

We Energies
2007 Annual Report - Nuisance Plant Control Survey
Peavy Falls Reservoir
FERC Project #11830

We Energies' Environmental department staff, Mr. Mike Grisar and Mr. John Hrobar, conducted a survey from a boat of the entire shoreline at the Peavy Falls Reservoir on August 2, 3, & 4, 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 Peavy 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%

One hundred twenty-one stands of Eurasian water milfoil were observed at the Peavy 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 57.59-acres.

Table 1. Eurasian Water Milfoil Stand Data.

Stand #	Stand/Mat Density	Mat Thickness	Stand Size (acres)
1	1	None	5.93
2	1	None	0.51
3	1	None	2.12
4	1	None	0.01
5	1	None	0.27
6	1	None	2.43
7	1	None	4.74
8	1	None	57.59
9	1	None	0.09
10	5	0-4	0.13
11	1	None	0.53
12	1	None	0.19

Stand #	Stand/Mat Density	Mat Thickness	Stand Size (acres)
13	1	None	0.01
14	1	None	0.01
15	1	None	1.35
16	1	None	6.76
17	3	None	0.37
18	1	None	0.73
19	1	None	0.21
20	1	None	0.46
21	1	None	1.68
22	1	None	0.01
23	2	None	0.48
24	1	None	0.01
25	1	None	0.29
26	1	None	0.01
27	1	None	0.76
28	1	None	0.01
29	2	None	0.18
30	1	None	0.01
31	1	None	0.01
32	5	0-4	0.22
33	1	None	0.01
34	1	None	1.37
35	1	None	0.01
36	1	None	0.01
37	1	None	1.54
38	1	None	0.01
39	1	None	3.16
40	2	None	1.24
41	1	None	2.28
42	1	None	0.15
43	1	None	2.92
44	1	None	4.49
45	4	None	0.89
46	1	None	0.01
47	1	None	44.22
48	4	0-4	0.25
49	4	0-4	3.72
50	1	None	0.01
51	1	None	0.01
52	3	None	0.39
53	1	None	0.55
54	1	None	0.01
55	1	None	0.98
56	1	None	0.01

Stand #	Stand/Mat Density	Mat Thickness	Stand Size (acres)
57	1	None	0.01
58	1	None	0.01
59	1	None	0.08
60	1	None	0.01
61	1	None	0.01
62	3	None	0.59
63	1	None	0.01
64	1	None	1.49
65	1	None	0.01
66	1	None	5.86
67	4	None	0.01
68	5	None	0.01
69	1	None	0.24
70	1	None	0.01
71	3	None	0.01
72	1	None	0.45
73	1	None	17.16
74	4	None	0.01
75	3	None	1.39
76	4	None	0.30
77	3	None	0.27
78	1	None	0.01
79	1	None	1.43
80	1	None	0.09
81	1	None	0.08
82	1	None	0.22
83	1	None	0.01
84	1	None	3.91
85	5	0-4	0.13
86	1	None	0.01
87	1	None	1.13
88	3	None	0.28
89	1	None	1.87
90	5	0-4	0.67
91	1	None	0.01
92	1	None	0.34
93	2	None	0.01
94	4	None	0.01
95	4	None	0.01
96	5	0-4	0.24
97	2	None	0.46
98	1	None	3.79
99	1	None	0.71
100	1	None	0.01

Stand #	Stand/Mat Density	Mat Thickness	Stand Size (acres)
101	1	None	0.02
102	1	None	0.01
103	1	None	0.01
104	1	None	0.14
105	1	None	0.01
106	1	None	0.01
107	1	None	0.01
108	1	None	5.20
109	4	None	0.84
110	1	None	0.16
111	1	None	0.01
112	1	None	0.39
113	1	None	0.17
114	1	None	0.01
115	1	None	0.01
116	1	None	0.18
117	2	None	0.01
118	1	None	0.01
119	1	None	0.01
120	1	None	0.01
121	1	None	0.01

Eurasian water milfoil is present in approximately 207-acres in the Peavy Falls Reservoir project area. Cumulatively, the average stand size is 1.71-acres and has an average density rating of 1.59 per stand.

Out of the 121 observed stands, 15 have a high density (>75% cover), stands #10, 32, 45, 48, 49, 67, 68, 74, 76, 85, 90, 94, 95, 96, and 109. These stands are distributed throughout the reservoir. Cumulatively, these stands cover approximately less than 1% (7.45-acres) 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*). 106 of the 121 stands have low densities (<25% cover) and account for 95% (196.19-acres) of the total area observed to have Eurasian water milfoil present.

In conclusion, there are more stands of Eurasian water milfoil present at the Peavy Falls Reservoir than any of the other reservoirs on the system. However, this is similar when considering the proportion of stands to the size of the area impounded by the dams. Additionally, the vast majority of the stands are at low densities occurring with diverse native plant communities.