Onsite Lake Evaluation Record

Lake Name: Fremont Lake **County:** Newaygo

Evaluated by: Sal Adams **Reviewed by:** Bre Grabill **Date:** Sept.19, 2022

Purpose of evaluation: End of Season Survey

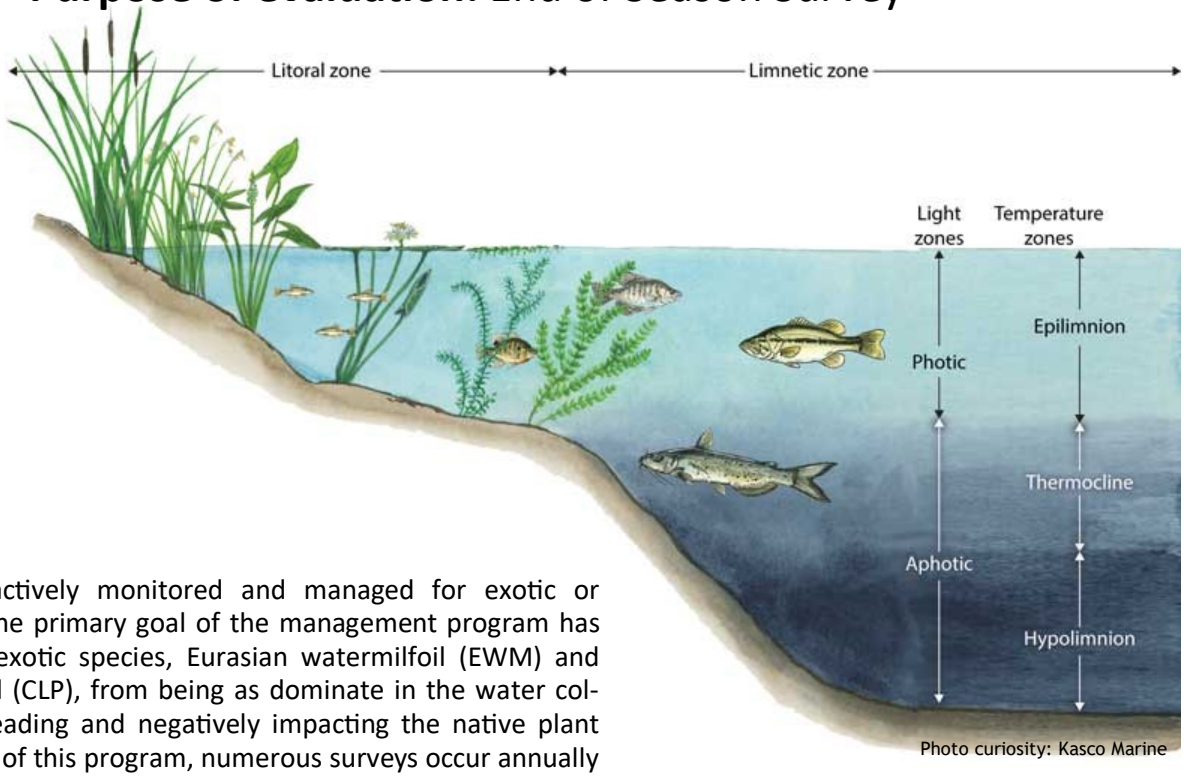


Photo curiosity: Kasco Marine

Fremont Lake is actively monitored and managed for exotic or nonnative plants. The primary goal of the management program has been to keep the exotic species, Eurasian watermilfoil (EWM) and Curlyleaf pondweed (CLP), from being as dominate in the water column and from spreading and negatively impacting the native plant community. As part of this program, numerous surveys occur annually on Fremont Lake, including the end of year AVAS Survey. Performing routine surveys, both pre and post treatment, can greatly help aid in ensuring a successful program as well as quickly identifying any new introductions, so a rapid response program can be executed. Throughout the summer, recommendations for management are provided to the committee for spot treatment of EWM, CLP and if needed Algae and/or nuisance native plants. Native plants lake wide have been promoted to improve plant diversity; which had historically been quite low. Over the past few years, native plant diversity and density has improved.

Water Quality monitoring is recommended for monitoring in addition to the vegetation surveys.

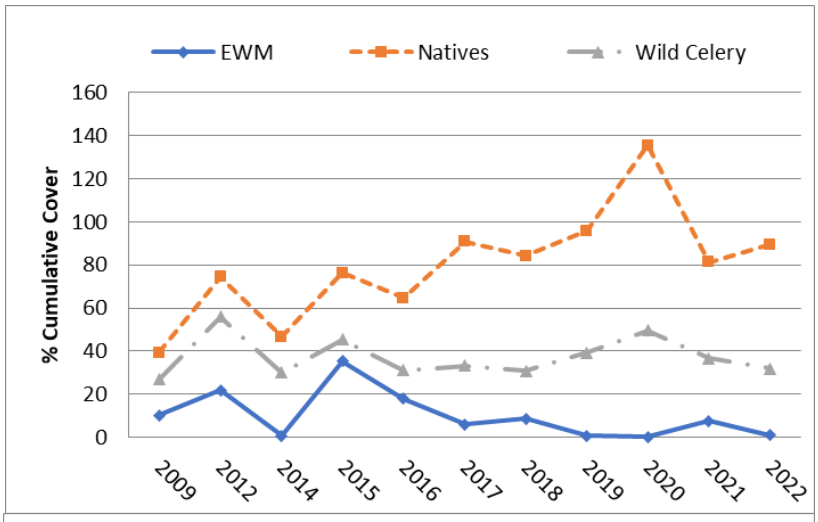
2022 Service Timeline:

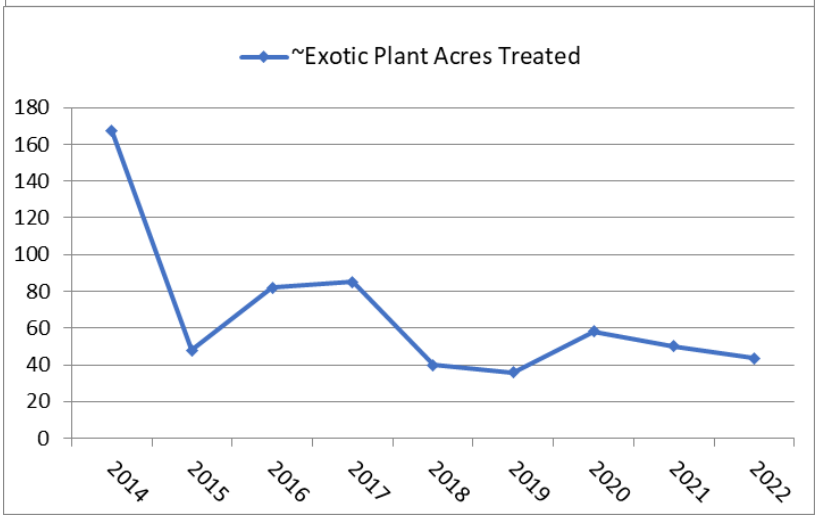
Service	Date
Survey	5/23
Survey, Weed Treatment	6/6
Survey	7/15
Survey , Weed treatment	7/25
Survey	8/15
Survey, Weed treatment	8/23
AVAS Survey	9/19

Exotic Plant Species (from left to right: Phragmites, Eurasian watermilfoil and Starry stonewort) cause most of the serious weed problems in Michigan's lakes. Exotic plants (or nonnative) are plants that are not native to this geographical area, which have been brought to the region inadvertently. Because they often have few natural enemies (their pests, pathogens, etc. may not have come over with them) therefore, they grow out of control. When exotic aquatic plants such Eurasian watermilfoil, Starry stonewort or Phragmites invade a lake, they often form extensive dense populations, crowd out native species, negatively impact fisheries, reducing the quality of habitat for other organisms and impacting the entire lake ecosystem.

The graph to the right (top) shows the cumulative coverage of EWM, Native plants and Wild Celery. The cumulative coverage is based on the AVAS survey, completed at the end of each season, that breaks the lake down into 300' segments and documents all plants present. Wild Celery is broken out specifically, because of the recreational concern this plant has caused within the lake. Over the last few years, native plant populations have steadily increased, the second goal of the management program. While the overall native population has increased, the Wild celery population has remained similar, showing that the density of other species is increasing overall. EWM populations have stayed quite low over the past few years , a positive sign of the management efforts in place.

The graph to the right (bottom) includes the number of Exotic or nonnative plant acreages treated annually. Overall acreage has decreased significantly in recent years. Although eradication is unlikely, successful management can greatly reduce the coverage and density of nonnative plants, allowing natives to flourish and reducing the negative impact of nonnative plant species being within the waterbody.





Final Recommendations

- Seasonal survey program, including: spring survey, pre/post treatment surveys, AVAS survey
- Weed treatments for nonnative plants, as needed
- Algaecide treatments, if approved/required
- Nuisance native plant control, if approved/required for navigational purposes
- Water Quality monitoring
- Phragmites control, if approved