

We Energies
2013 Annual Report - Nuisance Plant Control Survey
Peavy Falls Reservoir
FERC Project #11830

Background and Methods

We Energies' Environmental department staff, Mr. Mike Grisar and Mr. Bill Braunschweig, conducted a survey from a boat of the entire shoreline at the Peavy Falls Reservoir project on August 1, 2013. 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.

Visual observations for Eurasian water milfoil were made and compared to 2011 survey results. Relative changes in the extent and distribution of Eurasian water milfoil were noted. Specific locations of purple loosestrife were mapped using a Trimble XH GPS unit. Each location was identified as a stand and the number of plants, stems per plant, and relative age of the plants were recorded.

Results and Discussion

One purple loosestrife stand was observed along the Peavy Falls shorelines consisting of two plants estimated to be 2 and 3 years old with just 2 and 4 stems, respectively. This is the first time purple loosestrife has been encountered at this project site, and it was observed within a few feet of the west side of the boat launch at Recreation Area #10 (see attached). The entire plant, including roots, stems, and flowers were removed.

Specific mapping of Eurasian water milfoil stand extents and densities were not conducted in 2013, but rather visual observations comparing the 2011 results to observed conditions in 2013. Generally, the distribution and density of Eurasian water milfoil appeared to have increased in 2013; however, some stands decreased or were not present at all. There were also some new small isolated and sparse stands that were observed for the first time at the upstream river portion of the project area. Example stands where increases in distribution, density, or both were observed in 2013 include stands 11, 16, 18, 21, 66, 73, 94, & 99.

Conclusions

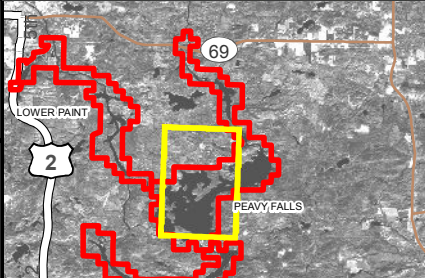
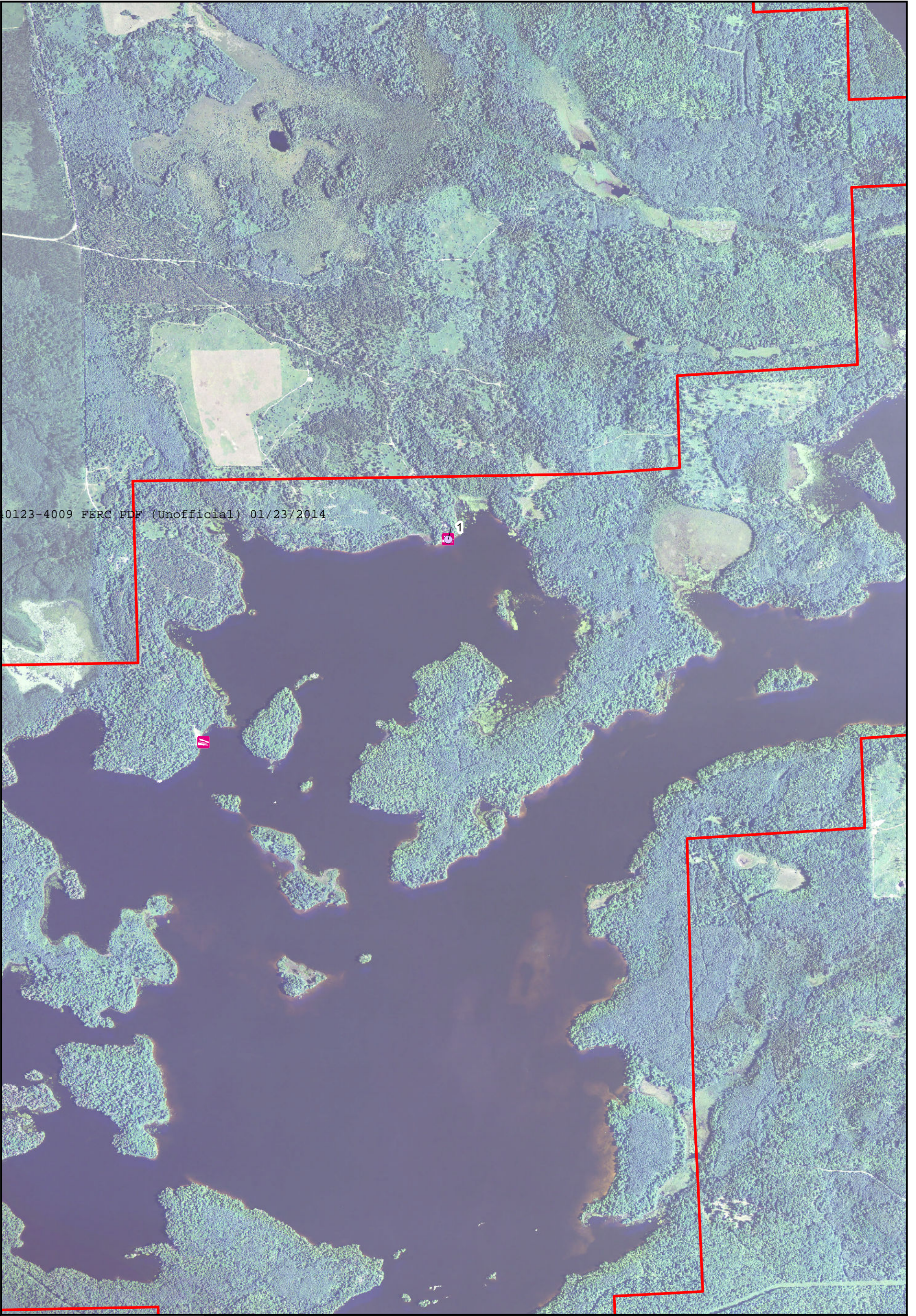
It was discouraging that purple loosestrife was observed for the first time in 2013 at the Peavy Falls project area since the nuisance plant surveys began. Diligent monitoring will continue to prevent further invasion of this species and eradicate the single stand that was observed.




Overall, the Eurasian water milfoil infestation in Peavy Falls appeared to have become worse in some areas while improving in other areas from 2011 to 2013. Consistently, changes in the number of stands, overall coverage, spatial distribution of individual stands, and stand densities have been well documented from 2006 through 2012 on all of the We Energies reservoirs where Eurasian water milfoil is present throughout the Menominee River system. Conditions exhibit a majority of positive trends some years, remain relatively constant in others, become much worse, or have mixed results as observed at Peavy Falls in 2013.

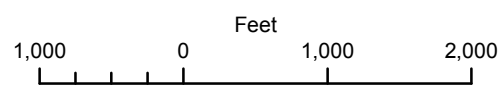
These trends indicate the Eurasian water milfoil population is in flux from year to year. Contributing factors include influences of local and annual climate variances (i.e. precipitation and temperature), the presence of the indigenous milfoil weevil population, extent of milfoil hybridization, and others.

Annual fluctuations in the extent and density of Eurasian water milfoil appear to be due, in large part, to the presence of an indigenous weevil population occurring in the system. After four years of monitoring the weevil population, positive trends were being observed between weevil population and Eurasian water milfoil population fluctuations. These trends indicate the indigenous weevil population tends to increase as the Eurasian water milfoil population increases. Evidence shows the milfoil populations ultimately spike before declining. The weevil populations tend to lag behind the milfoil population spike, and it spikes as the milfoil population begins declining and crashes as observed in some reservoirs. The weevil population spikes are followed by substantial decreases in the respective populations. It appears a cycle occurs between these two populations

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-  Purple Loosestrife: New Sites July 2013
-  Public Boat Launch
-  FERC Hydro Project Boundary



Peavy Hydro Project - Year 2013 Purple Loosestrife Survey

Source: USDA-NAIP Imagery, 2012
GPS field data collected 8/1/2011