

PROJECT STATUS SUMMARY – June 11, 2019

The Michigan Department of Natural Resources (MDNR) and Fort Custer Recreation Area (FCRA) have engaged Kieser & Associates, LLC (K&A) to develop a FCRA lake management plan for controlling invasive aquatic plant species. Three Fort Custer lakes (Eagle Lake, Whitford/Lawler Lake, and Jackson Hole Lake) are being addressed by this three-year project.



Funding is provided as part of the Natural Resources Damage Assessment from Enbridge compensation for injuries to the Kalamazoo River related to a 2010 oil pipeline spill.

Absent any other funding mechanism to manage this state-owned lake system, the objectives for the project include:

- Assessing the presence and density of aquatic invasive plants
- Developing an integrated, sustainable strategy to control aquatic invasive plant species
- Monitoring and assessing invasive aquatic plant presence and density during and after treatments
- Developing and implementing an outreach program for recreational users to prevent the spread of aquatic invasive species from and into the FCRA
- Designing and implementing a monitoring program to evaluate aquatic recreational use of all three lakes

K&A is working with partners including the Kalamazoo River Watershed Council, Aquest Corporation, Aquatic Services, Inc. and EnviroScience to complete these tasks. Biannual surveys of aquatic and shoreline

vegetation, water quality testing, and updated depth maps are being prepared by K&A with use of the LakeScan™ ecological assessment tool and BioBase™. Targeted aquatic and shoreline herbicide treatments are being conducted in addition to the use of natural biological controls. Biocontrols will not eradicate a species, but rather provide a means of control to allow higher quality native species to compete with the targeted invasive species.

Biological controls include the use of *Galerucella sp.* beetles for purple loosestrife and *Euhrychiopsis lecontei* weevils for Eurasian watermilfoil. The *Galerucella sp.*

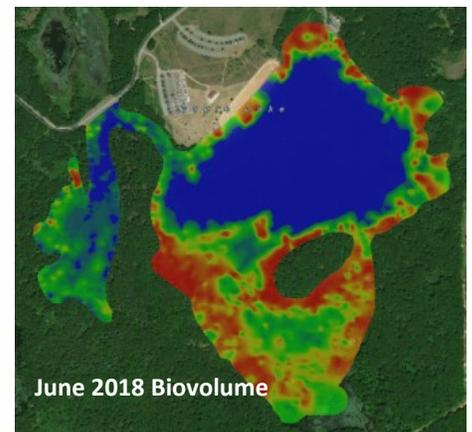
beetle is an MDNR-approved treatment for purple loosestrife. The milfoil weevil is native to Michigan, though many lakes do not have weevil densities sufficient for effective biocontrol of Eurasian watermilfoil. K&A is rearing both of these species for biocontrol applications in the FCRA as well as other Michigan lakes.



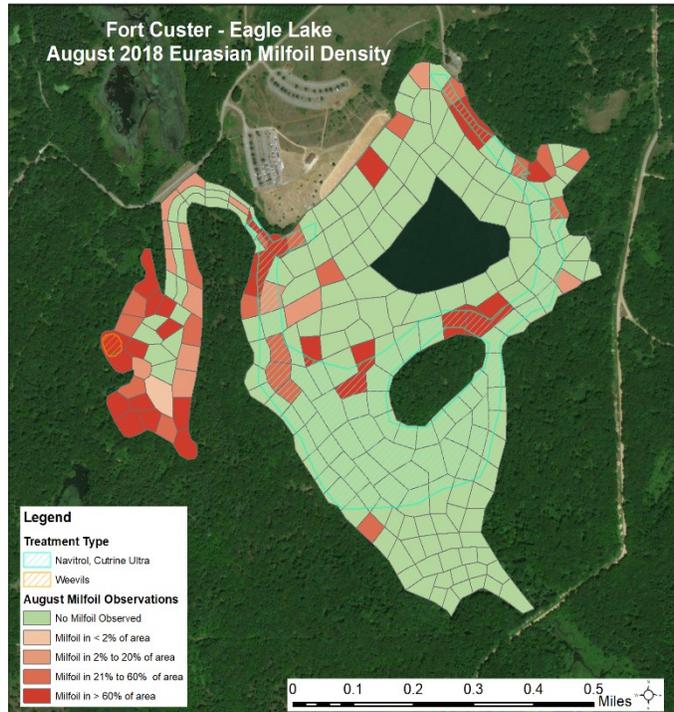
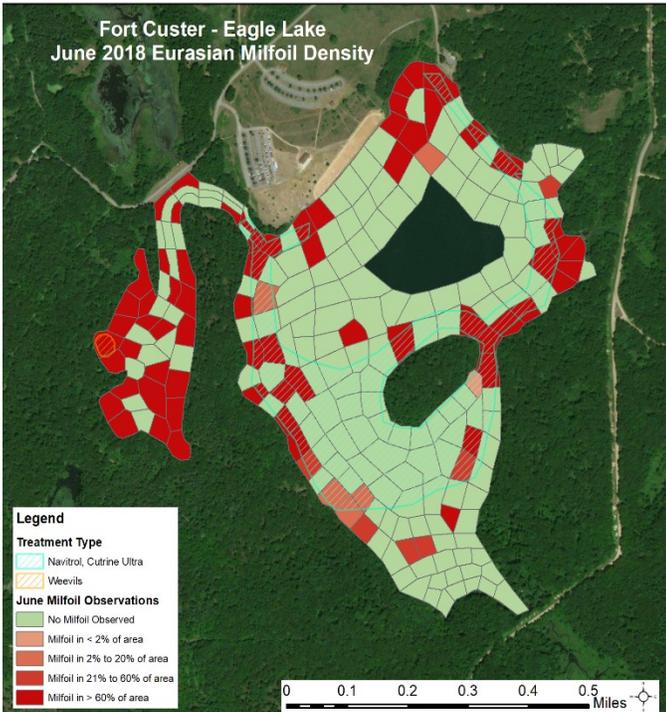
Early Findings

In 2018, K&A initiated a range of in-lake studies to assess aquatic vegetation conditions and water quality. The primary areas of vegetation concerns particularly focused on the larger Eagle Lake.

Extensive growths of EWM in 2018 were mapped with LakeScan™ for June, and post-treatment surveying in August.

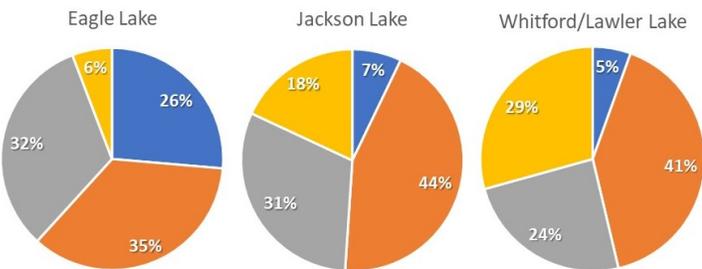


FORT CUSTER LAKES ENHANCEMENT PROJECT



Treatments with weevils in the western arm, and Navitrol (triclopyr) in the main body yielded mixed results with decreased densities in both areas, and some broader summer die-off. June 2019 vegetation survey data are being processed, and year 2 weevil rearing is underway with the expectation of continued biocontrols and herbicide treatments by late June through early July.

The 2018 LakeScan data allow for comparison of aquatic plant distribution across Fort Custer lakes from a recreational and control perspective considering plant “dominance” (determined by species density and distribution throughout the lake). Our 2018 results for the three lakes include:



- 1 usually requires treatment for suppression
- 2 commonly requires treatment for control or suppression
- 3 requires treatment for some growth control and management
- 4 almost never requires treatment

Project Outreach

Led by the KRWC, the project team is reaching out to park users through:

- Educational posters
- “Coffee hours” at the campground
- State park Explorer Programs
- Mobile boat wash
- Social media
- Press releases

Online and in-person surveys are also being conducted with FRCA recreational users. Education about aquatic invasive species is being provided through presentations, signage and online resources.