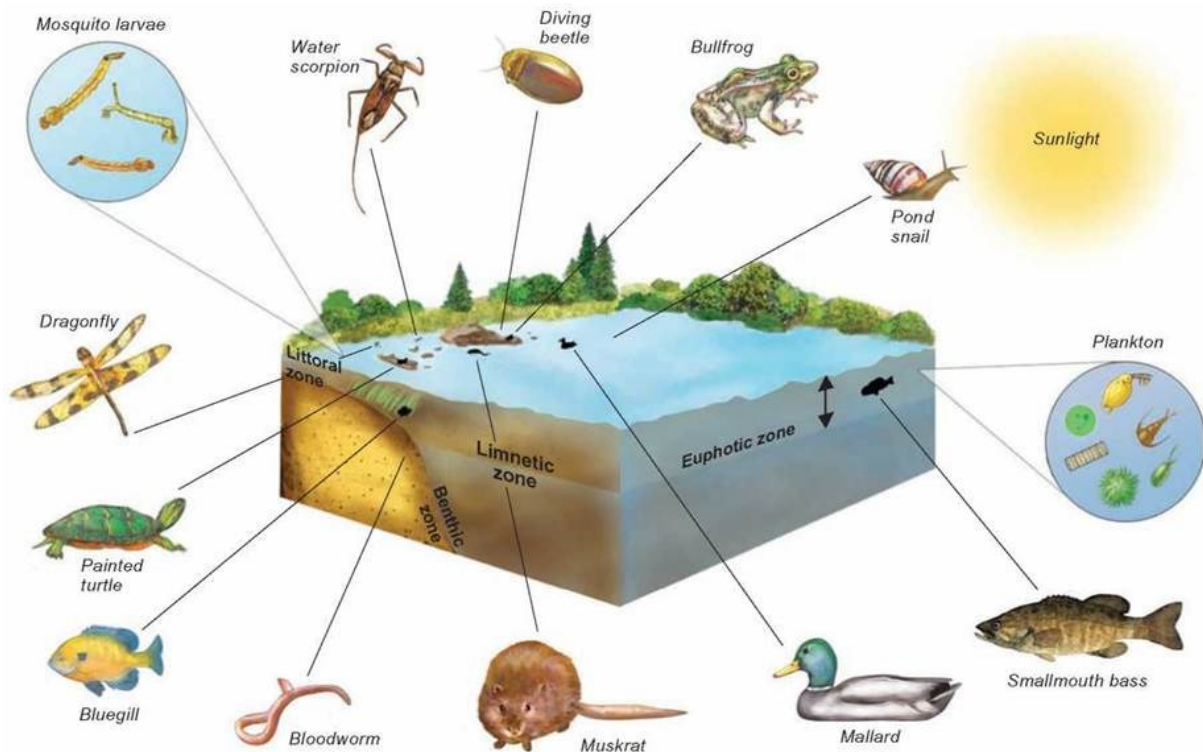


Protecting your environment today for tomorrow.

Lake Evaluation Record

Lake Name: Emerald & Sylvan Lakes County: Newaygo

Evaluated by: Raquelle Robbins - August 19, 2024



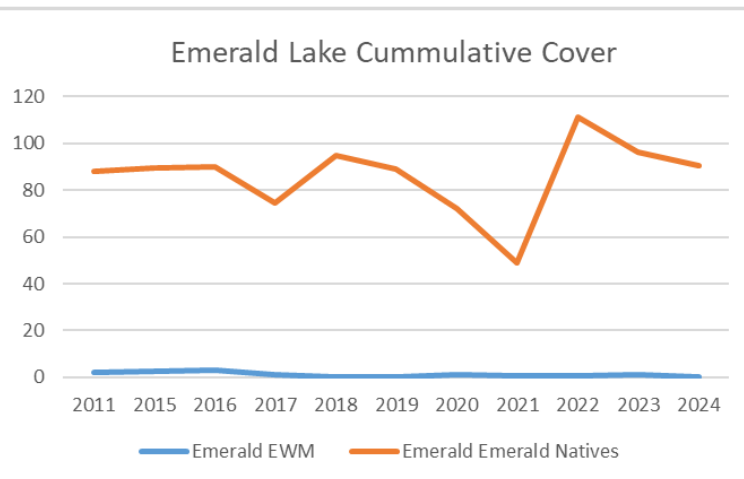
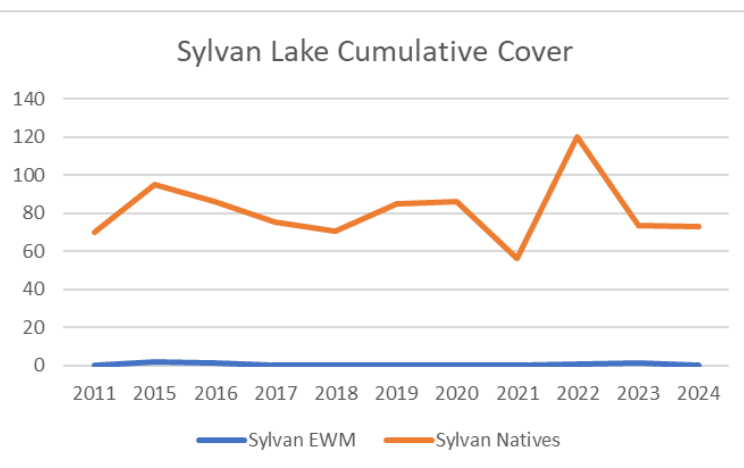
Emerald & Sylvan Lakes are managed under the Emerald Sylvan Lakes POA. Emerald & Sylvan Lakes have a small infestation of Eurasian watermilfoil (EWM), which is known to be extremely invasive. EWM can crowd out native plant communities and negatively impacted the ecological health of the lake, as well as recreational uses and aesthetical values of the waterbody. The main goal in our management plan has been to keep the exotic, invasive species from being as dominant in the water column, from spreading and hurting the native plant community. As part of this program, numerous surveys occur annually on Emerald & Sylvan Lakes, including the end of year AVAS Survey. Throughout the summer, recommendations for management are provided for spot treatment of EWM. Promoting overall plant diversity is the goal of the program as native plants are vital to the overall health of the lake. Native plants promote a healthy fishery, stabilizing sediments and improving water clarity and should be promoted when possible.



Exotic Plant Species (above 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.

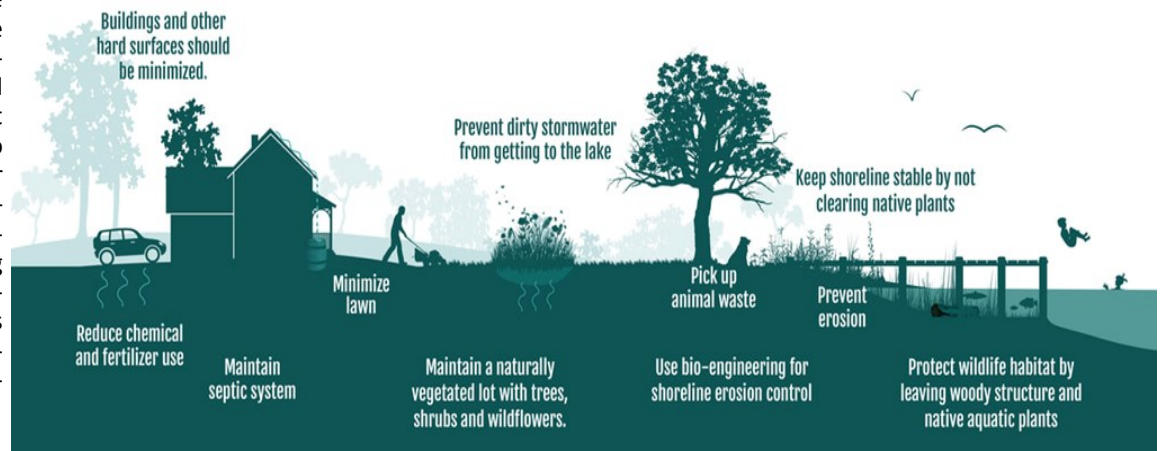
These graphs show the cumulative coverage of EWM and native plants in Emerald & Sylvan Lakes. EWM populations have substantially decreased since the management program began, a clear sign of the program’s success. EWM negatively impacts the native plant community and is a main reason for its management need. The native plant density has fluctuated annually, but overall is healthy and within normal range for oligotrophic-mesotrophic lakes. Overall, these lakes are in very good health based on the plant coverage present, which is at appropriate levels for a healthy fishery. The negative impacts that may be caused by EWM have been reduced through management and are causing very little ecological damage.

AVAS Survey-It is important to perform an AVAS survey each year to track changes in plant growth. AVAS surveys give us the ability to identify infestations of any nonnative plant species before they become established in the lake. The earlier a potential threat is identified, the earlier it can be treated and the less time it will have to potentially take over healthy native plant species.



Shoreline protection

Shoreline development has led to habitat degradation and as lakes continue to become more and more developed, the impacts continue to be damaging to the lake ecosystem. From mowed grass and sandy beaches, to seawalls and riprap to wake boat waves and fertilizer, development has negatively impacted a lake in all ecological aspects. By working to reduce the human footprint around the lake, the health of the lake will be improved. Natural shoreline restoration is helpful from reducing nutrient loading and runoff to providing habitat for frogs and fish to naturally defending against Canada geese congregating in your yard, it is important that action is taken to minimize development impact and restore natural features.



A Lake Resident's KEY TO SURVIVAL

PLM appreciates the opportunity to a part of your lake management program. Your lake is a diverse ecosystem which requires the use of multiple management tools. In addition to the services we provide, we still need your help! You can directly improve your lake frontage by taking a few small steps that can have widespread impacts on the entire lake. Everyone's actions play a role in the health of your lake and as you own property on the lake, you have a large investment in the overall health of the lake. Therefore, everyone needs to take action for the overall health of the lake. It is not just the land touching the lake that impacts the health of the lake, but all the land in the area that makes up the watershed. Everyone's actions on and off the lake plays a role in the condition of the lake. Do your part and help get your neighbors involved in caring for the lake. The following suggestions are just a few actions that can be taken to help create a healthy lake and beach frontage.

Do not feed the ducks and geese. Remove dog, geese and duck droppings from lawns, docks, etc. Excess feces will increase nutrients within the lake. Please, do not sweep it into the lake!

Create a natural buffer close to the water's edge and remove grass/turf touching the water's edge. A natural setting will filter excess nutrients from entering the water and help decrease erosion. The greenbelt should consist of native plant varieties of shrubs, flowers or trees that do not shed their foliage into the water. Natural buffers are also an excellent way to deter geese from making a stop on your beach front. Geese do not like areas where they cannot see the predators coming towards them.

If you do fertilize make sure you are using Phosphorus free fertilizer. Talk with your neighbors and develop a Phosphorus Free program which uses no phosphates and slow release nitrogen. One pound of phosphorous may produce over 775 pounds of algae- "The slimy green stuff". If you must fertilize, apply nitrogen fertilizer when the grass is actively growing to minimize loss of nutrients to nearby waters. Begin fertilizing in the spring when temperatures are warm and discontinue before the grass ceases to grow in the fall. Avoid application of fertilizer prior to rainy days.

Perforate lawn periodically and seed and mulch exposed soil (to prevent erosion).

Remove aquatic plants, leaves/branches and other debris that washes up along the lakeshore so less decomposition occurs in or near the lake.

Always use silt fences when building a new home or doing any yard-work that would cause erosion.

Keep all burn piles and debris piles away from lake. Do not burn near the water. The ash is concentrated nutrients!

Encourage the use of stone, brick and similar porous materials when building a landscape to minimize urban water collection.

Final Recommendations

- Survey program, including spring, mid summer and end of year AVAS Survey
- EWM Treatments, as needed
- Water Quality monitoring, optional



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