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Re: Lake Tyrone Management Common Questions

September 11, 2019

Dear Lake Tyrone Residents,

The Lake Tyrone Improvement Board (LTIB) would like to provide clarification to the most frequent and common lake management questions. These questions were asked during board meetings, association meetings, phone call, or by email. This FAQ document will also be posted on our website for future reference.

Q: What is the Lake Tyrone Improvement Board (LTIB)?

The Lake Tyrone Improvement Board (LTIB) was established under Part 309 of the Natural Resources and Environmental Protection Act (NREPA). The statute provides a mechanism by which riparian residents can petition to construct and/or fund a wide array of improvements to their lake. Formation of the LTIB was initiated by petition of the residents. Lake Tyrone residents have petitioned separately for two different lake management projects: weed control and aeration. Per the statute, the LTIB is comprised of a member of the county board of commissioners, 1 representative of each local unit of government, other than a county (Hartland Township, Tyrone Township), the county drain commissioner, and an elected member that holds interest in the lake by property (lakefront property owner).

Q: What are the timeframes of the current project assessments?

The table below indicates the timeframes of collected Lake Tyrone improvement assessments from 2015-2020. Please note that the December 2016 assessment was moved by the board to the summer tax bill to alleviate the sewer assessment burden during the winter.

PROJECT	TAX BILL DATES					
	Dec 1, 2015	Dec 1, 2016	July 1, 2017	July 1, 2018	July 1, 2019	July 1, 2020
Aeration	\$341.72	\$0.00	\$341.72	\$341.72	\$341.72	\$341.72
Weed Control	\$247.39	\$0.00	\$221.13	\$221.13	\$221.13	N/A

Q: What is the Livingston County Drain Commissioner's role on the Improvement Board?

Once a petition is received, the Township(s) verify signatures and set up the Lake Improvement Board. The Drain Commissioner (or designee) holds one seat on the five-person board. The Lake Board elects a chairperson, secretary, and treasurer.

Currently, all of these responsibilities fall to the Drain Commissioner for Lake Tyrone. When the project began it was a way to help move forward when the Townships did not have the resources to take on those responsibilities. The Drain Commissioner does not have an obligation to take on any or all administrative responsibilities under Part 309.

Q: If I have a complaint, who do I contact in regards to Lake Tyrone Management?

Erin Busby (Lake Resident, Lake Improvement Board) Emebusby@aol.com

Rebecca Fedewa (Lake Resident, president of Lake Association) rebecca.fedewa@gmail.com

In order to distribute and alleviate some of the current administrative duties of the Drain Commissioner's office, Erin and Rebecca are available to answer questions and should be your first contact regarding lake management. Significant issues will be referred to the Livingston County Drain Office, Lake Improvement Board and Lake Consultant as needed.

Q: Who should I contact if I believe there is a harmful algae bloom on Lake Tyrone?

General algae concerns can be sent to Erin Busby and Rebecca Fedewa where the lake consultant may be notified in order to determine if a treatment is recommended. The Lake Tyrone Improvement Board does not sample for blue green algae or harmful algae blooms.

The link below may help you determine the relative risks associated with algae and the toxins that certain species can produce. The link also provides some additional information.

https://www.michigan.gov/egle/0,9429,7-135-3313_3681_3686_3728-383630--,00.html

If you believe that the algae on Lake Tyrone is part of a harmful bloom, we suggest contacting the following.

1. Local Health Department
2. State of Michigan – Environmental Assistance Center (1-800-662-9278 or AlgaeBloom@Michigan.gov)

Q: How is each project budget set?

Budgets are estimated at the time of a public hearing because the Lake Improvement Board needs to present the total project cost and annual assessment to the residents and then vote to approve them. The estimated project costs are prepared in conjunction with the consultant, to the best of their ability, as they try to predict over the next few years what treatments may be needed on the lake, and how costs will change over time. The plan almost always has to adapt as each year progresses because of changing lake conditions. The assessment, once confirmed at the hearings, cannot change over the course of the project.

Q: Can money within the budget move from one category to another?

Budgets are set and the category funds for a particular purpose (weed control, aeration, lake consultant, administration) can be allocated to other uses that fit within the overall project scope (e.g. Severe growth of native plants may necessitate harvesting instead of herbicides on any given year. The board can allocate unused herbicide funds to cover harvesting). Keep in mind that budget line items detailing harvesting or herbicides are all part of lake management and are often listed simply to maintain transparency. Nothing prohibits the LTIB from being able to react to changing conditions in the field by applying different management techniques to counter those changes.

Q: What happens to money that has not been spent?

The County Treasurer has a dedicated account for the Lake Tyrone Improvement project. Assessment money can only be used for the petitioned project purposes of Lake Tyrone. If there is budget leftover at the end of an assessment period, it stays in the account and can be used during the next project period. Ultimately, if the Improvement Board is dissolved and an appreciable amount of funds are left in the account, they can be turned over to the association.

Q: Why has consulting (lake management) cost increased from 2017 to 2019?

Consulting costs are higher for a couple of reasons listed below:

Dr. Jude Study

The board hired Dr. Jude (Freshwater Physicians Inc.) to perform a post-aeration study since he had performed an earlier study prior to the start of aeration project. Changing requirements at the State has increased the amount and scope of our data collection since the assessment roll was created. Based upon discussions with the state and its consultants, the Board felt that this additional data could help demonstrate the effectiveness of the aeration to the residents, as well as to provide information to the state in hopes of being allowed to aerate the deeper parts of the lake. Currently, we are prohibited from aerating past the 12 ft. depth contour, potentially compromising some of the effectiveness of the aeration project.

Restorative Lake Sciences Contract/ GEI Consultants

After much deliberation, the board chose to terminate the contract with RLS after attempts to resolve issues with the consultant were met with a combative response. GEI was hired in the interim to finish the remainder of the year in order to maintain compliance with the aeration permit. The Lake Improvement Board was very happy with the level of professionalism exhibited by GEI, as well as their final report.

Clarke Aquatics

For continued management services, a detailed request for proposals was prepared, which thoroughly outlined the needs of Lake Tyrone. The board expected, similar to the increased administrative effort required by the Office of the Drain Commissioner, that prices would come in higher than what was paid originally to RLS.

Together these factors have contributed to the higher cost of consulting from 2017-2019.

Q: What is the difference between weed harvesting and chemical weed treatment?

Weed harvesting involves floating machines which have underwater cutting blades that can sever the stems of underwater plants, gather the weeds with the use of conveyor belts, and store the vegetation on board. Harvesting is non selective, meaning all plants regardless of species (both native and invasive) will be harvested if in the cutting path. Weed harvesting can be used to help reduce excessive plant growth in areas where chemical treatment is not feasible, effective, or authorized. In addition, the use of harvesting also targets a long-term goal of reducing the nutrients in the sediment which can cause the excessive growth of weeds. By harvesting weeds instead of killing them with chemicals where they eventually sink to the bottom, the nutrients within the plants are transferred out of the lake to farmer's fields where they can be used in crop production.

Chemical applications involve the use of herbicides that are applied directly or indirectly to aquatic plant species. The different types of herbicide offer the opportunity to select which species to target. Chemical applications are regulated by the State of Michigan and the use of these products are only allowed if they meet the right criteria. This main criteria generally involves the target species and chemical type.

Q: Why would you choose one treatment type over another? (Chemical vs Harvesting)

Harvesting is often selected as a weed control option when the target species is in an area where chemical applications are not effective or allowed. These areas include- high water flow areas, areas unreachable by boat for chemical applications, and potential setback areas near dam outlets. It can also be selected to help remove weed biomass that can accumulate. Certain aquatic species can be unsuitable for harvesting because they may actually spread the target species through the cutting process. For example, Eurasian Milfoil can spread by fragmentation. If a harvester cuts milfoil that is not dead, the piece that is cut has the ability to move and establish elsewhere on the lake. Harvesting does not kill plants unless the stem is fully uprooted, but it does remove bio-mass and nutrients from the system.

Chemical treatments are typically used to be selective in targeting a specific weed. It offers the opportunity to positively impact native populations by selectively treating unwanted species. However, certain nuisance species may be unsuitable to target with chemical treatment. Products used are EPA registered, heavily regulated, and tested to prove efficacy. Chemical applications are also intended to kill the plant so that it does not return. The ability to target native species with chemicals is rigorously controlled by the state. For instance, native species growing further than 200 ft. from shore are off limits for chemical treatment. Often, the only method available to us is harvesting.

Both chemical treatment and weed harvesting have advantages/ disadvantages in lake management. One of these treatment types, both, or neither are recommended by the consultant depending on a number of different factors which can include plant species, depth of water, proximity to shore, time of year, growth etc. It is for this reason that the consultant's weed management recommendations are highly regarded.

Q: Why has weed harvesting been excluded from the management practices since 2014?

The budget for weed control was set at \$37,000 for 2017 through 2019. This budget, prepared by Restorative Lake Sciences (lake consultant from 2014-2018), was presented at a public hearing in June 2016, and included chemical weed control with no harvesting. Harvesting has not been used on Lake Tyrone since 2014, at the recommendation of RLS. The performance of the aeration system is determined by many factors which is why it is necessary to follow the recommendations of the consultant who originally designed the system.

The board has not turned down a recommended treatment (chemical, harvest, bio-augmentation) made by a lake consultant on Lake Tyrone. The board relies on the professional expertise of the lake consultant for weed control. The proposed budget below was presented at the hearing in June 2016 which represents why weed harvesting has not been performed. It is also important to note that the current lake consultant (Clarke Aquatics Inc.) has yet to recommend weed harvesting based on the current lake conditions.

Proposed Lake Tyrone Weed Control Budget (2017-2019):

Proposed Lake Tyrone Improvement Item	Estimated 2017 Cost	Estimated 2018 Cost	Estimated 2019 Cost
Aquatic herbicide treatments of lake for EWM and CLP (estimated at 20 acres of EWM with Sculpin at \$650/acre and 80 acres of CLP @\$300/acre*	\$13,000 \$24,000	\$13,000 \$24,000	\$13,000 \$24,000
Administration	\$2,000	\$2,000	\$2,000
Contingency (10%)	\$3,900	\$3,900	\$3,900
Total Annual Estimated Cost	\$42,900	\$42,900	\$42,900
Annual Estimated Cost Per Household	\$221.13	\$221.13	\$221.13

Q: Where are meetings posted for the Lake Tyrone Improvement Board?

Lake Tyrone Improvement Board meetings are posted on the drain commissioner webpage, Hartland Township Hall, Tyrone Township Hall, and the County Clerk's Office. In the future, these meetings may also be posted on the Lake Tyrone Improvement Association website.

Lake Tyrone Improvement Board meetings are only scheduled as needed. There is not a standard meeting schedule.

Public hearings require a mailed notification to every landowner that is in the special

assessment district for a particular project.

Q: Where are the consultant reports for Lake Tyrone located?

The Lake Tyrone consultant reports are located on the Drain Commissioner's webpage on the Livingston County website. There is a page specifically for Lake Tyrone which includes all the available consultant reports as pdf files. The link for this page is below.

<https://www.livgov.com/drain/Pages/Lake-Tyrone.aspx>

Q: Can we add a dredging project?

Some residents have expressed a desire to resume a dredging project. Dredging represents a significant change in the current project scope and would require a new petition from residents in order to begin a new lake improvement process. This process would include a new feasibility study, scope of work and assessment district. During that process, a cost would be developed, similar to what was done for the aeration and weed control projects. A dredging project cannot be added to the current aeration and weed control projects without an enabling petition.

Q: How are contractors selected for work done on Lake Tyrone?

Contractors are selected by the board either by recommendation of the consultant or by bid process. Factors that are considered in the decision process include company credentials, reputation, quality and costs. After comparison, contractors for a particular job are hired.