

March 5, 2017

Austin Lake Governmental Lake Board

Attn: Mr. Brian Johnson, Chairman

Dear Mr. Johnson,

Austin Lake Riparians, Inc. is a nonprofit association of property owners on Austin Lake in Portage, Michigan. Every property owner is a voting member. The Austin Lake Riparian Board of Directors consists of 8 members. Of those 8 members 7 are in favor of our recommendation and 1 member has abstained from offering his opinion while drafting this recommendation due to his position on the Austin Lake Governmental Lake Board.

The Board of Directors recommend a continuation of the aeration project for another 5 years with the option of continuing the project for another 5-year period. Our recommendation is based on the following:

1. The project originated in a desire to **reduce organic muck** in the 200-acre South Basin.
 - Unfortunately, the project did not include the collection of data to assess how much muck would have increased without aeration or how much muck shifted from other points in the lake. In the 5 years of its operation, four years resulted in a muck reduction while one year the muck increased. While, to date there has been an average net gain in muck of about 4.5 inches, it is theorized this is largely due to shifting and, when adjusted for shifting, the data would likely be consistent with a reduction in the growth rate of muck and in the muck itself. We recommend adding an appropriate number of control sites outside of the South Basin, to gauge the effectiveness of the aerators in the South Basin.

We recommend continuing the aeration project as we believe the project will result in a reduced rate of new muck build up and most likely a reduction of overall muck.

2. The last 5 years have proven that **sediment ammonia** and **sediment nitrogen** are now **at negligible levels**.
 - The biochemistry of the lake sediments has been impacted in a positive manner and all lake residents enjoy less of the characteristic rotten egg smell. Increased oxygen content in the South Basin increases oxygen content in the entire lake over time and will result in a more balanced healthier lake overall.

We recommend continuing the aeration project to ensure further positive results for the entire lake biochemistry.

3. The last 5 years have shown a successful **eradication of Eurasian Watermilfoil**, an invasive species that causes severe problems for many lakes in Michigan (and beyond).

- Watermilfoil growth leads to reduction of native plants and other aquatic species that rely on native plants. Its massive growth reduces the open water for recreational activity and for fish as feeding and breeding grounds. Sedimentation and muck will increase as the watermilfoil dies off each winter and decays. The damage of Eurasian Watermilfoil has been well documented and we believe its growth can be avoided for the South Basin (and perhaps the rest of Austin Lake) by continuing the aeration project.

We recommend continuing the aeration project to stall the advance of Eurasian Watermilfoil and other invasive weeds in Austin Lake.

4. The continuation of the aeration project will **prevent or prolong the need to use chemical herbicides** to eradicate Eurasian Watermilfoil in Austin Lake.

- Some neighboring lakes have been using or are in the process of evaluating the use of herbicides to battle the negative impact of Eurasian Watermilfoil. The chemical herbicide is used every 1 to 3 years at a cost from \$200 to \$2,000 per acre to allow for an undisturbed recreational use of affected lakes.

We recommend continuing the aeration project to prolong and hopefully avoid the use of a chemical herbicides.

5. The last 5 years have shown an **increase of 4 species of native aquatic plants**.

- It is believed the eradication of the Eurasian Watermilfoil is responsible for this positive development in plant diversity.

We recommend continuing the aeration project as we believe it will further increase plant diversity and hence the overall biodiversity (flora and fauna) of the lake.

6. The total **dissolved solids and conductivity have declined** in the South Basin.

- This is favorable for aquatic life and is an indicator of an improved aesthetic quality of the lake water.

We recommend continuing the aeration project to further enhance the biodiversity of the lake and increase its aesthetic appeal by reducing solids in the water.

7. We recommend continuing the aeration project since, due to its prohibitive cost and environmental concerns, dredging is not a viable option.
8. Residents care for their yards and backyards in different fashions and with different standards and priorities.
 - **Austin Lake is the continuation of all riparian yards** and, just as our yards require some support to thrive, so does Austin Lake. All residents have the right to use all the lake. An improved South Basin means an improved Austin Lake which equates to maintained or increased property values.

We recommend continuing the aeration project and to apportion all costs (after subtracting City of Portage and Kalamazoo County contributions) equally among all Austin Lake Riparians.

We believe the potential long term positive effects of aeration are worth the continued investment in the project. The equipment is installed and the cost for operating the project can be calculated from the experience of the past 5 years. We understand the benefits of operating this minimally invasive program and there are no indications of risk to our lake environment nor to those that live on and use the lake. The initial investment has been made and all residents can continue to benefit from it should the project continue.

In summary, The Austin Lake Riparians, Inc. Board of Directors feel strongly toward the continuation of the aeration project for the above listed reasons.

Best regards,

Gary Hahn
President

On behalf of the Board of Directors, Austin Lake Riparian's Inc.