



Henderson Lake  
Bill Olsen – Primary Contact  
2937 Chippewa Trail  
Lupton MI. 48635

January 12<sup>th</sup>, 2024

Henderson Lake Property Owners,

It has really been a pleasure managing Henderson Lake over the years. Every year seems to bring a unique set of challenges and we welcome the opportunity to meet these challenges for you every single year. We hope that you continue to feel that your lake was managed professionally, economically, and effectively. I have prepared and attached to this document the 2023 annual report for Henderson Lake. This report includes a descriptive timeline of services rendered, a summary, the 2023 treatment maps, and the water quality report for Henderson Lake.

Please keep in mind that we are a fully integrated lakes management company offering solutions including but not limited to mechanical harvesting, herbicide control, dredging, bio-augmentation, and aeration. Savin Lake Services also offers a complete range of water quality testing, depth contour mapping, individual property solutions, and even aquatic plant density reporting.

We look forward to continuing as the Lakes Management service provider for Henderson Lake again next year. Until then; if you have any questions, comments, or require additional information, feel free to contact us.

Sincerely,

Matt Novotny – Operations Manager  
Savin Lake Services



## Henderson Lake - 2023 Lake Management Report

In 2023, Savin Lake Services was on Henderson Lake a total of 7 times to provide services. Henderson Lake received 3 herbicide/algaeicide applications, and 3 bacterial augmentation (Muck Buster) treatments. In addition to the treatments, we also conducted water quality testing twice. Below is a descriptive timeline and information pertaining to the services we completed.

### Timeline of Services Rendered

#### May 15<sup>th</sup>, 2023

- Savin Lake Services conducted spring portion of the water quality studies.
  - Our Aquatic Biologist collected data and samples to test the water quality of Henderson Lake.
  - Water samples and data were collected and analyzed from three sites on the lake.
  - Data is collected for 9 different parameters at each site.
    - Parameters we tested for are Temperature, Dissolved Oxygen, Secchi Disk, pH, Chlorophyll a, Nitrate, Phosphorus, Alkalinity, and Conductivity.
  - Report was generated from data and can be found after the treatment maps of this document.

#### June 12<sup>th</sup>, 2023

- Savin Lake Services conducted our initial herbicide/algaeicide treatment.
  - We treated for algae and nuisance vegetation in the near shore developed areas of the lake that required treatment.
    - 7.5 acres of the lake for algae.
    - 12.5 acres was treated for the curly leaf pondweed, a small amount of Eurasian Watermilfoil, and native plants like sago pondweed,.
    - 12.5 acres of various native pondweeds like Illinois pondweed and Richardson's pondweed
- Observations
  - Some Eurasian watermilfoil was detected, but very small amounts.
  - Natives could be found in all the typical areas we have found them in the past.

#### June 30<sup>th</sup>, 2023

- Savin Lake Services conducted our initial bacterial augmentation (Muck Buster) treatment.
  - 5.5 acres received treatment.
    - Same areas that we treated in years past.





### July 18<sup>th</sup>, 2023

- Savin Lake Services completed our second herbicide/algaecide treatment.
  - This treatment was for algae and nuisance native plant communities in the near shore developed areas of the lake.
    - 10 acres of the lake was treated for algae.
    - 10 acres of the lake was treated for nuisance large-leaf pondweed, white-stemmed pondweed, and Illinois pondweed.
    - 7.5 acres of the lake was treated for bladderwort and naiad.
- Observations
  - Lake looked great contained minimal nuisance plant and algae growth that required treatment.
    - Only areas of the lake that contained nuisance natives that reached a level to impede desired recreational use were treated.

### August 11<sup>th</sup>, 2023

- Savin Lake Services conducted second bacterial augmentation treatment.
  - Treated the same 5.5 acres we did earlier in the year.

### September 12<sup>th</sup>, 2023

- Savin Lake Services conducted our final herbicide/algaecide application of the year.
  - This treatment was for algae, nuisance natives, and emergent plants in near shore developed areas. However it was determined that the vegetation in the lake did not need treatment, therefore only emergent vegetation was treated at this time.
    - Approximately (19) 40 ft. X 40 ft. areas of the lake were treated with Imazapyr for Emergent plants in near shore developed areas.
      - Emergent plants treated include lily pads and watershield.
- Observations
  - The lake was in good shape, submerged vegetation did not need treatment.
  - Only native submerged plant species found.
  - Continue to see an increase in native plant densities.
- Savin Lake Services conducted the final bacterial augmentation treatment for the season at the same time.
  - Same 5.5 acres treated as earlier in the season.

### September 13<sup>th</sup>, 2023

- Savin Lake Services conducted fall portion of the water quality studies.
  - Our aquatic biologist collected data and samples to test the water quality of Henderson Lake.
  - Water samples and data were collected and analyzed from three sites on the lake.
  - Data is collected for 9 different parameters at each site.



- Parameters we tested for are Temperature, Dissolved Oxygen, Secchi Disk, pH, Chlorophyll a, Nitrate, Phosphorus, Alkalinity, and Conductivity.
- Report was generated from data and can be found after the treatment maps of this document.

### **Summary:**

The main objective for aquatic plant management is to mitigate and prevent non-native invasive plant infestations to create and/or sustain a healthy and diverse balance of plants. We successfully complete this objective by conducting routine monitoring (surveys and water quality studies) and utilizing the best management practices (BMP) to selectively manage aquatic plants.

Routine water quality monitoring provides us baseline data of current lake conditions to raise awareness and provide the available options to remediate any current ecological concerns. The productivity (the variety and number of aquatic organisms of food web) depends on the availability of energy (usually solar) and raw materials (nutrients, minerals) within the ecosystem. By limiting the availability of any these required resources you can limit the amount of productivity in ecosystem and vice-versa. Conducting water quality testing provides us the opportunity to be proactive instead of reactive in our management approach, reducing mitigation costs and financial burden imposed on stakeholders. We can “take control before things get out of control”.

Conducting routine plant surveys allows us to identify areas of the lake containing invasive plant communities capable of negatively impacting the lake’s ecology. Conducting these surveys also allows us to identify the developed near shore areas of the lake containing native plants that are detrimentally impeding recreational use. The information contained from the surveys is utilized to evaluate available control methods to reduce the nuisance plants. Best management practices for aquatic plant management include aggressively target invasive plant communities utilizing selective systemic herbicides whenever possible, and only control native plant populations in areas they are detrimentally impeding the recreational use of the lake. This keeps the invasive plant species in check and allows native flora to outcompete the invasive plants reducing their probability of further establishment throughout the lake. This reduces the potential threat invasive plant species pose on a lake’s ecosystem, and aid in prevention of new infestations without detrimentally impacting other aquatic life in the process. Allowing native plant communities, the opportunity to outcompete the invasive plants will prevent, reduce, and/or remove invasive plant presence in a waterbody.

Henderson Lake is proof that this management strategy works. Henderson Lake is a mildly productive extremely healthy lake that becomes nutrient limited in the summer months. This limits the amount of additional biomass the ecosystem can produce. We continue to see success in the lake management strategy. The water quality data collected and analyzed shows no signs of any immediate imminent threat. Water quality parameters are in line or better than many of the other lakes in the area.





The 2023 season was another great year for Henderson Lake. Eurasian watermilfoil was observed this year, but only in a couple locations and after the initial treatment, was not observed. The lake continues to respond greatly to the herbicide management approach. This report confirms the success and achievements, that were accomplished by the collaborative provision and continuous communication between Savin Lake Services and the Henderson Lake Milfoil Committee. By strategically working together we were able implement an efficient, effective, and successful lakes management plan for Henderson Lake.

The management approach for 2024 will be consistent and targeted to accomplish the same primary objects as the approach taken in previous season. We will be monitoring the lake regularly, aggressively managing the invasive plants throughout the entire lake, and manage nuisance natives (when necessary) in the near shore developed areas. We will continue to monitor the native plants offshore and implement a change to manage them if they reach the nuisance level threshold.

Savin Lake Services has continued to grow as a company year after year. Every year we expand our professional portfolio along with providing additional lakes management services. We are currently in the process of acquiring ownership of Alcona Dredge, LLC. We have had a long-term relationship with Alcona Dredge and have partnered with them to complete several dredging projects. We recently were presented with the opportunity to purchase the dredging company. The change in ownership is now in the process and Savin Lake Services will soon own 2 W&S Cutterhead suction dredges and all the equipment to complete dredging projects. With acquiring ownership of Alcona Dredge we are now the only vertically integrated lakes management firm in the state.

It has really been a pleasure being involved with the project and seeing the progress that has been made over the past 13 years. We look forward to another successful, efficient, and effective treatment season this year. If you have any questions, comments, or require any additional information, please feel free to contact us.

Sincerely,

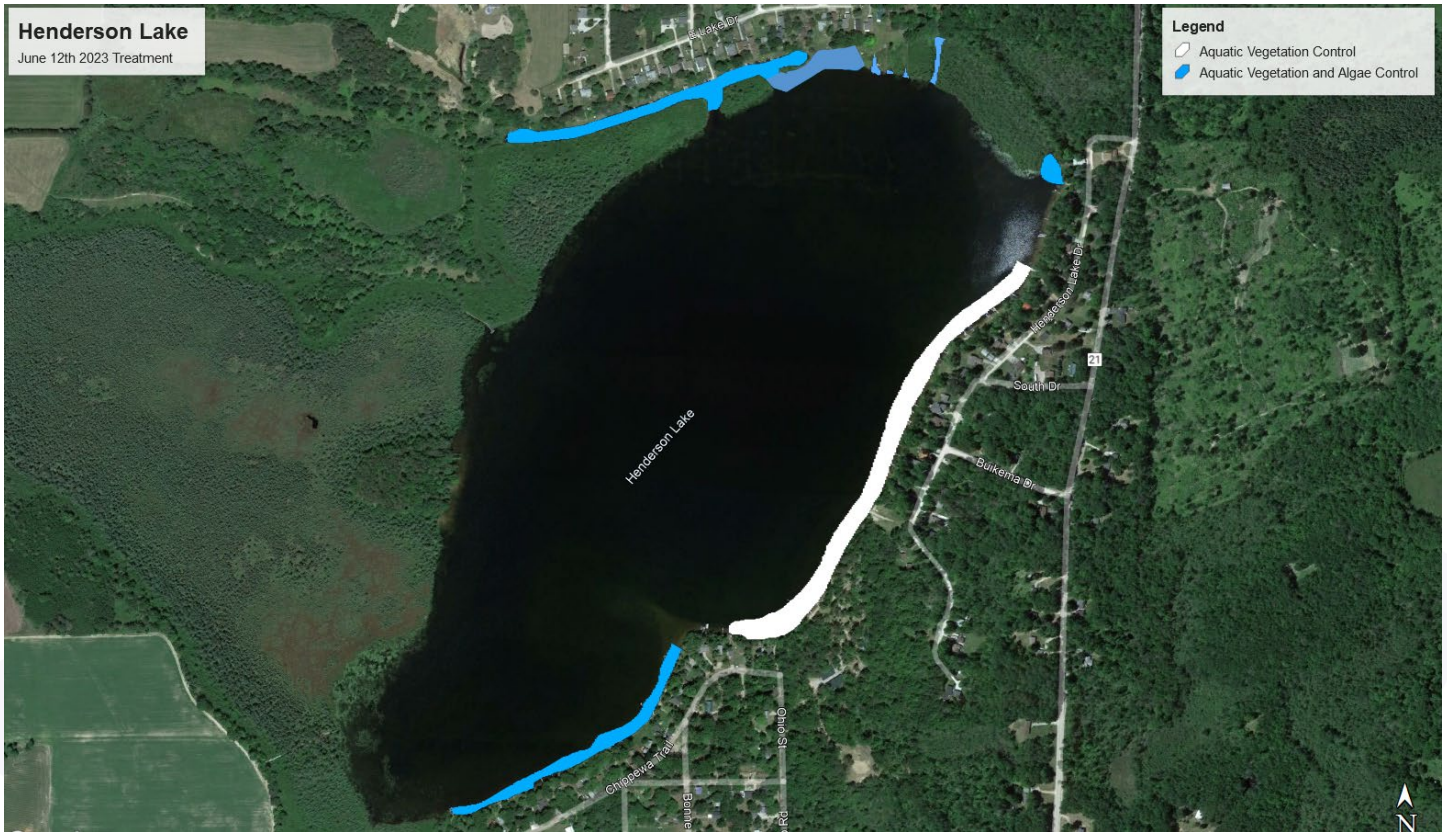
Matt Novotny – Operations Manager  
Savin Lake Services





**Treatment Maps:**

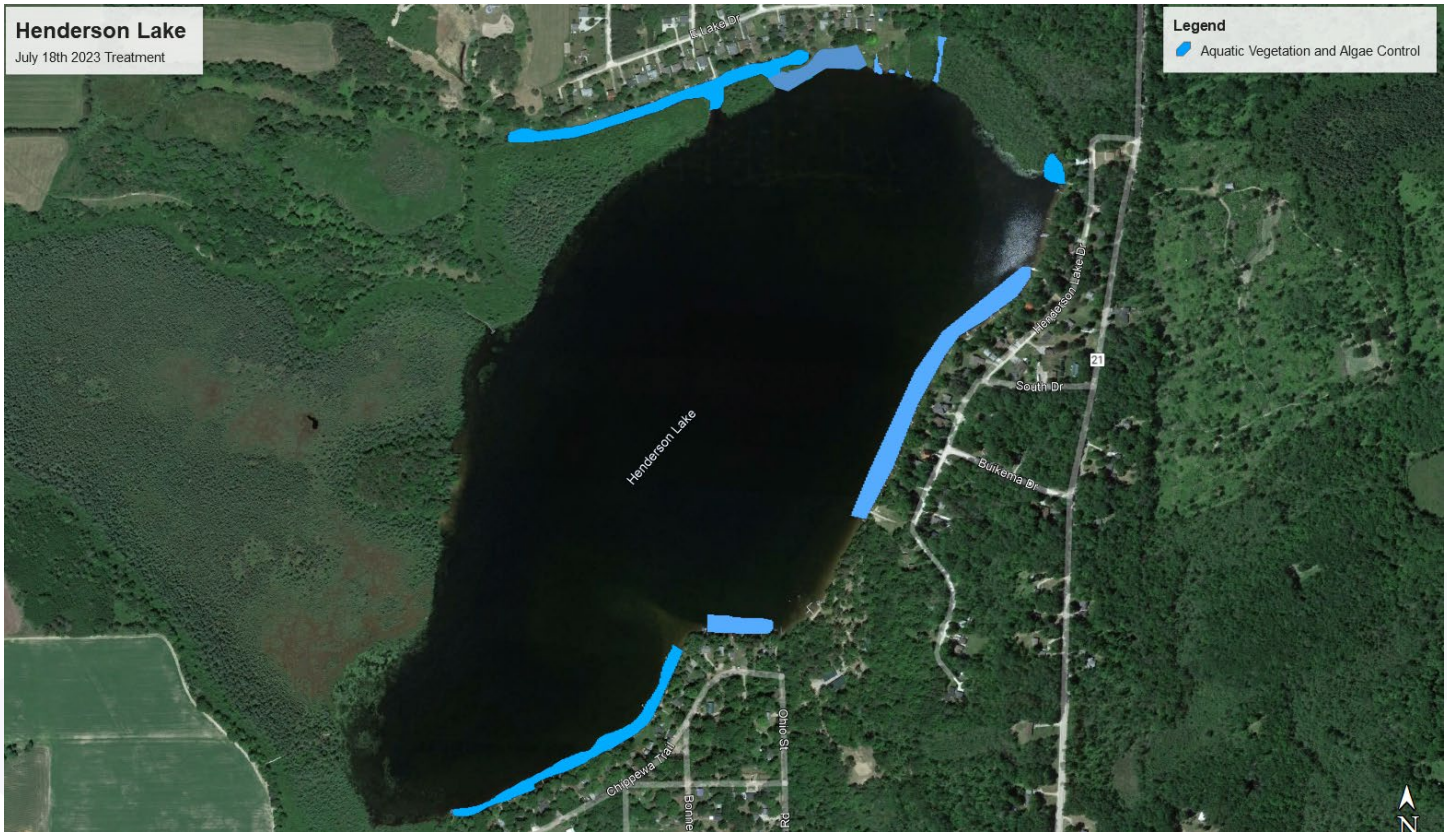
**June 12<sup>th</sup>, 2023 Treatment**







**July 18<sup>th</sup>, 2023 Treatment**







## September 12<sup>th</sup> 2023 Treatment Map







## Muck Buster Treatment Areas

