

**We Energies**  
**2007 Annual Report - Nuisance Plant Control Survey**  
**Michigamme Falls Reservoir**  
**FERC Project #2073**

We Energies' Environmental department staff, Mr. Mike Grisar and Mr. John Hrobar, conducted a survey from a boat of the entire shoreline at the Michigamme Falls Reservoir on August 9, 2007. 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.

No purple loosestrife plants were observed along the shores of the Michigamme Falls Reservoir project area.

For each stand of Eurasian water milfoil encountered during the 2007 surveys, the stand location and perimeter were mapped 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. 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%

Twenty-four stands of Eurasian water milfoil were observed at the Michigamme Falls Reservoir project area (see attached map). The identified stands are distributed throughout the project area and range in size from <0.01-acre up to 49.80-acres.

Table 1. Eurasian Water Milfoil Stand Data.

Stand #	Stand/Mat Density	Mat Thickness	Stand Size (acres)
1	1	None	49.80
2	3	None	5.70
3	4	None	0.10
4	3	None	0.20
5	3	None	0.20
6	3	None	0.01
7	3	None	0.70
8	3	None	2.50
9	1	None	3.10
10	3	None	0.40
11	1	None	0.20
12	1	None	2.80

Stand #	Stand/Mat Density	Mat Thickness	Stand Size (acres)
13	2	None	0.50
14	1	None	0.20
15	2	None	31.80
16	3	None	1.40
17	1	None	7.00
18	3	None	0.50
19	1	None	6.50
20	3	None	1.20
21	1	None	0.01
22	1	None	0.01
23	1	None	0.01
24	1	None	5.70

Eurasian water milfoil is present in approximately 121-acres in the Michigamme Falls Reservoir project area. Cumulatively, the average stand size is 5.02-acres and has an average density rating of 2.04 per stand.

Out of the 24 observed stands, only stand 3 has a high density (>75% cover). This stand is a very small stand that covers approximately 0.10-acre, less than 0.001% of the total area observed to have Eurasian water milfoil present.

The majority of the 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*). 13 of the 24 stands have low densities (<25% cover) and account for 89% (107.63-acres) of the total area observed to have Eurasian water milfoil present.

Although Eurasian water milfoil is widespread at the Michigamme Falls Reservoir, the density of the stands is relatively low. The majority of Eurasian water milfoil cover with the reservoir is found within two stands 1 and 15. These are very large stands with very low densities (<5% cover) and account for approximately 68% of the total.