

**We Energies
2008 Annual Report - Nuisance Plant Control Survey
Lower Paint
Project #2072-008**

Background and Methods

We Energies' Environmental department staff, Mr. Mike Grisar and Mr. John Hrobar, conducted a survey from a boat of the entire shoreline at the Lower Paint Reservoir project on August 3, 2008. All waters and appropriate wetlands accessible from the boat were evaluated. Those species targeted for the survey included purple loosestrife (*Lythrum salicaria*) and Eurasian water milfoil (*Myriophyllum spicatum*). The visual meander survey included areas of shallow water adjacent to the shorelines. Shallow water was surveyed to a point where the water depth and clarity excluded visibility conducive to observing submerged vegetation. On average, this depth was at approximately 7-feet.

For each stand of Eurasian water milfoil encountered during the 2008 surveys, the stand location and perimeter were compared and verified with the 2006 monitoring data using a Trimble Geo XH GPS unit. Where the stand size was negligible, a single point in the center of the stand was located with the GPS. When significant changes in the stand perimeter were observed, these changes were marked with the GPS and reflected in the attached map. Changes in stand density were updated and are shown in Table 1. New stands not previously observed were mapped and recorded.

Various data were collected at each stand including stand/mat density and mat thickness (when present). The stand size was subsequently calculated from the collected GPS boundaries. A percent cover scale from 1-5 (sparse – dense) was used to accurately and consistently estimate stand densities:

<u>Estimated Density Rating</u>	<u>% Cover</u>
1 (sparse)	0 - 5%
2 (moderately sparse)	>5 - 25%
3 (moderate)	>25 - 75%
4 (moderately dense)	>75 - 95%
5 (dense)	>95%

Results and Discussion

No purple loosestrife plants were observed along the shores of the Lower Paint project area.

Twenty-five stands of Eurasian water milfoil were observed to occur in 2008 at the Lower Paint Reservoir project area (Table 1), an increase of 8 stands from 2006. The identified stands are distributed throughout the project area and range in size from 0.01-acre up to 15.43-acres.

Table 1. 2008 Lower Paint Reservoir Eurasian Water Milfoil Stand Data.

Stand #	Stand/Mat Density ¹	Mat Thickness	Stand Size (acres) ²
1	1	none	0.31 (+0.10)
2	2	none	5.08 (-5.30)
3	1	none	12.48
4	1	none	33.57 (+15.12)
5	1	none	0.81 (+0.44)
6	2	none	34.50 (-7.08)
7	1	none	3.94

Stand #	Stand/Mat Density ¹	Mat Thickness	Stand Size (acres) ²
8	3 (-2)	none	0.41
9	2 (+1)	none	0.47
10	1	none	9.22
11	1	none	2.28
12	1	none	0.40
13	1	none	1.00
14	1	none	1.76
15	1	none	5.75
16	1	none	0.67 (+0.33)
17	1 (-3)	none	5.50
18	1	none	0.02
19	1	none	0.93
20	3	none	0.35
21	1	none	0.92
22	1	none	0.47
23	4	none	5.57
24	1	none	0.18
25	1	none	0.41

1 – change in density rating from 2006 to 2007

2 – change in stand size from 2006 to 2007

Eurasian water milfoil is present in approximately 127-acres in the Lower Paint Reservoir project area, an increase of approximately 12-acres from 2006. Cumulatively, the average stand size is 5.08-acres and has an average density rating of 1.40 per stand. In 2006, the average stand size was 5.91-acres and had an average density rating of 1.53 per stand. The decrease in average stand size is attributable to the eight new stands having an average size of 1.11-acres.

Out of the 25 observed stands, only stand 23 has a high density (>75% cover). This stand is located in the central part of the project area in a large bay that has several residential homes occurring on the bay. When combined with stand 6, these two stands comprise over 31% of the total cover on the entire reservoir.

22 of the 25 stands have very low densities of Eurasian water milfoil with single stems growing sporadically among a lot of native species. The most common native species included northern water milfoil (*Myriophyllum sibiricum*), two-leaf water milfoil (*Myriophyllum heterophyllum*), a variety of pondweeds (*Potamogetan* sp.), common waterweed (*Elodea canadensis*), bladderwort (*Utricularia* sp.), coon's tail (*Ceratophyllum demersum*), water celery (*Vallisneria americana*), yellow pond lilies (*Nuphar* sp.), and white pond lily (*Nymphaea odorata*). These low density stands account for approximately 95% (120.68-acres) of the total area observed to have Eurasian water milfoil present.

Conclusions

In conclusion, there was an increase in the number Eurasian water milfoil stands observed in the Lower Falls project area. However, most notable is the fact that over 95% of the milfoil coverage in Lower Paint is at low or very low densities. Additionally, only one of the stands is at a high density rating.

The region continues to experience a drought (over 2 years) resulting in lower flows and improved water clarity. Drought conditions have led to slower current in the impoundments. Less current and better light penetration appears to have promoted the establishment of the new stands. Additionally, better clarity also allowed for clearer visibility of Eurasian water milfoil.

Annual fluctuations in the extent and density of Eurasian water milfoil may be due, in part, to the presence of an indigenous weevil population occurring in the system. See the attached discussion regarding the Eurasian water milfoil management plan and the summary report prepared by EnviroScience for further information about milfoil management activities.