

Dear HLPOA Member and those yet to renew,

Days were glorious at Higgins Lake this weekend.

Hazardous Waste Drop Off

Friendly reminder that Hazardous Waste Drop Off is Saturday, June 3, 2023, 9:00 am – 1:00 pm at the Roscommon County Road Commission, 820 East West Branch Road, Prudenville, Michigan. Items Accepted: Products marked with CAUTION, CORROSIVE, DANGER, FLAMMABLE, POISON, REACTIVE, TOXIC &/or WARNING

Aerosols, antifreeze, auto liquids, cleaners, corrosives, fertilizers, florescent light bulbs, glues, herbicides, medicines/sharps, mercury-containing items, oil-based paints, pesticides, smoke alarms/detectors and solvents.

Will NOT Accept: Toner printer cartridges, boat shrink wrap, Latex (water-based) paints, explosives, bombs, fireworks, propane tanks, large appliances, Styrofoam peanuts, building materials of any kind OR empty containers.

Proposed Expansion of Camp Grayling

Here is the recent update regarding the Department of Military and Veterans Affairs (DMVA) request for Camp Grayling expansion. Thank you for your letters and phone calls.

“Michigan.gov response to Camp Grayling expansion:

Proposal and decision:

An initial review of the DMVA’s request found that most of the proposed lands were ineligible for such a lease because they are within buffer zones around bodies of water or were purchased with funds that prohibit activities planned by the National Guard.

The remaining land, approximately 53,000 acres, could be available to the DMVA for short-term, low impact training activities.

Under a Memorandum of Understanding, an agreement between the DNR and the DMVA, the DMVA may apply for limited land use permits to conduct exercises on up to 52,000 acres of eligible land.

Key point in the Memorandum of Understanding:

- No lease approved; the DMVA may annually apply for land use permits
- DMVA training could occur on up to 52,000 acres of state managed forest land
- Recreational access to remain at all times
- The size of buffer zones around inland lakes and designated trout streams-where no military activity could take place- was doubled by DNR from 1,500 feet in the initial proposal to 3,000 feet in the Memorandum of Understanding
- No live fire or use of tanks on these lands; no permanent fencing or structures”

Lake Purity, Fred Swinehart, PhD, HLPOA Board Member shares the following:

The May GLUA meeting featured Professor Luttenton from Grand Valley State University. He has been working on Higgins Lake environmental quality for many years. The professor gave an excellent slide presentation of his recent work. He plans to publish his findings in a serious scientific publication in the near future.

For those who weren't there to hear his talk, Fred Swinehart has written a "student's essay" based on his quite academic presentation. It squares completely with Fred's own observations and understanding of the environmental degradation brought to our lake from the massive invasion of Zebra and Quagga mussels that we are experiencing here.

The proposed circumferential sewer system would cut off the current downward spiral in our lake's water quality by cutting off the supply of nutrients that feed the growing masses of algae, the resulting huge population of Zebra and Quagga mussels, and finally reducing the population of oxygen consuming bacteria that are processing their digestive remains in the muck at the bottom of the lake.

Secchi Disk Clarity No Longer Reflects Lake Purity

At the May meeting of the GLUA, Professor Luttenton gave an excellent discussion of the profoundly negative effect on the Trophic status of Higgins Lake due to the impact of invasive Zebra and Quagga mussels on Higgins Lake's environment. Fred Swinehart paraphrases his presentation below:

Historically, the Secchi Disk was used as a tool to assess the health of a lake by measuring the clarity of the water. The deeper the disk was visible, the more pure, or more Oligotrophic, the lake was assumed to be. This was under the assumption that more algae present in the water column would obscure visibility of the disk and result in lower readings of clarity. Since the presence of algae indicated the presence of nutrients from whatever source, a high visibility reading would indicate an Oligotrophic or low nutrient lake. That was all well and good prior to the massive invasion of invasive Zebra and Quagga mussels.

These mussels eat algae and, as all animals do, defecate from their dietary consumption. This results in a clarification of the water column by reducing the population of algae, but at the same time, results in increasing the biological load, or biological oxygen demand on the bottom of the lake where the mussels dwell. It is evidenced by a layer of mucky residue on the bottom of the lake. So, we have a cycle of life here. The more nutrients coming into the lake, the more algae available for the mussels to eat, so they increase in abundance. The higher the mussel population, the more mussel poop is distributed to the bottom of the lake. There, the bacteria that feed on this organic mucky layer also prosper. They increase in abundance along with their food supply, and consume more oxygen as they digest the mussel's residue.

In Higgins Lake, where for much of the year the oxygenated top waters do not mix with cold waters below the Thermocline, the oxygen levels near the bottom of the lake will decrease from this bacterial activity. At some point the dissolved oxygen levels due to this bacterial digestion will decrease to levels that will no longer sustain aerobic life. For example, a dissolved oxygen level below 5 parts per million is no longer suitable for maintaining viable populations of Lake Trout and Whitefish. Values near this level are now being observed in Higgins Lake for the first time in history.

The only practical way to reverse this trend is to reduce the population of the mussels in the lake by reducing the nutrients for the algae they consume. The major source of these nutrients is septic system effluents. The proposed public sewer system would remove these nutrients from the lake, which would result in great reduction in the amount of algae, mussels, and bacteria living in our waters.

Secchi Disk data is no longer of any practical value in evaluating Higgins Lake's Trophic status. Levels of dissolved oxygen, near the bottom of the deepest parts of the lake are by far the best indicators of the lake's health. DO vs. Depth tells the best story, and it's not so good of late.

HLPOA Board