

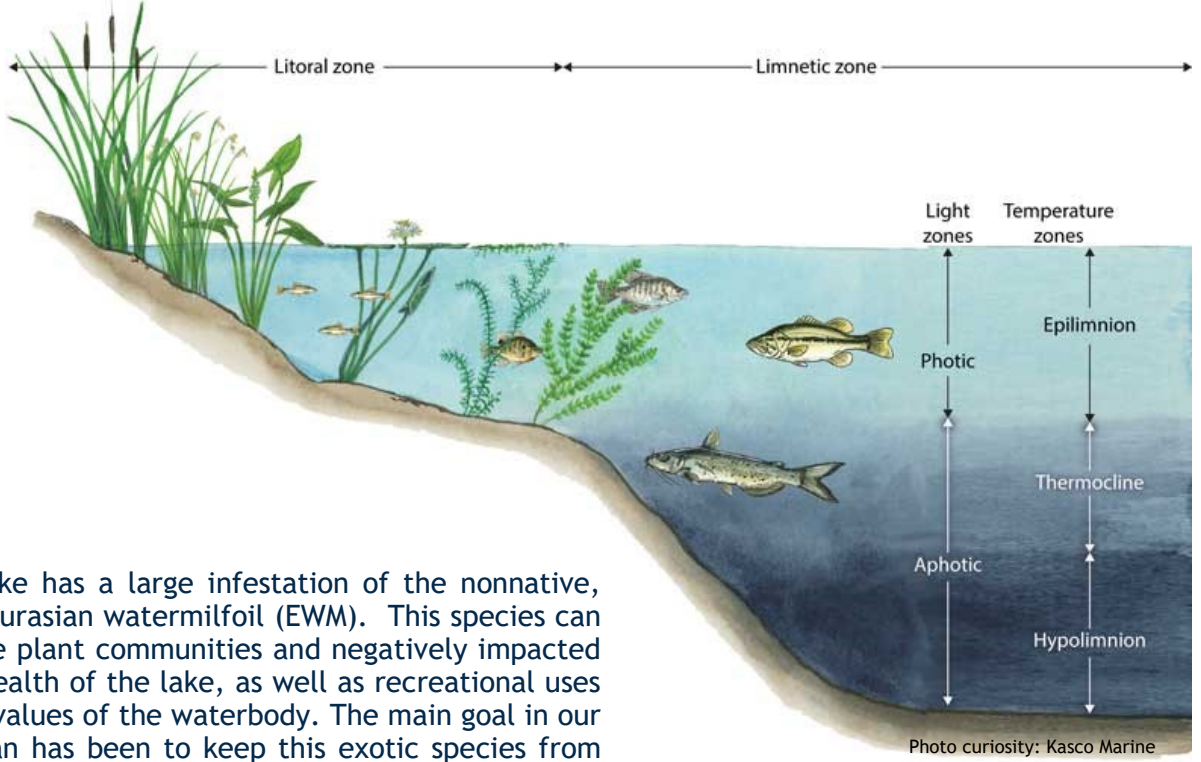
Protecting your environment today for tomorrow.

Lake Evaluation Record

Lake Name: Cedar Hedge Lake County: Grand Traverse

Evaluated by: Casey Shoaff Reviewed by: Bre Grabill Date: Oct. 20 2021

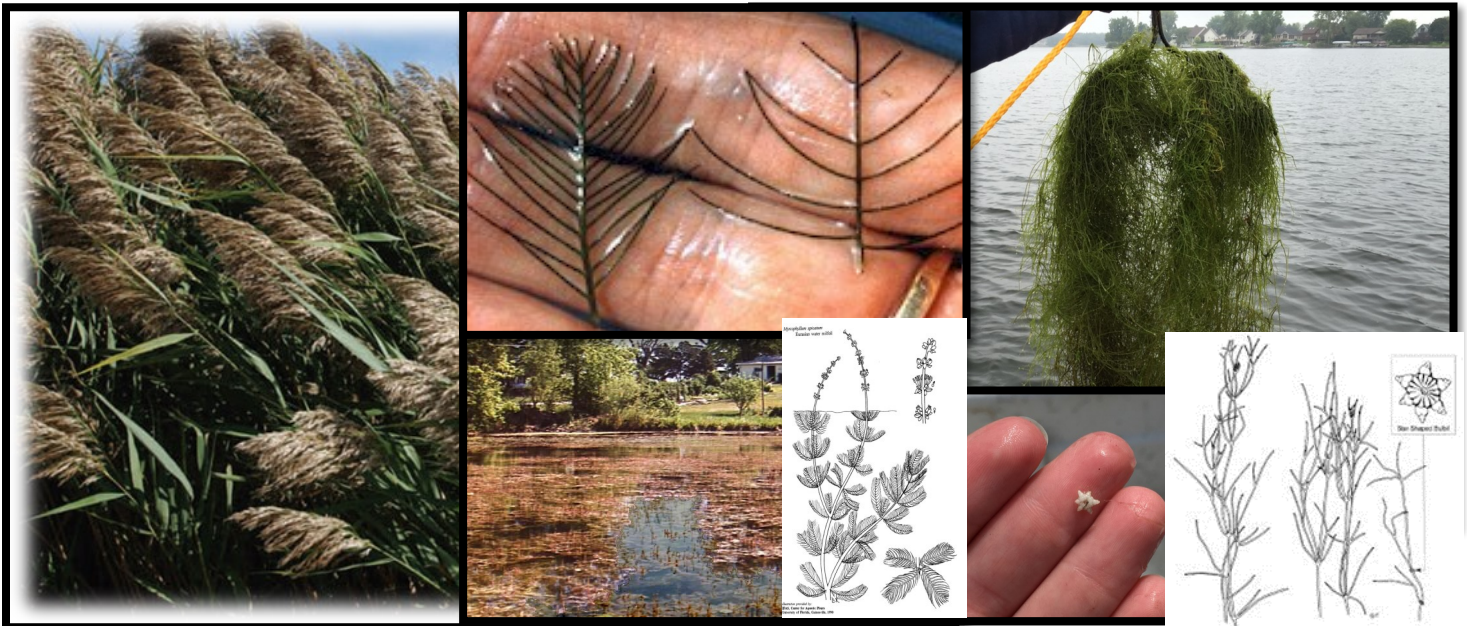
Purpose of evaluation: End of Season Survey



Cedar Hedge Lake has a large infestation of the nonnative, invasive plant, Eurasian watermilfoil (EWM). This species can crowd out native plant communities and negatively impacted the ecological health of the lake, as well as recreational uses and aesthetical values of the waterbody. The main goal in our management plan has been to keep this exotic species from being as dominate around the lake and from spreading and hurting the native plant community. As part of this program, numerous surveys occur annually on Cedar Hedge Lake, including the end of year AVAS Survey. EWM was treated on Cedar Hedge, under the SAD once it was finalized, in September and the survey results showed a highly effective treatment. Native plant growth should be encouraged to help promote plant diversity and ensure a healthy plant community for the fishery; Water Quality monitoring should be collected throughout the summer on Cedar Hedge Lake to monitor overall lake health.

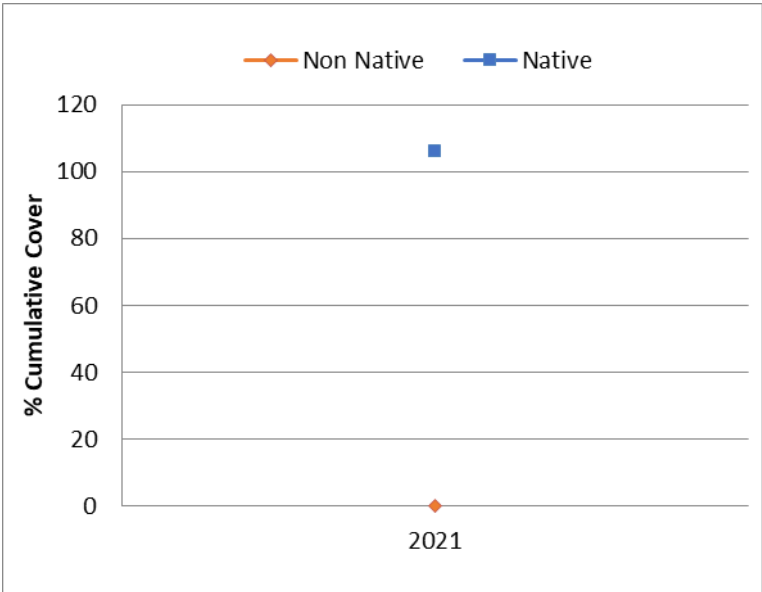
2021 Service Timeline:

Service	Date
Survey	6/30
Survey	8/30
Treatment	9/15
Survey	10/1
AVAS Survey	10/15



Exotic Plant Species 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.

PLM is now tracking plant trends in Cedar Hedge Lake, as part of the SAD program. In 2021, the cumulative cover was found and plant diversity was very good, with good overall coverage. Additional monitoring will allow plant health to be determined long term, now that the EWM is being managed. It is the hope that with controlling EWM, the native plant community will improve, with increase diversity. Seasonal variance is expected and can be impacted by many factors including seasonal weather patter changes, natural plant biological tendencies, surveyor and/or weather impacts to name a few. The goal of tracking plants long term is to be able to 1) identify plants for early detection and rapid response 2) review long term trends for lake health. The most dominate species in Cedar Hedge Lake (now that the EWM infestation is down) is Chara, which is a number 1 species to have within a waterbody. Chara is a natural filter to help clean the water and provides excellent habitat as well as stabilizing the sediments and as this is a great plant to have, it poses no concern unless it starts impacting recreational uses of the lake. If that occurs, limited management can be discussed however this plant needs to be promoted lake wide. Continuing to survey the lake is recommended to track all plants in the lake and see seasonal and long term changes. Over time, plant trends can help determine the overall health of a plant community in more depth than just a single survey.



Graph 1 shows the cumulative coverage of native and nonnative plants. The 2021 treatment was effective and no EWM was found in the end of year survey. Additional monitoring in the future will allow plant trends and overall health of plant community be determined.

Final Recommendations

- A spring vegetation survey (to evaluate conditions in the lake and direct management efforts)
- Herbicide treatments for nonnative plants
- Spot treatments of algae or nuisance natives, if needed and approved
- Mid summer surveys for monitoring
- Water Quality monitoring
- End of summer AVAS Survey