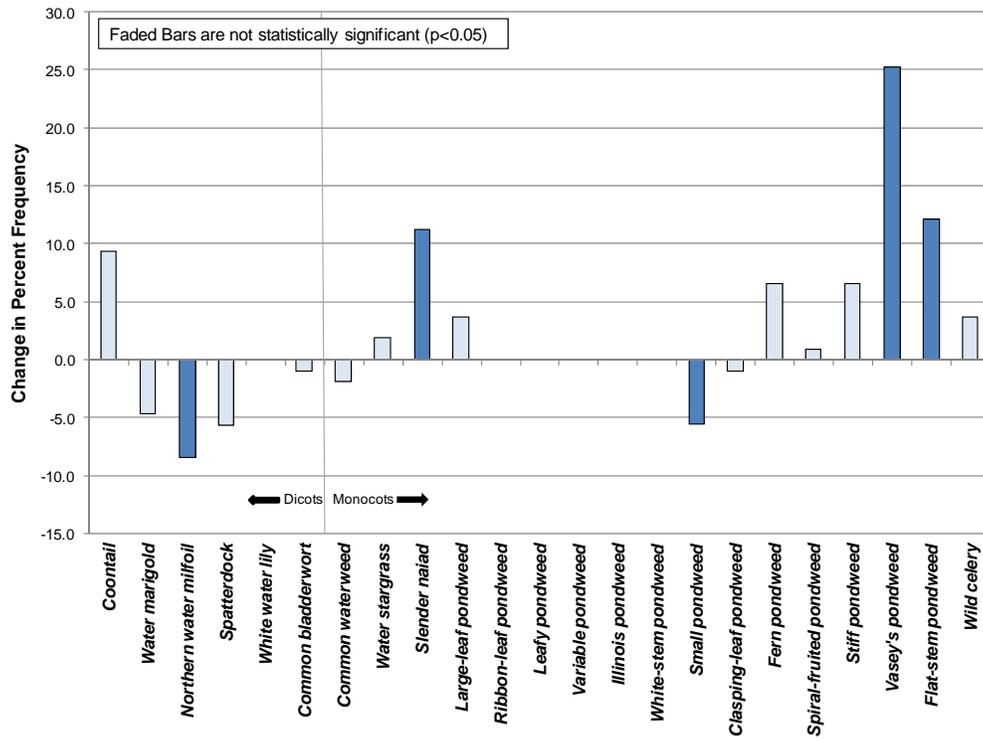


Figure 8. Native plant change in percent frequency from 2007 to 2008 within treatment areas on Cranberry Lake.

Treatment Areas - 100 lbs/acre

Site	Acres
Cran - E	2.3
Cran - F	4.5
Cran - H	15.4

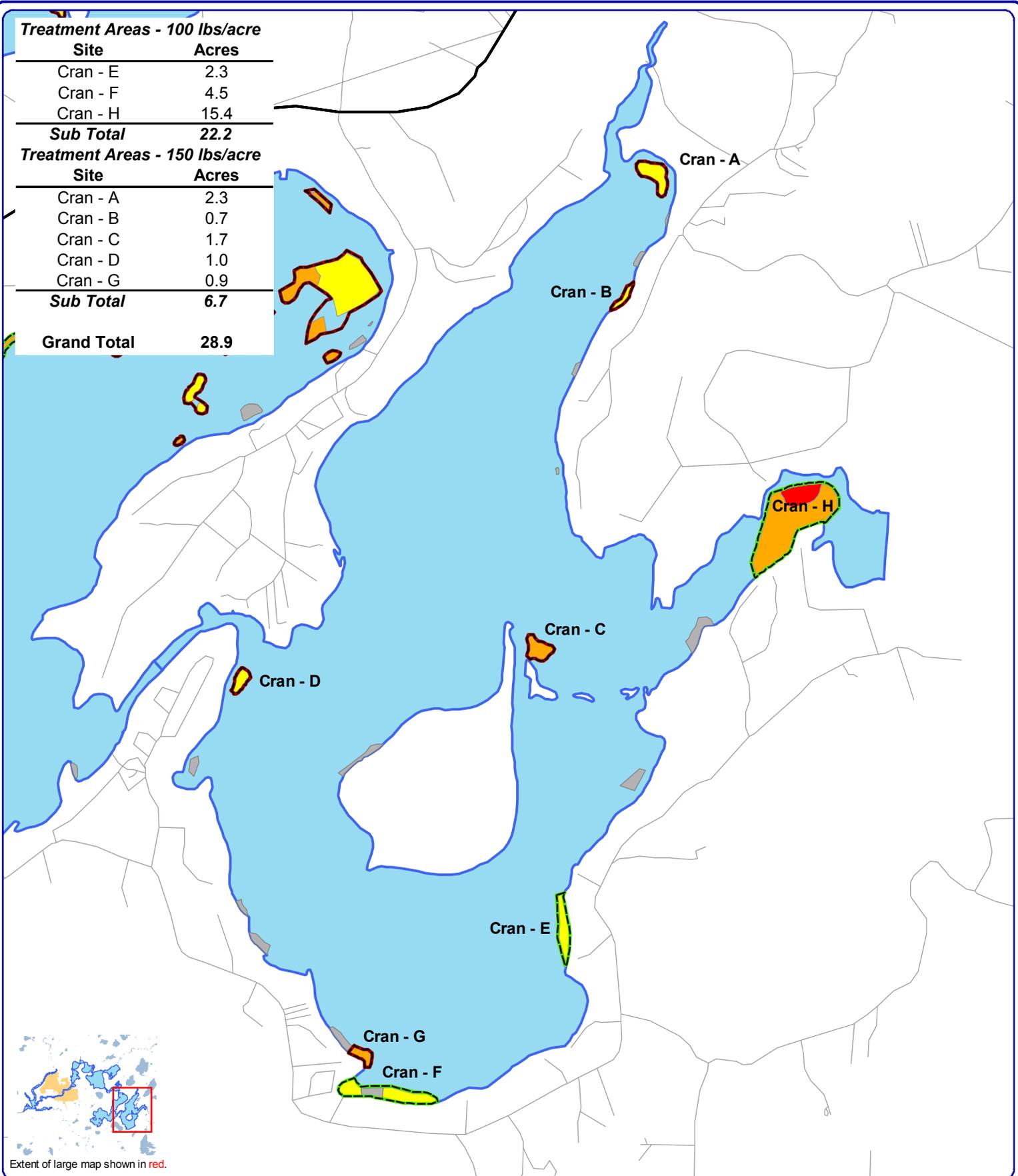
Sub Total 22.2

Treatment Areas - 150 lbs/acre

Site	Acres
Cran - A	2.3
Cran - B	0.7
Cran - C	1.7
Cran - D	1.0
Cran - G	0.9

Sub Total 6.7

Grand Total 28.9



Extent of large map shown in red.



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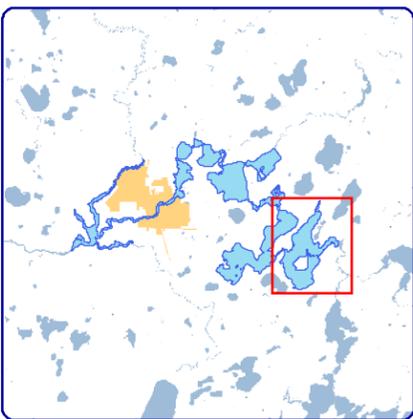
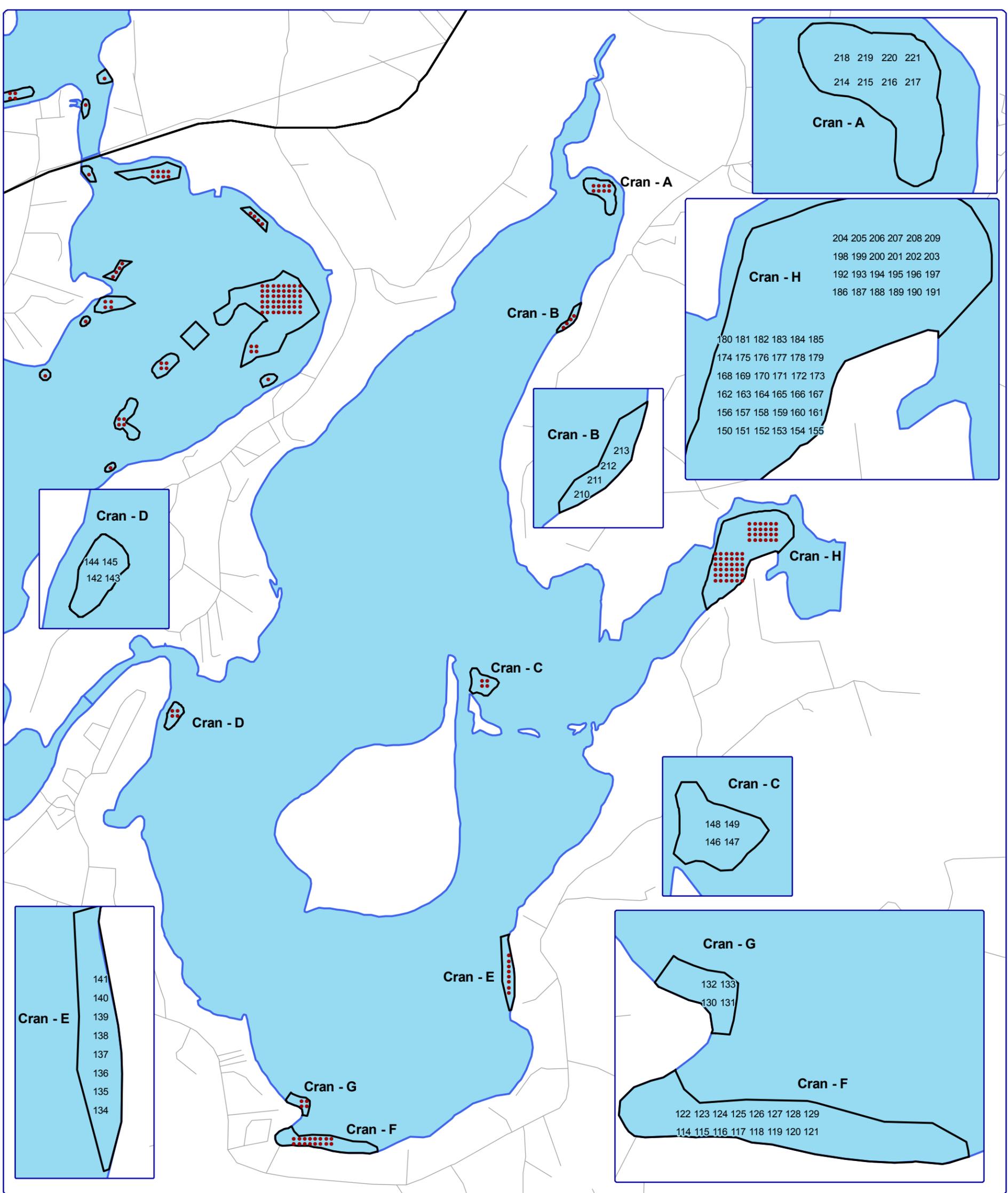
Source:
 Roads & Hydro: WDNR
 Aquatic Plants: Onterra, 2008
 Map Date: December 31, 2008
 File Name: ERC_2008Treat_Cran.mxd

Legend

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

Map 1

Cranberry Lake
 Vilas County, Wisconsin
2008 EWM Final
Treatment Areas



Extent of large map shown in red.

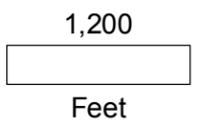
Sources:
 Roads & Hydro: WDNR
 Bathymetry: WDNR - Digitized by Onterra
 Aquatic Plant Data: Onterra, 2008
 Map Date: December 30, 2008
 File Name: ERC_Cran_EWM_Treat_T08_PI.mxd

Legend

- # EWM Point-Intercept Location
- 2008 Treatment Area

Appendix A
Cranberry Lake
 Vilas County, Wisconsin

**2008 Eurasian Water Milfoil
 Treatment Point-Intercept
 Monitoring Locations**



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