

TO: Indian Lake Governmental Lake Board
Jeff Van Belle, Chairman

FROM: Tim Hull

RE: Indian Lake weed control five-year plan

DATE: September 10, 2021

My name is Tim Hull. I live on Indian Lake at 55358 Indian Lake Road.

Having attended the ILIA annual meeting on August 28, 2021 and heard the presentation by Barr Associates' representative Joe Bischoff, I am here to ask that the Indian Lake Government Lake Board consider the following comments before determining a path for the necessary care of the water quality and management of Indian Lake to ensure it will be sustained as a full recreation lake.

The content of the Bischoff presentation was the first notification of ILIA members and lake residents that the association was going to propose a radical change to the weed control processes used in our lake, and to a different vision for the lake as a full recreational water body. Immediately after the presentation and a "q and a" session, a vote was called to accept the recommendations and 5-year plan for weed control in Indian Lake. There was no time provided for lake residents to study the plan, do some follow-up research, discuss the pros and cons of the plan, and to present arguments to the ILIA regarding the content of the presentation.

Finally, today, September 10, 2021, the report presented by Mr. Bischoff is now available for review on the ILIA website. Again, little time exists for Indian Lake residents to research and review the data prior to your September 13 GLB meeting. But, having had a few minutes to review the report this morning on the ILIA website, I offer the following comments:

Contrary to the conclusions presented by Mr. Bischoff, it appears the data included in his report supports continuation of aeration of the lake. Water clarity, nutrient load measures, numbers of acres of invasive weed growth to be treated, and chlorophyll-a measures were most positive when full lake aeration was operating and nutrient filters were still situated in the Mann Drain. Additionally (and not mentioned in the Bischoff report), lake bottom hardness continued to show progressively positive measures, indicating reduction of the muck mass on the lake bottom, and aquatic vegetation lake bottom coverage improved, approaching the suggested aquatic vegetation coverage for a full recreation lake of about 35% as found in lake management literature. However, since the filters were nutrient saturated (2017) and ultimately removed (2018), each of these water quality measures has shown detrimental decline.

In his presentation, Mr. Bischoff made a few comments that to me were seriously disconcerting:

1. "I'm not sure why TP lowered after aeration was begun."
2. "I'm not really sure why water clarity degraded after 2016."
3. Paraphrased: Aeration doesn't eliminate muck. And the aerators probably contributed to disruption and relocation of siltation at the lake bottom.

These statements are clear evidence of a lack of understanding of how the aeration system works in our lake, and the positive results we have achieved over the past ten years. Further, the diffusers used in our aeration application are designed to produce laminar non-turbulent flow in a system. (Kling, 2012.) This kind of engineering is required by the State of Michigan for their use to be permitted. If the systems were found to be stirring bottom sediments into the water column, EGLE would shut them down immediately.

Yet, with so much of the Bischoff presentation touching on perceived limitations of the effect of aeration on the water quality measures of Indian Lake, the ILIA chose not to have their own aeration engineer/contractor present at the August 28 ILIA meeting to react to what was being presented. Why? Was there a preconceived notion of getting to a decision without having a fully informed membership?

Therefore, and considering the discussions of your GLB members on this past Tuesday, I ask that prior to accepting the five-year plan most recently presented to you by the ILIA, you meet with the aeration engineer/contractor for Indian Lake so that your board may act with full knowledge of what aeration has done for Indian Lake, how it manages to contribute to the general health of the lake, and what would happen if aeration of the lake is stopped in 2022.

I also support the motion of GLB Member Mick Braman that your board seek RFPs from other lake management engineers so that you meet the intent of statute and are also fully comfortable with your ultimate choice of an engineer to direct your lake management efforts.

Now, some comments on the Mann Drain:

As to the impact of the nutrient load into the lake from the Mann Drain, it was inconceivable to me that Mr. Bischoff did not have the EGLE report on its study of that nutrient flow completed in 2019 and authored by Mr. John Matousek in April, 2020 before he made his presentation to the ILIA. The data collected by Mr. Matousek clearly indicates water entering the lake from the Mann Drain holds a much higher nutrient load than the water in the lake. Yet, with all the data collected over the years regarding the drain, and the 2019 study conducted by EGLE on nutrient loads and water quality of run-off entering the lake, Mr. Bischoff offered his opinion that the drain may not be an important factor impacting the lake. By the way, when doing an Environmental Impact Statement for Indian Lake and the Sister Lakes (published August, 1982), the EPA noted that runoff from this watershed had a deleterious impact on Indian Lake that was more than 5 times that of the septic systems around the lake prior to installation of the sewer system. How much more studying needs to be done?

During the years in which the nutrient filters were installed in the drain (with permits provided by then Drain Commissioner Bruce Campbell), water quality measures of the lake were in a continuous state of improvement, suggesting that if given relief from nutrient sources pouring into the lake from upstream and with oxygen added to the lake bottom, the lake can virtually begin healing itself. During this period, the lake was reclassified from being eutrophic to mesotrophic. Yet, as mentioned above, those quality measures are showing negative changes since the filters were removed.

Kyle Alexander of the EGLE has taken the stance that the nutrient levels in the water entering the lake from the watershed through the drain are normal for “streams” in southwest Michigan, and therefore simply have to be accepted as is. That nutrient loaded water then impacts the weed and algae growth in the lake. Keeping in mind, the watershed feeding this drain is heavily used for drainage of animal and row crop agriculture in which considerable amounts of fertilizers or animal wastes exist that naturally find their way into the surface water system. So, Indian Lake becomes the septic system for the watershed, and the cost of caring for the lake is passed on to the residents of the lake. The Clear Waters Act and the EPA both indicate that downstream flows of animal waste or fertilizers from agriculture are not allowed. This is an area where the State of Michigan has had great difficulty over the last two decades, resulting in suspensions of its 404 Plan with the EPA until corrections were made. Yet, EGLE sees the practice as being normal. This is not unlike the situation of the Flint River being used for 100 or so years as a waste canal for both agriculture and industry to the point of being dangerous to the residents of the city of Flint.

The bottom line, Indian Lake is being “FLINTED.” Thus, I ask the GLB to pay particular attention to the Mann Drain factor as you proceed with your deliberations and planning.

The August 28, 2021 meeting of the Indian Lake Improvement Association was, sadly, poorly attended by residents of the lake. Don’t get me wrong. The ILIA was unfortunately put into a very bad situation when the lake board process was initiated. The ILIA board has been working tirelessly to get a five-year plan on the table as requested.

The current five-year plan recommends whole lake chemical treatment, using a product called Fluridone. There is considerable evidence that Fluridone is not an effective controller of hybrid Eurasian water milfoil such as is present in Indian Lake. Further, as has been evidenced on Indian Lake and on many Michigan lakes, this chemical treatment application tends to result in harsh outbreaks of blue green algae growth in years subsequent to application. Given this plan includes ending aeration of Indian Lake, this all but guarantees our lake will be experiencing near toxic algal problems down the road.

Meanwhile, I ask this board to proceed carefully with its efforts on behalf of Indian Lake, and to include in your study some conversations with the lake’s aeration engineer and any other pertinent professionals that might add some light to your management efforts of the Indian Lake Weed Control process.

Thank you.