

ILA Bulletin



INTERMEDIATE LAKE ASSOCIATION

October 2023

Lake Level Update

The Antrim County Operator of Dams, Leslie Meyers, hosted two important meetings this fall. On September 28th, a group of over thirty people, including Antrim County Commissioners, several Village and Township Supervisors, and Lake Association representatives, attended a meeting where Shawn Middleton, from the Spicer Group, Inc., reviewed the results of the additional work done to refine the HEC-RAS model to include modeling of the impact of 10 year (10% annual chance), 100 year (1% annual chance), and 500 year (0.2% annual chance) rain events, at the Elk Rapids Dam and the Bellaire Dam.

Of greatest interest to ILA, the study showed that the Bellaire Dam **would be overtopped during both the 1% and 0.2% probability events**. The Elk Rapids Dam would still have flow capacity during a 100 year (1% event), but areas surrounding the dam would likely benefit from improvements for a 500 year event. These results, combined with the need identified in the original USACE model to improve the Ellsworth culvert, show there is a need to manage the watershed across the entire Elk River Chain of Lakes, most of which lies in Antrim County. Leslie reminded that any improvements will obviously require funding, which could potentially come from a variety of sources and will also require gathering additional information for a more detailed evaluation of options. Therefore, she asked for volunteers to join an expanded Lake Level Committee. Several people, including government officials and lake association members, agreed to participate in the new committee.

Members met on October 12th, to discuss goals and objectives for the committee as well as to learn about general funding options from Stacy Hisson, who serves as general counsel for the Michigan Association of County Drain Commissioners. Members agreed on the three primary goals: To provide stabilized water levels to protect property values and the lake environment; ensure structures throughout the watershed are appropriately maintained; and maximize recreational benefits and 4 specific strategies including: Improvement of the Ellsworth culvert; development of a plan for the Bellaire Dam; identify the next study options for the Elk River Dam; each of which will need to be supported by gathering additional weather data for use in modeling scenarios.

The next meeting will take place on October 26th, at 1:00 pm by zoom. It is exciting to note that formation of the committee has sparked the interest of a couple new participants from Six Mile and Benway Lakes who bring valuable interest and experience to the table.

Members looking for more information can find the 2022 Hydrology and Hydrologic Study Reports on the Antrim County website at: [Flood Plain Management Study.pdf \(revize.com\)](#) and [ERCOL Hydraulic Report - Jun2022.pdf \(revize.com\)](#). The FEMA Flood Map Expansion is available at <https://arcg.is/0jXK4y0>

The video recording of the September 28th meeting is temporarily available on the Antrim County Operator of Dams Facebook page: www.facebook.com/watch/?v=340781418418628, but will ultimately be available on the Antrim County website along with minutes, videos and slide presentations used in the meetings.

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Intermediate Lake 2023 Water Quality

Our association has an ongoing program of assessing our lake's water quality, in partnership with the Tip of the Mitt Watershed Council. ILA volunteers collect data and water samples following procedures outlined in the Watershed Council's Volunteer Lake Monitoring Quality Assurance Project Plan. Sampling is done in the big part of the lake where it is 80 feet deep. Here are some of the results for 2023. More will be reported as the data comes in.

Water transparency is measured by lowering a black and white Secchi disk into the water and recording the depth at which it is no longer visible. Figure 1 shows how water clarity decreases during the summer months as summer boating activity increases and the lake is churned up. Figure 2 indicates that this year's results are typical when compared to results from 1995 through 2021.

Figure 3 displays lake water temperature with depth. While the temperature of the water at the surface gradually increases during the summer months (anybody who swims in the lake knows that!), the water temperature in the deepest parts of the lake – at 55 feet and deeper – stays pretty constant at about 45°F.

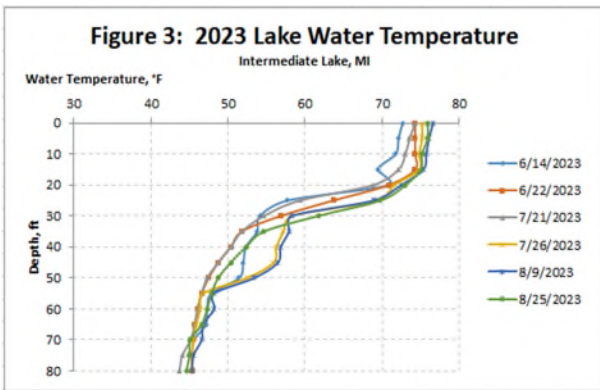
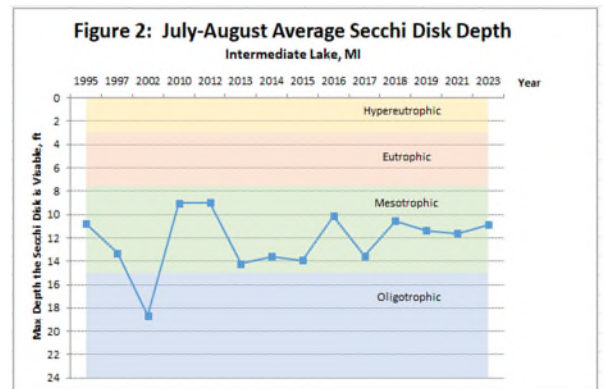
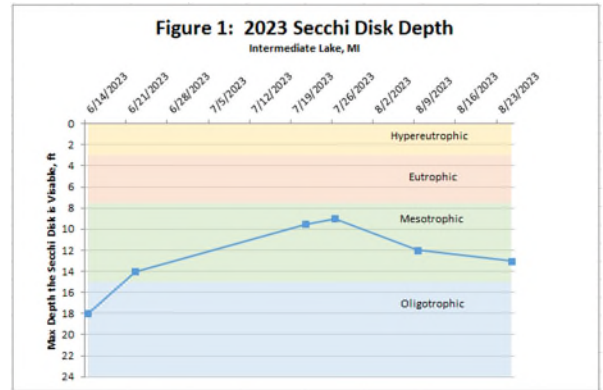
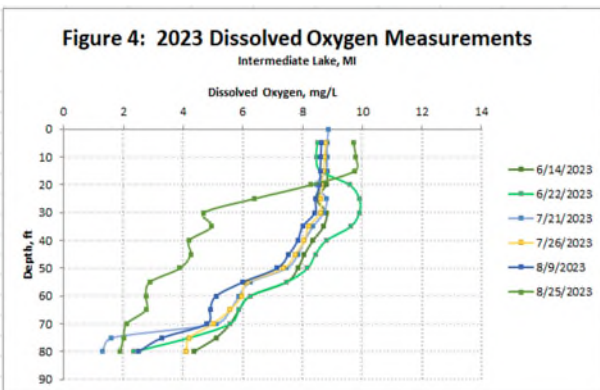


Figure 4 reports dissolved oxygen content in the water with depth. Dissolved oxygen steadily decreased as the summer progressed, which is normal as warmer water holds less oxygen than cold water. Warm water fish like 5 mg/L of dissolved oxygen or more (like bass) while cold water fish like 7 mg/L or more (walleye is a cool water species, trout is cold water). Low dissolved oxygen levels can stress fish.



We thank ILA Director Matt Gabris and his volunteer team for handling our water quality program in 2023. For 2024, ILA members Christina and Greg Bellopatrick will be coordinating our water quality effort. Please consider lending a hand to help us continue obtaining this important and interesting information! Volunteer now to help in the 2024 program.

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Something Fishy is Going On...

Do you know that the Michigan Department of Natural Resources (DNR) regularly stocks the Elk River Chain of Lakes with fish? While this information is easily available on the DNR website, we'll provide the last few year's fish stocking information for Intermediate Lake here:

On May 30, 2018 66,475 walleye were planted (1.42 inch size)

On November 9 & 10, 2021 2,339 walleye were planted (7.5 inch size)

On June 22, 2022 64,735 walleye were planted (1.5 inch size)

On June 28, 2023 50,866 walleye were planted (1.75 inch size)

Fish planting was also done on Bellaire and Six Mile (walleye), Torch (Atlantic salmon) and Elk (rainbow trout). See the DNR database for details.

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ILA is a 501c3 non-profit