

AGENDA

WALLED LAKE LAKE IMPROVEMENT BOARD MEETING

June 17, 2025
2:00 PM

Novi Civic Center
45175 Ten Mile Road
Novi, MI

- I. Call Meeting to Order
- II. Roll Call
- III. Public Comment
- IV. Approval of Minutes of September 19, 2024 Meeting
- V. Acceptance of 2025 Treasurer's Report through May 31, 2025 and 2024 Annual Financial Report
- VI. Approval to reimburse the Chair for educational trainings
- VII. Discussion of 2024 Water Quality Report and 2025 Treatment to date by Savin Lake Services
- VIII. Discussion of 2020-2024 Treatment Review and 2026-2030 Recommendations
- IX. Discussion of Project Renewal (Years 2026 to 2030)
- X. Public Comment
- XI. Other Business
- XII. Adjournment

**WALLED LAKE
LAKE IMPROVEMENT BOARD MEETING
MEETING MINUTES
SEPTEMBER 19, 2024**

The meeting of the Lake Improvement Board for Walled Lake was held at the Novi Civic Center Council Chambers. **The meeting was called to order by Tina Miller, Chair, at 2:03 PM.**

Present:

Tina Miller, Riparian Owner Representative (Chair)
Megan Mikus, City of Novi Representative (Secretary-Treasurer)
Dennis O'Rourke, City of Walled Lake Representative
Ajay Raman, Oakland County Board of Commissioners' Representative
Karen Warren, P.E.; Oakland County Water Resource Commissioner's Representative

Also Present:

Katherine Oppermann, City of Novi, Assistant to the City Manager
Mark Roberts, Attorney, Secrest Wardle
Matt Novotny, Savin Lake Services, Operations Manager
Jerry Anderson, 127 S Pontiac Trail, Walled Lake, MI
Kristin Corbett, City of Novi, Deputy Assessor
Mindy Fernandes, City of Walled Lake, Council Member

Public Comment: None

Approval of September 14, 2023 Minutes

Moved by O'Rourke, Supported by Raman
CARRIED 5-0: To approve the minutes of the September 14, 2023 meeting.

Treasurer's Reports

Treasurer/ Member Mikus started with the 2023 Annual Financial Report, stating that the Balance on Hand at the end of the 2023 year was \$167,028.05. She noted that the lake treatment was significantly less than the budgeted amount, resulting in an increase to reserves. Additionally, the EGLE Permit Fee was not invoiced until January 2024 and as such will be reflected on the 2024 Treasurer's Report.

Member Mikus then moved on to the 2024 Treasurer's Report, which is currently through September 1, 2024. The balance on hand is \$187,722.07.

Moved by Raman, Supported by O'Rourke

CARRIED 5-0: To receive and file the 2023 Annual Financial Report and 2024 Treasurer's Report for activity through September 1, 2024.

Approval to reimburse the Chair to attend educational trainings

Chair Miller presented a request for reimbursement for the Michigan Lake Stewardship Association's (MSLA) Conference held from April 26-27, 2024.

**WALLED LAKE
LAKE IMPROVEMENT BOARD MEETING
MEETING MINUTES
SEPTEMBER 19, 2024**

She updated the Board on her main takeaways from the conference. Her first point was on mute swan control, a matter previously discussed at a Lake Association meeting, their two options on the issue are: petitioning shoreline owners (potentially by having the Lake Improvement Board pay for postage and mailers) or provide a resolution from an elected local government official who represents the property owners on the body of water that approves mute swan control for that site. She wanted to share this information on measures that can be taken to remove swans from the lake as she believes we will see the mute swans return to the lake in the fall.

Another small point is about Michigan septic solutions. Michigan is the only State on the nation without a Uniform Statewide Septic Code. Local Sanitary Codes determine guidelines for types of systems/installations but do not provide a way to evaluate performance. Septic Systems can contribute to poor water quality so, while she is unsure how many septic systems exist on the lake, she thought it important to bring up.

Moved by Mikus, Supported by O'Rourke

CARRIED 5-0: To reimburse Chair Miller \$874.90 for the educational trainings she attended and associated membership.

Receipt of insurance coverage for the Board and discussion about renewal

Member Mikus stated that the last Board meeting, they discussed having liability coverage for the Board, the first time doing so. At that time, she obtained a quote and worked with the Board Attorney and insurance broker to obtain coverage for the Board Directors & Officers only, as recommended. She reported on the fees paid for 2024 and the estimated 5% increase expected to the coverage cost for 2025, for the same amount of coverage. She asks if the Board would like to renew the current coverage policy, with the same exposure, for 2025.

Chair Miller stated that she appreciates the forethought in obtaining the coverage, looking out for all members of the Board, and approves of the expense as well as the expected increase for renewal.

Moved by O'Rourke, Supported by Warren

CARRIED 5-0: To receive the 2024 board insurance coverage and the 2025 renewal, to budget up to \$3,100 to renew the 2025 rate and exposure.

Certification of Delinquent Assessment Reports from Walled Lake and Novi

Treasurer/ Member Mikus reported that the City of Walled Lake paid the 2023 Walled Lake Improvement Board Assessment in full on June 12, 2024, in the amount of \$37,402.77. The City of Novi reports that a total of \$1,970.73 is delinquent from 18 parcels for the City of Novi. The interest accrued through September 1 for Novi delinquent payments is

**WALLED LAKE
LAKE IMPROVEMENT BOARD MEETING
MEETING MINUTES
SEPTEMBER 19, 2024**

\$59.14. She also explained the payment process for the City of Walled Lake and that they pursue any delinquencies directly through the County.

The Board Attorney informed the Board that a motion from the Lake Board is necessary to certify the delinquent amounts plus interest for the City Assessing official for each City.

Moved by Raman, Supported by O'Rourke

CARRIED 5-0: To certify the delinquent assessment reports received from the City of Novi and to turn them over to the City Assessor of Novi.

Moved by Raman, Supported by O'Rourke

CARRIED 5-0: To certify the delinquent assessment reports received from City of Walled Lake and to turn them over to the City Assessor of Walled Lake.

Discussion of 2024 Treatment Review & Water Quality Report by Savin Lake Services

Chair Miller requested that the representative from Savin Lake Services speak first on the treatments to date and to then to discuss the request regarding fall treatment.

Matt Novotny, Operations Manager from Savin Lake Services presented to the Lake Board. He started with testing results based on the Spring analysis as Fall has not been received back yet. Overall, phosphorus is down, and water clarity is near normal values (improved over recent years). The area of some concern is Conductivity, which is an F grade. Conductivity detects the capacity of water to conduct an electric current. More importantly, however, it measures the amount of materials dissolved in the water, since only dissolved materials will permit an electric current to flow. He stated that Walled Lake had the highest level that Savin has measured though he also noted that the numbers have slowly been going down over 10 years, but that they still remain very high. Everything else has very good values, except Secchi Disc Depth which, for reasons currently unknown has been decreasing, a trend which should be paid attention to though it is a consideration relative to other health measurements for the lake. Chair Miller spoke on her own citizen science measurements of Secchi Disc Depth and agreed that the Board should continue to pay attention to it.

Member Raman asked about the consequences/impact of the high conductivity. Mr. Novotny said that, on a lake of the size of Walled Lake, it would be hard to say if there would be any consequences within our or the next lifetime. He noted risks of high salinity and thermal climb, which he saw in a smaller lake in years past. Mr. Novotny also affirmed that he will be consulting with an expert on both this topic and other questions Chair Miller had in order to report back to the Board.

Member Raman also asked if it would be worth testing to determine the actual content of the dissolved materials, especially to find out how much might be resulting from road salt. Mr. Novotny agreed that it could be useful to measure and have firm information to report back to the community. He also stated that he is not an expert and does not know

**WALLED LAKE
LAKE IMPROVEMENT BOARD MEETING
MEETING MINUTES
SEPTEMBER 19, 2024**

what the options, if any, for treatment to improve the conductivity would be at this time. Chair Miller thinks that, regardless, getting a baseline would be useful.

Mr. Novotny then went into the specifics of the 2024 lake treatments and Savin Lake Service's recommendations for a treatment plan/projected cost for 2025. In 2024, they predominantly used a Diquat + ProcellaCOR EC Combination, but it did not decrease the Eurasian Watermilfoil as much as hoped for long-term systemic control. He believes using standalone ProcellaCOR EC in the future would be more effective, albeit more expensive (approximately 3x more costly). The relative difficulty of treating Starry Stonewort, especially in relation to it growing in deep water, was also discussed. Additionally, Mr. Novotny noted that he does not expect the Curly Leaf Pondweed to expand any further than it has.

In response to Chair Miller's inquiry about a fall treatment, Mr. Novotny stated that the two optimal times for the systemic standalone treatment are early spring and early fall/late summer. Chair Miller thinks that a fall treatment could have an impact on the Eurasian Watermilfoil, particularly in the shallower areas of the lake. She proposes that this year, with the right temperatures and low traffic, would be ideal to reach into the reserves to pay for this additional treatment. Mr. Novotny noted that the fall treatment could have a notable impact for next year and potentially beyond. That said, the figure he quoted for Chair Miller is not firm, only per Prescription dosage unit (PDU) which will need to be determined. The total cost would depend on the budgeted amount and would also ultimately affect the 2025 Plan costs as they would not re-treat the same area again in Spring.

Member Mikus asked, from a Lake Treatment perspective, if Spring or Fall would be better for treating the area. Mr. Novotny said that he would say Spring is better, but that they have done many effective Fall treatments. The lower biological activity makes Spring slightly more effective. He also noted that he would not recommend splitting up a bed, a larger treatment area and treating a whole bed in its entirety is better. Member Mikus suggested potentially testing by treating the smaller northern section in fall.

The Board Attorney suggested that, in the contemplation of a budget amendment, the Board should determine a firm number that they can budget for. Member Mikus also noted that it would have to be determined if the cost should be reflected in the 2024 or 2025 budget year.

When prompted for a Fall treatment of the northern section "do not exceed" budget number, Mr. Novotny suggested \$30,000 for 10 – 15 acres (at approx. \$2,000.00 per acre). Given the remaining approximate \$11,800 remaining reported by Treasurer/Member Mikus this would be a budget amendment of \$19,000.

Moved by Miller, Supported by O'Rourke

CARRIED 5-0: To approve a Fall Herbicide Treatment for Walled Lake not to exceed \$30,000.00 and amend the budget for the \$19,000.00 difference.

**WALLED LAKE
LAKE IMPROVEMENT BOARD MEETING
MEETING MINUTES
SEPTEMBER 19, 2024**

Discussion of 2025 Treatment Recommendations by Savin Lake Services

Member Mikus noted that for the May 2025 Treatment recommendations, the Board will need to determine if they want to budget for treatment of 50-acres of standalone ProcellaCOR EC or the Diquat + ProcellaCOR EC Combination. Mr. Novotny noted that treatment of Curly Leaf Pondweed would still take place regardless but that it might be done at a different time or in a different fashion. Chairperson Miller suggests staying with the current 2025 suggestions as written. This would be a budget of about \$100,000.00 for the 2025 year.

Consideration of renewal with Savin Lake Services for 2025 Lake Treatment Services

Moved by Mikus, Supported by Warren

CARRIED 5-0: To approve the lake treatment services contract renewal with Savin Lake Services for the 2025 calendar year (reaffirming the original 2022 proposal, as a 1-year extension).

Discussion of budgeting for a Biobase study or studies for 2025 to 2030

Chair Miller noted that this study is needed roughly every five years and that it was last performed in 21/22.

Mr. Novotny stated that this is a hydroacoustic study that produces three maps: a depth contour map, a bottom hardness map (shows relative hard/soft, or muck/sand), and a vegetation heatmap/biovolume map. The third map is especially useful from a lake treatment perspective as it shows you exactly where the weed beds are in the lake. The study would be a one-time cost of \$4,000.00.

Member Mikus asked if this study would be useful to have for the next project term (2026 – 2030), to which Mr. Novotny agreed that yes, it would be.

Member Mikus stated that with that information she would support budgeting an additional \$4,000.00 for the biomass study on proposed 2025 budget line for Harvesting and Herbicide Treatments (including studies and surveys).

Approval of 2025 Budget

Moved by O'Rourke, Supported by Raman

CARRIED 5-0: To approve the proposed 2025 Budget, adding \$4,000.00 to the Harvesting and Herbicide Treatments (including studies and surveys) Line.

Discussion of Project Renewal (Years 2026 to 2030)

Member Mikus reported that the last Project Term started in 2020. To renew the project for another term the Tax Roll would need to go on the December 2025 at the latest.

**WALLED LAKE
LAKE IMPROVEMENT BOARD MEETING
MEETING MINUTES
SEPTEMBER 19, 2024**

The Board discussed the details regarding this process. They will need to meet to finalize project costs and a loose budget in order to refer it to the Assessors so that they can prepare the roll. A Public Hearing would then need to be scheduled and advertised to meet legal requirements.

With consideration given to the City Assessor schedules, it was tentatively planned to have a March/April 2025 meeting. Treasurer/Member Mikus will reach out around mid-February to schedule the meeting.

Public Comment - None

Other Business

Member O'Rourke informed the Board that Mr. Galloway recently had a stroke. He has been in contact with his daughter, who he knew growing up. Mr. Galloway had a large number of maps and riparian paperwork that his daughter would like to pass onto the Lake Board. Member Mikus said she could drop off the materials at the Department of Public Works or City Hall.

Adjournment

There being no further business to come before the Lake Improvement Board;
Member Mikus made a motion to adjourn, supported by Member Warren, all were in favor. The meeting was **adjourned at 4:01 pm.**

Megan Mikus
Secretary/Treasurer

**WALLED LAKE IMPROVEMENT BOARD
2024 ANNUAL FINANCIAL REPORT**

BALANCE ON HAND:	12/31/23	\$167,028.05
-------------------------	-----------------	---------------------

INCOME	Annual Total	Budget	Notes
Assessments (City of Novi)	\$ 59,506.04	\$ 61,090.00	1,3
Assessments (City of Walled Lake)	\$ 37,402.77	\$ 37,403.00	2
TOTAL INCOME	\$ 96,908.81	\$ 98,493.00	

EXPENSES			
Harvesting and Herbicide Treatments (including studies and surveys)	\$ 100,175.56	\$ 102,500.00	4
Permit Fee	\$ 1,600.00	\$ 1,600.00	
Administrative & Legal	\$ 7,296.63	\$ 8,500.00	5
Other	\$ 874.90	\$ 1,000.00	
TOTAL EXPENSES	\$ 109,947.09	\$ 113,600.00	

BALANCE ON HAND:	12/31/24	\$153,989.77
-------------------------	-----------------	---------------------

Notes

- 1 Novi payment includes assessments paid to date to Novi
- 2 Walled Lake has paid the assessment in full
- 3 Include 2022 Delinquent Tax Settlement from the County (City of Novi)
- 4 Fall herbicide treatment approved to not exceed \$30,000; and budget amended to increase \$19,000 at 9/19/24 meeting
- 5 Two years' worth of Board insurance is reflected in this year because of when the Board was billed (January & November 2024)

INCOME DETAIL

<u>Description</u>	<u>Ref. Number</u>	<u>Entity</u>	<u>Amount</u>
2022 Delinquent Taxes (City of Novi)	32933	Oakland County	\$ 556.45

EXPENSE DETAIL

<u>Description</u>	<u>Invoice No.</u>	<u>Vendor</u>	<u>Amount</u>
Permit Fee 2024	10184	Savin Lake Services	\$1,600.00
Board Insurance Coverage 11/15/23 to 11/14/24	NDS01950	Kapnick & Company	\$2,864.55
Legal Services thought 4/30/24	1494988	Secrest Wardle	\$65.00
Water Quality Sampling 4/25, Survey 5/20 & Herbicide Treatment 5/29/24	10711	Savin Lake Services	\$55,798.54
Legal Services thought 6/04/24	1499337	Secrest Wardle	\$26.00
Herbicide Treatment 7/15/24	10797	Savin Lake Services	\$7,121.40
Herbicide Treatment 8/13/24	10824	Savin Lake Services	\$8,739.30
Legal Services though 9/19/24	1503097	Secrest Wardle	\$1,340.20
Chair Educational Reimbursement approved at 9/19/24 meeting	CR11353	Tina Miller	\$874.90
Herbicide Treatment 8/13/24	10929	Savin Lake Services	\$28,516.32
Board Insurance Coverage 11/15/24 to 11/15/25	52801	Kapnick & Company	\$3,000.88

TOTAL EXPENSES **\$109,947.09**

Submitted by _____


Megan Mikus, Secretary/Treasurer

**WALLED LAKE IMPROVEMENT BOARD
2025 TREASURER'S REPORT
Through May 31, 2025**

BALANCE ON HAND:	12/31/24	\$153,989.77
-------------------------	-----------------	---------------------

INCOME		<u>Annual Total</u>	<u>Budget</u>	<u>Notes</u>
Assessments (City of Novi)	\$	54,829.50	\$ 61,090.00	1
Assessments (City of Walled Lake)	\$	37,402.77	\$ 37,403.00	2
TOTAL INCOME	\$	92,232.27	\$ 98,493.00	

EXPENSES				
Harvesting and Herbicide Treatments (including studies and surveys)	\$	24,003.95	\$ 103,238.00	
Permit Fee	\$	-	\$ 1,600.00	
Administrative & Legal	\$	52.00	\$ 8,500.00	
Other	\$	-	\$ 1,000.00	
TOTAL EXPENSES	\$	24,055.95	\$ 114,338.00	

BALANCE ON HAND:	05/31/25	\$222,166.09
-------------------------	-----------------	---------------------

Notes

- 1 Novi payment includes assessments paid to date to Novi
- 2 Walled Lake has paid the assessment in full

EXPENSE DETAIL

<u>Description</u>	<u>Invoice No.</u>	<u>Vendor</u>	<u>Amount</u>
Legal Services thought 4/22/25	1515947	Secrest Wardle	\$ 52.00
Herbicide Treatment 5/19/25	INV-25-22725	Savin Lake Services	\$ 24,003.95

TOTAL EXPENSES **\$ 24,055.95**

Submitted by _____


Megan Mikus, Secretary/Treasurer

From: [T. Miller](#)
To: [Tina Miller](#); [Mikus, Megan](#)
Subject: Fwd: Thank you for your payment
Date: Tuesday, May 13, 2025 8:00:22 PM

Submitting for reimbursement: fees for secchi disk and summer phos levels.
Tina Miller

----- Forwarded message -----
From: <NoReply@ecommerce.msu.edu>
Date: Mon, May 12, 2025 at 7:51 PM
Subject: Thank you for your payment
To: <marktinamiller@gmail.com>

This receipt is from Michigan State University on behalf of MiCorps.

MiCorps
1407 S Harrison Road
East Lansing, MI, 48823
517-432-0446
MiCorps@msu.edu

Training Requirements: Training is required for participation in most Cooperative Lakes Monitoring Program parameters. Visit www.micorps.net for details on upcoming training opportunities.

Receipt Number: 6877000
MSU Online
Date: 05/12/2025
Business Date: 05/13/2025

Name: Tina Marie Miller

e-mail: [REDACTED]

Description	Amount
Secchi Disk Transparency	\$30.00
A Secchi disk is a simple tool that measures water transparency/clarity. Consistent Secchi disk transparency measurements are a useful indicator of lake quality changes and trends. Training is optional but recommended. If you need a Secchi Disk, you can order one separately.	

Summer Total Phosphorus	\$30.00
Phosphorus is an essential nutrient for algae and plant growth. Summer total phosphorus is used to estimate your lake's productivity (trophic status) – Oligotrophic, mesotrophic, or eutrophic. Training is optional but recommended.	

1 Print Report	\$3.00
A printed copy of the annual data report for your lake, mailed to you at the end of the season.	

Total	\$63.00
-------	---------

Payments Received	Amount
<hr/>	
MSU CC Payment	\$63.00
	
Total	\$63.00

This payment will appear on your statement as **Michigan State University**.
2024 Enrollment Fee Refund Policy: If you are unable to complete monitoring activities, a refund of enrollment fees may be requested in writing by May 31, 2024, via email to Jean Roth (jean.roth@mymlsa.org).

Walled Lake 2024 Water Quality Report

Summary:

Water Quality Testing was completed 2 times on Walled Lake in 2024 at 3 different locations around the lake. Of the parameters tested, Temperature, Dissolved Oxygen, Secchi Disk, and pH were sampled while on the lake. Chlorophyll α , Nitrate-N, Phosphorus, Alkalinity, and Conductivity were sampled by sending the water in sample bottles to an independent laboratory, White Water Associates located in Amasa, MI, where the analysis was ran.

A well-known limnologist named Wally Fusilier developed a grading scale for various parameters of water quality. Data collected in 2024 is shown below and given a grade based on Fusilier's scale. Additionally, historical data and parameter descriptions are provided at the end of this report.

Because herbicide treatment of aquatic vegetation has occurred on Walled Lake, it should be noted that the application of herbicide has no direct impact to the water quality of Walled Lake.



(Walled Lake Sampling Sites)

2024 Results:

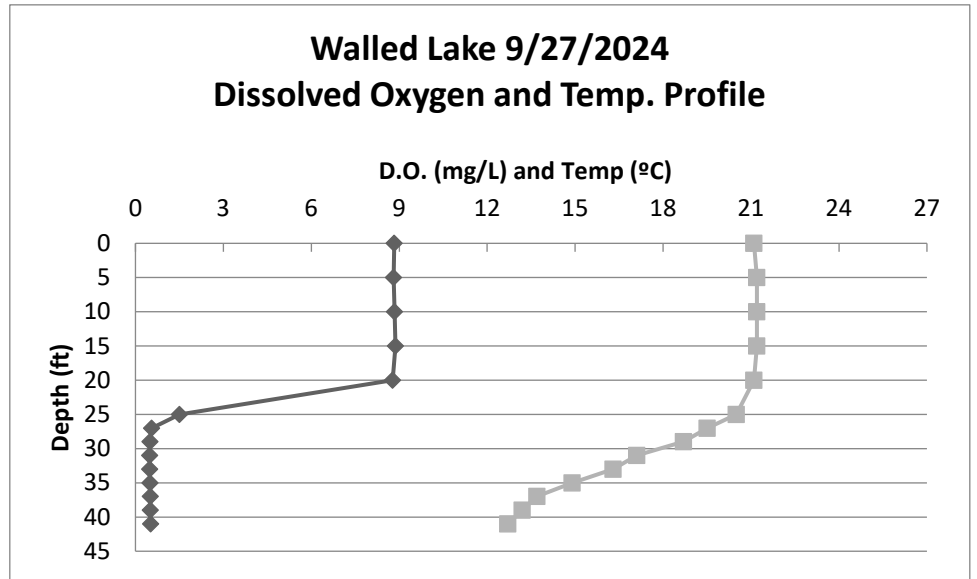
Date	4/25/2024			4/25/2024			4/25/2024			9/25/2024			9/25/2024			9/25/2024		
Station Number	1			2			3			1			2			3		
Temp (°C)	12.8	A		12.2	A		12.6	A		21.3	A		21.1	A		21.2	A	
Dissolved Oxygen (mg/L)	11.3			11.57			11.75			9.05			8.83			9.55		
Dissolved Oxygen (%saturation)	107.3	A		107.5	A		111.7	A		101.7	A		99.2	A		107.3	A	
Chlorophyll a (ug/L)	0.5	A		0.3	A		0.3	A		5.1	F		3.7	C		3.7	C	
Secchi Disk Depth (ft)	17.0	B		17.0	B		18.0	B		10.0	D		10.0	D		11.0	D	
Total Nitrate Nitrogen (ug/L)	<130	A		<130	A		<130	A		<130	A		170.0	A		<130	A	
Alkalinity (mg/L)	130.0	A		130	A		130	A		100	A		100	A		100	A	
pH	8.6	C		8.42	B		7.91	A		8.21	A		8.39	B		8.50	C	
Conductivity (umhos/cm)	950.0	F		940	F		940	F		900	F		900	F		900	F	
Total Phosphorus (ug/L)	12.0	A		<8	A		12	A		<20	A		<20	A		<8	A	
Overall Grade		B			B			B			B			B			B	

Scale:

Grade	Temp	Dissolved Oxygen	Chloro-phyll α	Secchi Disk Depth	Total Nitrate Nitrogen	Alkalinity	pH	Conduc-tivity	Total Phosphor us
A	0-26.5	85-115	0-2	>19	0-275	50-225	5.75-8.27	0-380	0-20
B	26.5-28.5	85-77; 115-122	2-3	19-16	275-360	50-35; 225-255	5.75-5.55; 8.27-8.47	380-590	20-28
C	28.5-30	77-69; 122-131	3-4	16-12	360-450	35-23; 255-280	5.55-5.33; 8.47-8.69	590-720	28-39
D	30-31.5	69-62; 131-140	4-5	12-9	450-540	23-17; 280-310	5.33-5.14; 8.69-8.88	720-800	39-46
F	>31.5	<62; >140	>5	<9	>540	<17; >310	<5.14; >8.88	>800	>46

Temp and D.O.:

Temp (°C)	D.O. (mg/L)	Depth (ft)
21.1	8.83	0
21.2	8.81	5
21.2	8.84	10
21.2	8.87	15
21.1	8.77	20
20.5	1.50	25
19.5	0.55	27
18.7	0.50	29
17.1	0.49	31
16.3	0.49	33
14.9	0.50	35
13.7	0.51	37
13.2	0.51	39
12.7	0.52	41
12.3	0.52	43
12.1	0.52	45
12.0	0.52	47
11.8	0.53	59



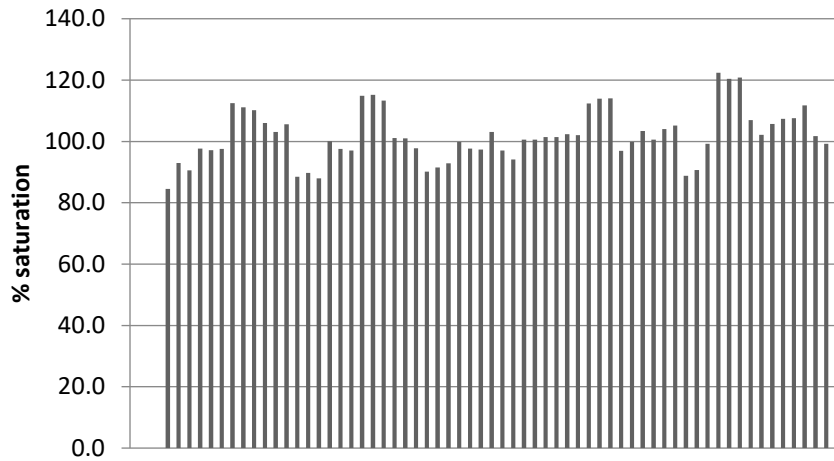
Matt Novotny

Matthew Novotny

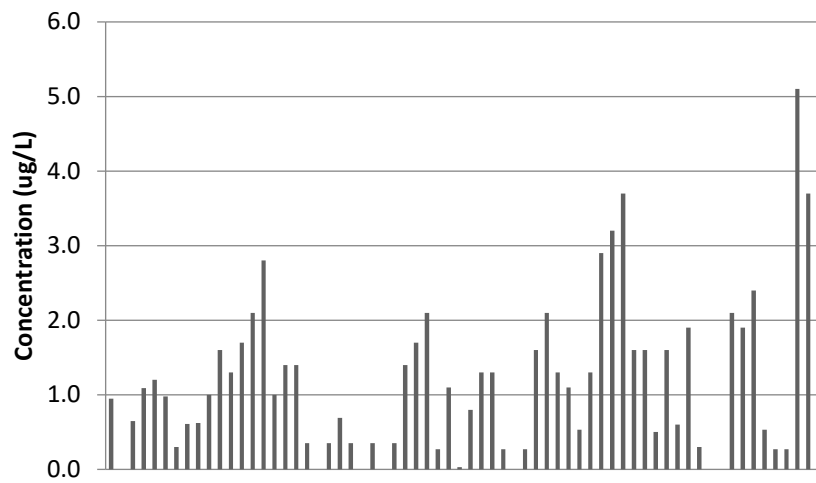
Operations Manager

Historical Data:

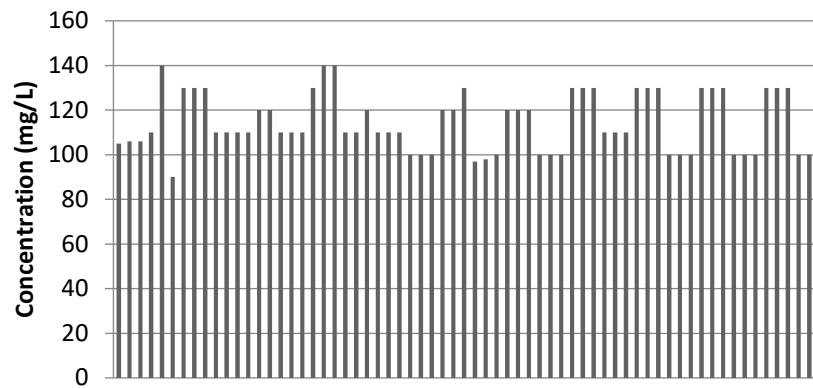
Walled Lake '14-'24 Dissolved Oxygen



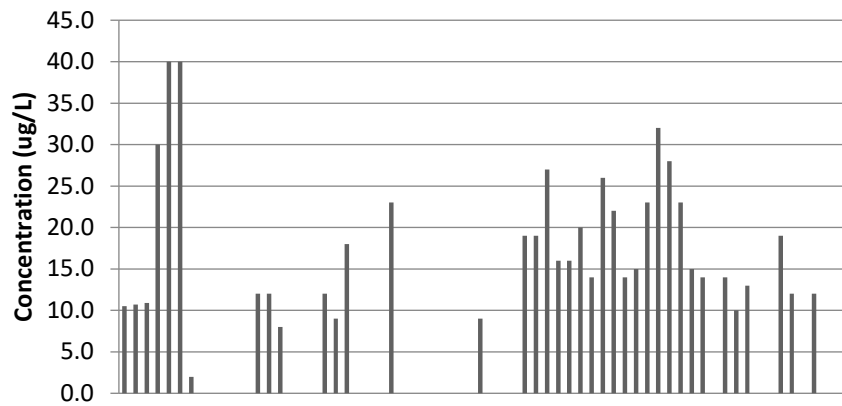
Walled Lake '14-'24 Chlorophyll a



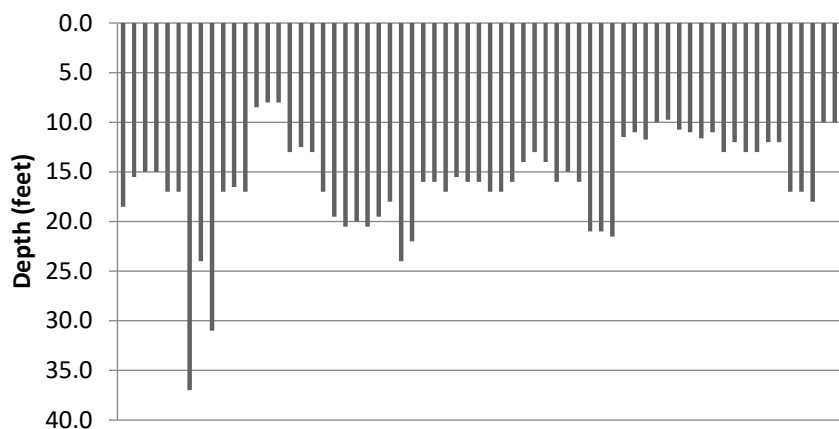
Walled Lake '14-'24 Alkalinity



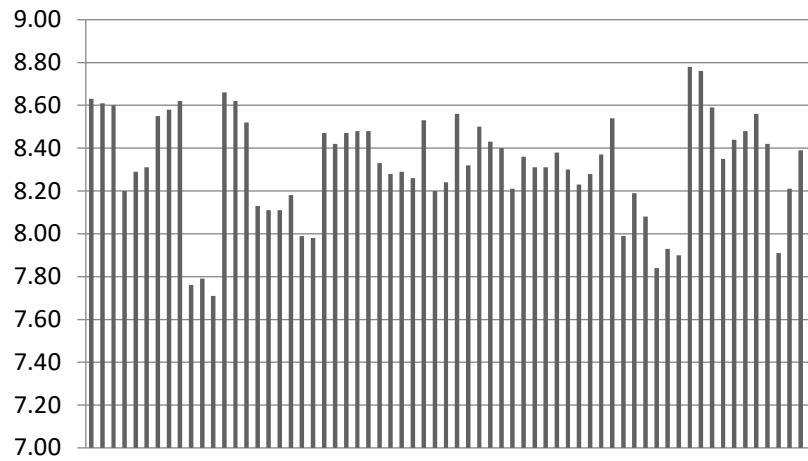
Walled Lake '14-'24 Phosphorus



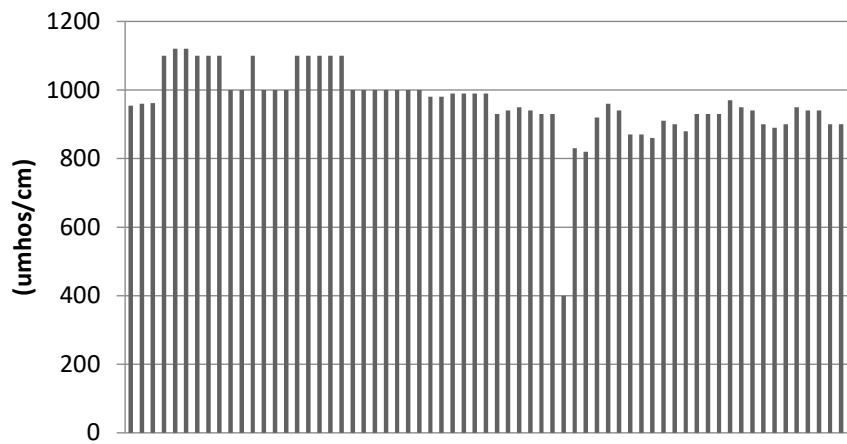
Walled Lake '14-'24 Secchi Disk Depth



Walled '14-'24 pH



Walled Lake '14-'24 Conductivity



Walled Lake Water Quality Data												
Date	Sample Station Number	Temperature (°C)	Dissolved Oxygen		Chlorophyll α (ug/L)	Secchi Disk Depth	Total Nitrate-N (ug/L)	Alkalinity (mg/L)	pH	Conductivity umhos per cm at 25 °C	Total Phosphorus (ug/L)	Grade
			(mg/L)	Percent Saturation								
6/5/2014	1	22.8	N/A	N/A	1.0	18.5	3.4	105	8.63	954	10.5	B
6/5/2014	2	22.2	N/A	N/A	N/A	15.5	3.7	106	8.61	960	10.7	B
6/5/2014	3	22.1	N/A	N/A	0.7	15.0	3.2	106	8.60	962	10.9	B
9/21/2014	1	17.7	7.99	84.6	1.1	15.0	<100	110	8.20	1100	30.0	B
9/21/2014	2	17.5	8.78	92.9	1.2	17.0	<100	140	8.29	1120	40.0	B
9/21/2014	3	17.3	8.74	90.6	1.0	17.0	<100	90	8.31	1120	40.0	B
5/20/2015	1	17.9	9.23	97.7	0.3	37	<60	130	8.55	1100	2	B
5/20/2015	2	17.7	9.18	97.1	0.61	24	<60	130	8.58	1100	<1	B
5/20/2015	3	17.9	9.22	97.6	0.62	31	<60	130	8.62	1100	<1	B
8/31/2015	1	24.5	9.5	112.5	1.0	17.0	<60	110.0	7.76	1000	<5	B
8/31/2015	2	23.7	9.3	111.1	1.6	16.5	<60	110.0	7.79	1000	<5	B
8/31/2015	3	23.4	9.4	110.2	1.3	17.0	<60	110.0	7.71	1100	<5	B
5/17/2016	1	14.7	10.67	106.0	1.7	8.5	<60	110.0	8.66	1000	12.0	B
5/17/2016	2	14.4	10.61	103.1	2.1	8.0	<60	120.0	8.62	1000	12.0	B
5/17/2016	3	14.8	10.63	105.6	2.8	8.0	<60	120.0	8.52	1000	8.0	B
9/29/2016	1	16.6	8.54	88.5	1	13.0	<60	110.0	8.13	1100.0	<9	B
9/29/2016	2	16.6	8.66	89.7	1.4	12.5	<60	110.0	8.11	1100.0	<9	B
9/29/2016	3	16.4	8.66	87.9	1.4	13.0	<60	110.0	8.11	1100.0	<9	B
5/11/2017	1	14.1	10.30	100.1	0.35	17.0	110.0	130.0	8.18	1100.0	12.0	B
5/11/2017	2	13.4	10.26	97.5	0.00	19.5	70.0	140.0	7.99	1100.0	9.0	A
5/11/2017	3	13.0	10.21	97.1	0.35	20.5	100.0	140.0	7.98	1000.0	18.0	A
9/21/2017	1	22.4	10.02	114.9	0.69	20.0	<60	110.0	8.47	1000.0	<8	B
9/21/2017	2	22.8	9.86	115.2	0.35	20.5	<60	110.0	8.42	1000.0	<8	B
9/21/2017	3	21.6	9.88	113.3	0.00	19.5	<60	120	8.47	1000	<8	B
6/11/2018	1	20.7	9	101.1	0.35	18	<80	110	8.48	1000	23.0	B
6/11/2018	2	20.7	8.99	101.0	0	24.0	<80	110	8.48	1000	<8	B
6/11/2018	3	20.6	8.70	97.8	0.35	22.0	<80	110	8.33	1000	<8	B
9/25/2018	1	20.1	8.18	90.2	1.4	16.0	<80	100	8.28	980	<8	B
9/25/2018	2	20.3	8.3	91.5	1.7	16.0	<80	100	8.29	980	<8	B
9/25/2018	3	20.4	8.42	92.8	2.1	17.0	<80	100	8.26	990	<8	B
5/14/2019	1	11.8	10.74	99.8	0.27	15.5	<130	120	8.53	990	<8	B
5/14/2019	2	11.9	10.51	97.7	1.1	16	<130	120	8.2	990	<8	B
5/14/2019	3	11.8	10.47	97.3	0.03	16	<130	130	8.24	990	9.0	B
10/1/2019	1	20.6	9.17	103.0	0.8	17	<130	97	8.56	930	<8	B
10/1/2019	2	20.9	8.64	97.1	1.3	17	<130	98	8.32	940	<8	B
10/1/2019	3	20.4	8.54	94.2	1.3	16	<130	100	8.5	950	<8	B
5/11/2020	1	10.4	11.33	100.5	0.27	14.0	<130	120	8.43	940	19	B
5/11/2020	2	10.4	11.34	100.6	0	13.0	<130	120	8.40	930	19	B
5/11/2020	3	10.3	11.43	101.4	0.27	14.0	<130	120	8.21	930	27	B
9/22/2020	1	18.7	9.39	101.4	1.6	16.0	<130	100	8.36	400	16	A
9/22/2020	2	18.7	9.48	102.4	2.1	15.0	<130	100	8.31	830	16	B
9/22/2020	3	18.8	9.45	102.1	1.3	16.0	<130	100	8.31	820	20	B
5/27/2021	1	22.5	9.62	112.4	1.1	21.00	ND	130.0	8.4	920.0	14.0	B
5/27/2021	2	22.1	9.93	113.9	0.5	21.00	ND	130.0	8.3	960.0	26.0	B
5/27/2021	3	22.3	9.94	114.0	1.3	21.50	ND	130.0	8.2	940.0	22.0	B
9/27/2021	1	20.1	8.79	96.9	2.9	11.50	ND	110.0	8.3	870.0	14.0	B
9/27/2021	2	19.4	9.24	99.8	3.2	11.00	ND	110.0	8.4	870.0	15.0	B
9/27/2021	3	19.9	9.38	103.4	3.7	11.75	16.0	110.0	8.5	860.0	23.0	B
5/4/2022	1	11.7	10.8	100.6	1.6	10.0	<130	130	7.99	910	32	B
5/4/2022	2	11.8	11.2	104.0	1.6	9.75	<130	130	8.19	900	28	B
5/4/2022	3	11.8	11.3	105.2	0.5	10.75	<130	130	8.08	880	23	B
9/28/2022	1	16.7	8.8	88.8	1.6	11.0	ND	100.0	7.8	930.0	15.0	B
9/29/2022	2	16.7	8.9	90.7	0.6	11.6	ND	100.0	7.9	930.0	14.0	B
9/30/2022	3	16.5	9.8	99.2	1.9	11.0	ND	100.0	7.9	930.0	<8	C
5/10/2023	1	14.6	12.3	122.3	0.3	13.0	<130	130.0	8.78	970.0	14.0	B
5/10/2023	2	14.3	12.4	120.4	0.0	12.0	<130	130.0	8.76	950.0	10.0	B
5/10/2023	3	14.6	12.2	120.9	0.0	13.0	<130	130.0	8.59	940.0	13.0	B
9/27/2023	1	19.2	9.9	106.9	2.1	13.0	<130	100.0	8.35	900.0	<8	B
9/27/2023	2	19.4	9.5	102.2	1.9	12.0	<130	100.0	8.44	890.0	<8	B
9/27/2023	3	19.4	9.8	105.7	2.4	12.0	<130	100.0	8.48	900.0	19.0	B
4/25/2024	1	12.8	11.3	107.3	0.5	17.0	<130	130.0	8.56	950.0	12.0	B
4/25/2024	2	12.2	11.6	107.5	0.3	17.0	<130	130.0	8.42	940.0	<8	B
4/25/2024	3	12.6	11.8	111.7	0.3	18.0	<130	130.0	7.91	940.0	12.0	B
9/25/2024	1	21.3	9.05	101.7	5.1	10.0	<130	100	8.21	900	<20	B
9/25/2024	2	21.1	8.83	99.2	3.7	10.0	170.0	100	8.39	900	<20	B
9/25/2024	3	21.2	9.55	107.3	3.7	11.0	<130	100	8.50	900	<20	B

Parameter Descriptions:

TEMPERATURE AND DISSOLVED OXYGEN

Temperature exerts a wide variety of influences on most lakes, such as the separation of layers of water (stratification), solubility of gases, and biological activity.

Dissolved oxygen is the parameter most often selected by lake water quality scientists as being important. Besides providing oxygen for aquatic organisms in natural lakes, dissolved oxygen is involved in phenomena such as phosphorus precipitation to, and release from, the lake bottom sediments and decomposition of organic material in the lake.

Low dissolved oxygen concentrations (below 4 milligrams per liter) are generally insufficient to support fish life. In most Michigan lakes, there is no dissolved oxygen below the thermocline in late summer. Some experts like to see some dissolved oxygen in the bottom water of a lake, even if it is almost zero. This is because as long as there is some dissolved oxygen in the water at the bottom of the lake, phosphorus precipitated by iron to the bottom sediments will remain there. Once a lake runs out of dissolved oxygen in the water at the bottom iron comes back into solution. When that happens, it releases the phosphorus back into the water. This can cause additional algae to grow when the lake mixes.

DISSOLVED OXYGEN, PERCENT SATURATION

Because the amount of dissolved oxygen a water can hold is temperature dependent with cold water holding more than warm water, dissolved oxygen saturation is often a better way to determine if oxygen supplies are adequate. The best is between 90 and 110 percent.

CHLOROPHYLL α

Chlorophyll α is used by lake scientists as a measure of the biological productivity of the water. Generally, the lower the chlorophyll α , the better. High concentrations of chlorophyll α are indicative of an algal bloom in the lake, an indication of poor lake water quality. The highest surface chlorophyll α concentration found by Wallace Fusilier (Water Quality Investigators, WQI) in a Michigan lake was 216 micrograms per liter. Best is below one microgram per liter.

SECCHI DISK TRANSPARENCY (originally Secchi's disk)

In 1865, Angelo Secchi, the Pope's astronomer in Rome, Italy devised a 20-centimeter (8 inch) white disk for studying the transparency of the water in the Mediterranean Sea. Later an American limnologist (lake scientist) named Whipple divided the disk into black and white quadrants which many are familiar with today.

The Secchi disk transparency is a lake test widely used and accepted by limnologists. The experts generally felt the greater the Secchi disk depth, the better quality the water. However, one Canadian scientist pointed out acid lakes have very deep Secchi disk readings. (Would you consider a very clear lake a good quality lake, even if it had no fish in it? It would be almost like a swimming pool.) Most lakes in southeast Michigan have Secchi disk transparencies of less than ten feet. On the other hand, Elizabeth Lake in Oakland County had 34 foot Secchi disk readings in summer 1996, evidently caused by a zebra mussel invasion a couple of years earlier.

Most limnology texts recommend the following: to take a Secchi disk transparency reading, lower the disk into the water on the shaded side of an anchored boat to a point where it disappears. Then raise it to a point where it's visible. The average of these two readings is the Secchi disk transparency depth.

Secchi disk measurements should be taken between 10 AM and 4 PM. Rough water will give slightly shallower readings than smooth water. Sunny days will give slightly deeper readings than cloudy days. However, roughness influences the visibility of the disk more than sunny or cloudy days.

TOTAL PHOSPHORUS

Although there are several forms of phosphorus found in lakes, the experts selected total phosphorus as being most important. This is probably because all forms of phosphorus can be converted to the other forms. Currently, most lake scientists feel phosphorus, which is measured in parts per billion (1 part per billion is one second in 31 years) or micrograms per liter (ug/L), is the one nutrient which might be controlled. If its addition to lake water could be limited, the lake

might not become covered with the algal communities so often found in eutrophic lakes.

Based on WQI's studies of many Michigan inland lakes, they've found many lakes were phosphorus limited in spring (so don't add phosphorus) and nitrate limited in summer (so don't add nitrogen).

10 parts per billion is considered a low concentration of phosphorus in a lake and 50 parts per billion is considered a high value in a lake by many limnologists.

NITRATE NITROGEN

Nitrate, also measured in the parts per billion range, has traditionally been considered by lake scientists to be a limiting nutrient. The experts felt any concentration below 200 parts per billion was excellent in terms of lake water quality. The highest value found by Fusilier was 48,000 parts per billion in an Ottawa County river which flowed into Lake Macatawa in Holland, Michigan

On the other hand, WQI has studied hundreds of Michigan inland lakes, and many times they find them nitrate limited (very low nitrate nitrogen concentrations), especially in summer.

WQI was finding many lakes have lower nitrate nitrogen concentrations in summer than in spring. This is probably due to two factors. First, plants and algae growing in lakes as water warms can remove nitrates from the water column. And second, bacterial denitrification (where nitrates are converted to nitrogen gas by bacteria) also occurs at a much faster rate in summer when the water is warmer.

Generally limnologists feel optimal nitrate nitrogen concentrations (which encourage maximum plant and algal growth) are about 10-20 times higher than phosphorus concentrations. The reason more nitrogen than phosphorus is needed is because nitrogen is one of the chemicals used in the production of plant proteins, while phosphorus is used in the transfer of energy, but is not used to create plant material. If the nitrate concentration is less than 10-20 times the phosphorus concentration, the lake is considered nitrogen limited. If the nitrate concentration is higher than 10-20 times the phosphorus concentration, the lake is considered phosphorus limited.

TOTAL ALKALINITY

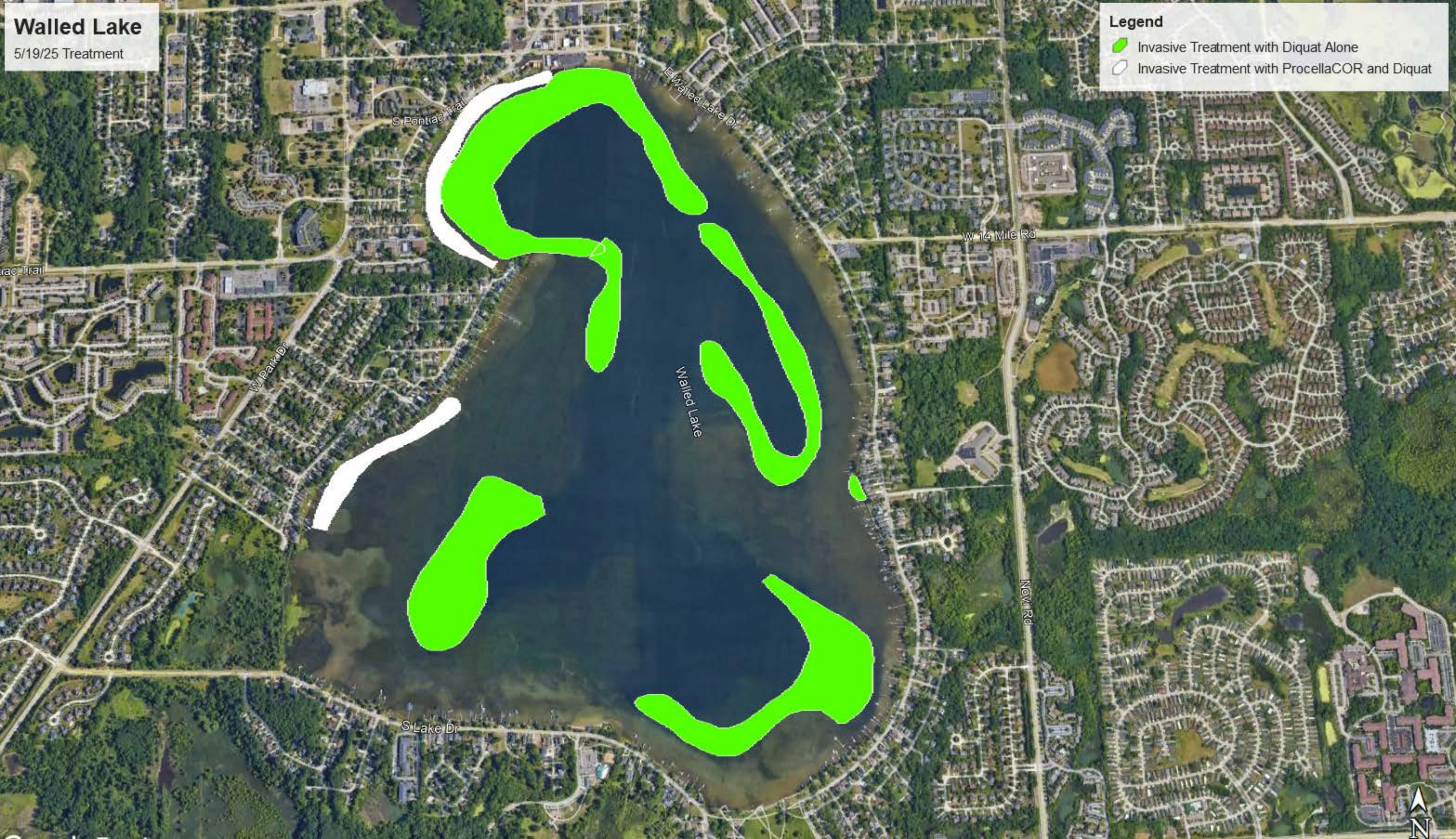
Alkalinity is a measure of the ability of the water to absorb acids (or bases) without changing the hydrogen ion concentration (pH). It is, in effect, a chemical sponge. In most Michigan lakes, alkalinity is due to the presence of carbonates and bicarbonates which were introduced into the lake from ground water or streams which flow into the lake. In lower Michigan, acidification of most lakes should not be a problem because of the high alkalinity concentrations.

HYDROGEN ION CONCENTRATION (pH)

pH has traditionally been a measure of water quality. Today it is an excellent indicator of the effects of acid rain on lakes. About 99% of the rain events in southeastern Michigan are below a pH of 5.6 and are thus considered acid. However, there seems to be no lakes in southern Michigan which are being affected by acid rain. Most lakes have pH values between 7.5 and 9.0.

SPECIFIC CONDUCTIVITY

Conductivity, measured with a meter, detects the capacity of a water to conduct an electric current. More importantly however, it measures the amount of materials dissolved in the water, since only dissolved materials will permit an electric current to flow. Theoretically, pure water will not conduct an electric current. It is the perception of the experts that poor quality water has more dissolved materials than does good quality water





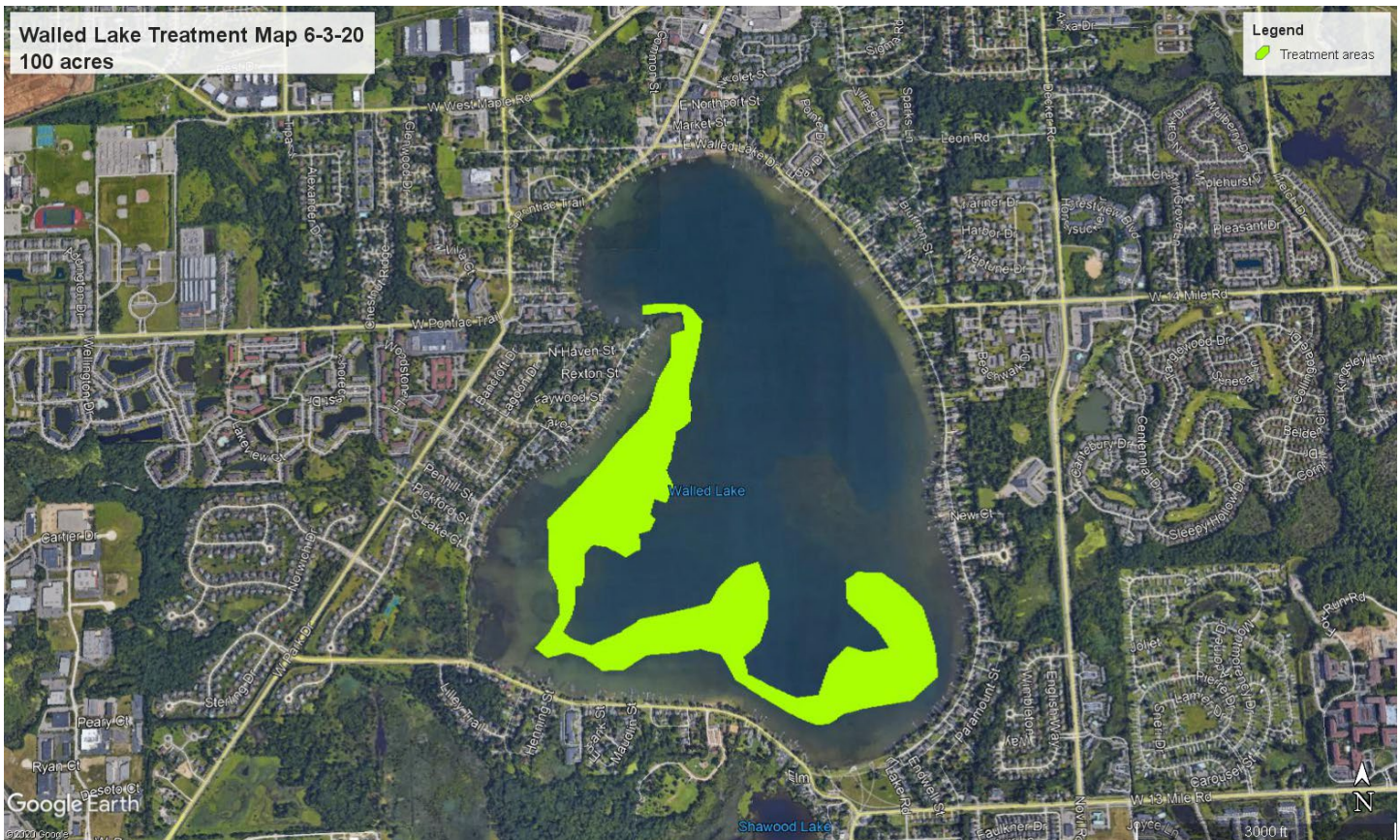
3088 Hottis Rd. Hale, MI 48739 Hale: 989.728.2200 Clare: 989.386.0600 Fax: 989.516.5900

Walled Lake 2020 – 2024 Treatment Review

2020 Treatment Summary:

In 2020 Savin Lake Services treated Walled Lake 5 different times. Treatment dates were June 3rd, June 22nd, July 22nd, August 31st, and September 24th. On June 3rd we treated 100 acres of the lake for Curly leaf Pondweed and Eurasian Watermilfoil utilizing contact herbicides. On June 22nd we treated 50 acres of the lake for Curly leaf Pondweed and Eurasian Watermilfoil utilizing contact herbicides. On July 22nd we treated 27.5 acres of the lake for Eurasian Watermilfoil and 20 acres for Starry Stonewort. On August 31st we returned to the lake to treat 17.5 acres of the lake for Eurasian Watermilfoil and 20 acres for Starry Stonewort. On September 24th we treated 34 acres of Eurasian Watermilfoil with the systemic herbicide Navigate (2,4-D).

Below you will find the treatment maps showing where all the treatments that took place for 2020.



Preserving Our Lakes Today for Our Generations Tomorrow
www.LakeAndPond.com







3088 Hottis Rd. Hale, MI 48739 Hale: 989.728.2200 Clare: 989.386.0600 Fax: 989.516.5900

2021 Treatment Summary:

In 2021 Savin Lake Services treated Walled Lake 5 different times. Treatment dates were June 1st, June 15th, June 24th, July 28th, and August 26th. On June 1st we treated 20 acres of the lake for Curly leaf Pondweed utilizing contact herbicides and 40 acres of Eurasian Watermilfoil with systemic herbicide Navigate. On June 15th we treated 51.5 acres of the lake for Curly leaf Pondweed and Eurasian Watermilfoil utilizing contact herbicides as well as 1.5 acres of Starry Stonewort. On June 24th we treated 10 acres of the lake for Eurasian Watermilfoil with a mix of Diquat and ProcellaCOR. On July 28th we returned to the lake to treat 27.5 acres of the lake for Eurasian Watermilfoil and 1.5 acres for Starry Stonewort. On August 26th we treated 15 acres of Eurasian Watermilfoil and Duckweed, 5 acres of native vegetation with contact herbicides, and 6 acres of Starry Stonewort. Below you will find the treatment maps showing where all the treatments took place for 2021

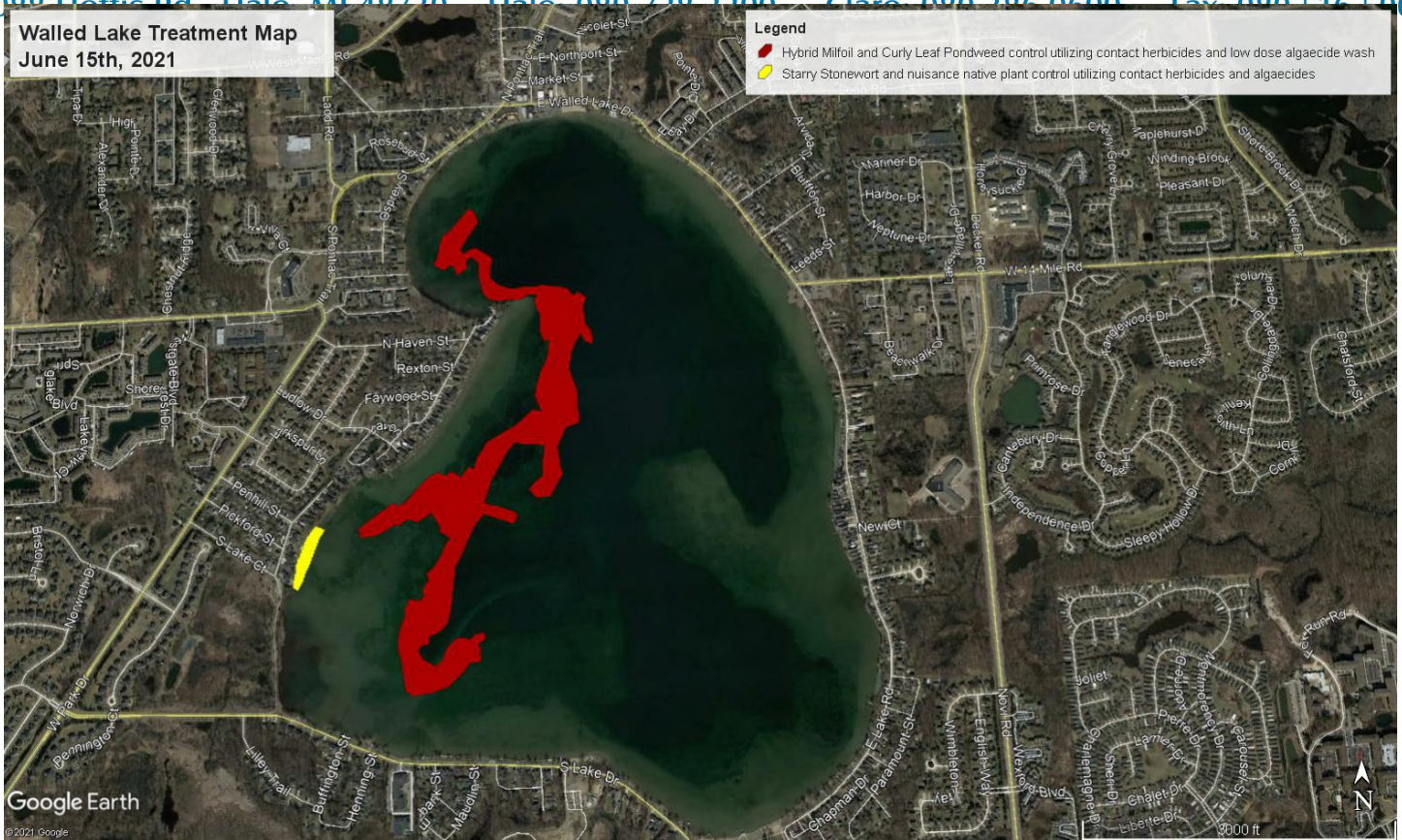


Preserving Our Lakes Today for Our Generations Tomorrow
www.LakeAndPond.com

Walled Lake Treatment Map June 15th, 2021

Legend

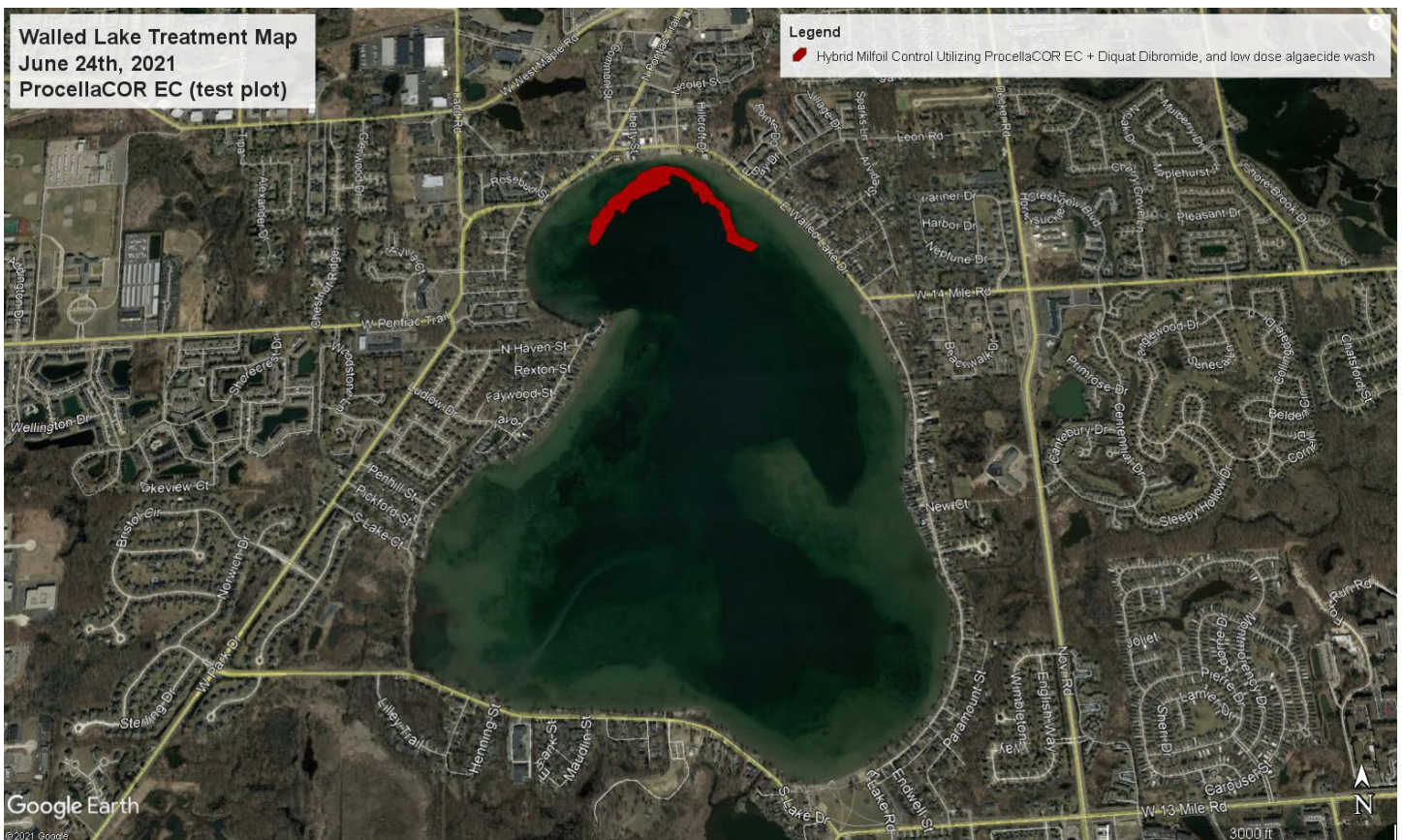
- Hybrid Milfoil and Curly Leaf Pondweed control utilizing contact herbicides and low dose algaecide wash
- Starry Stonewort and nuisance native plant control utilizing contact herbicides and algaecides

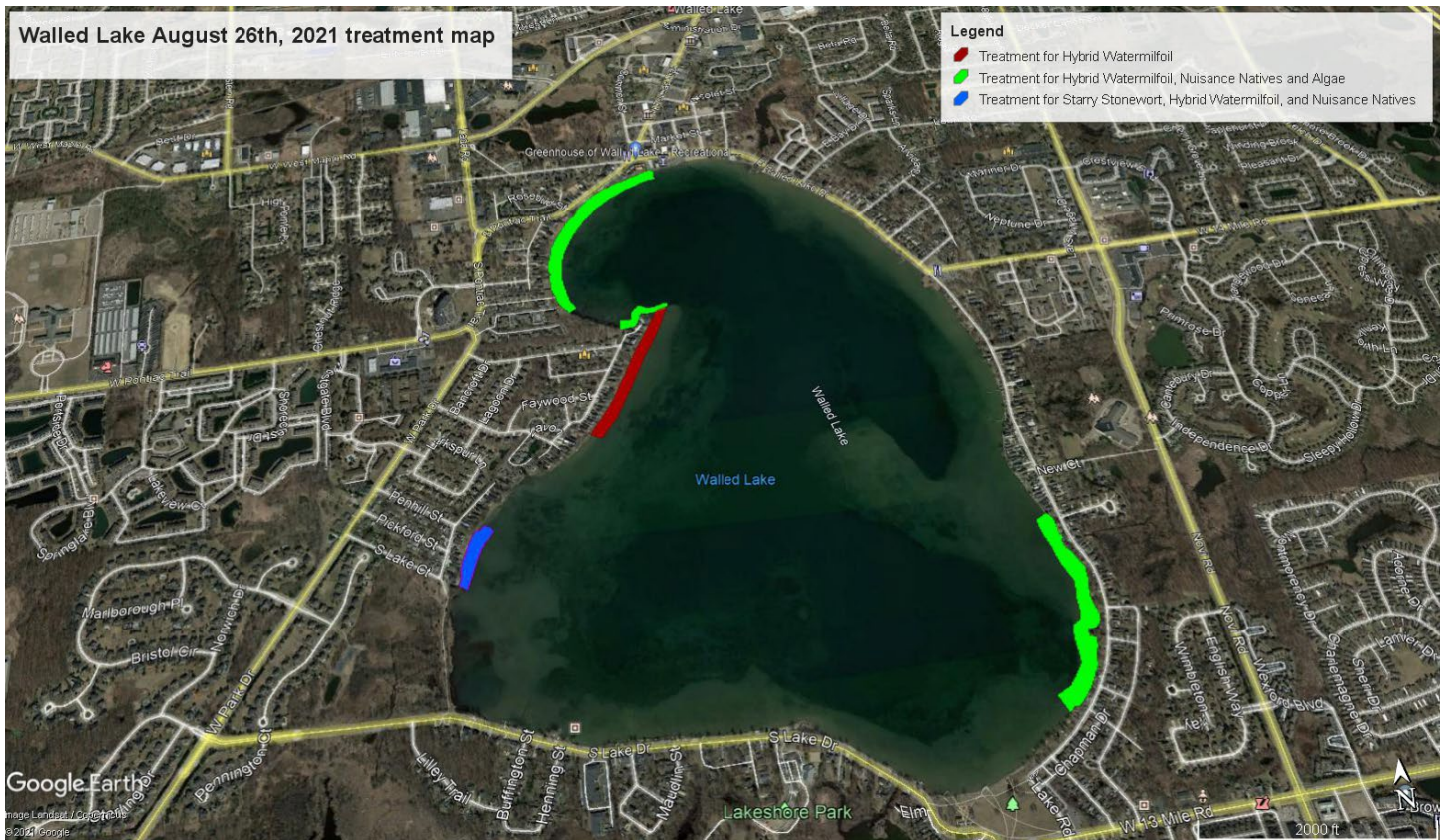


Walled Lake Treatment Map June 24th, 2021 ProcellaCOR EC (test plot)

Legend

- Hybrid Milfoil Control Utilizing ProcellaCOR EC + Diquat Dibromide, and low dose algaecide wash





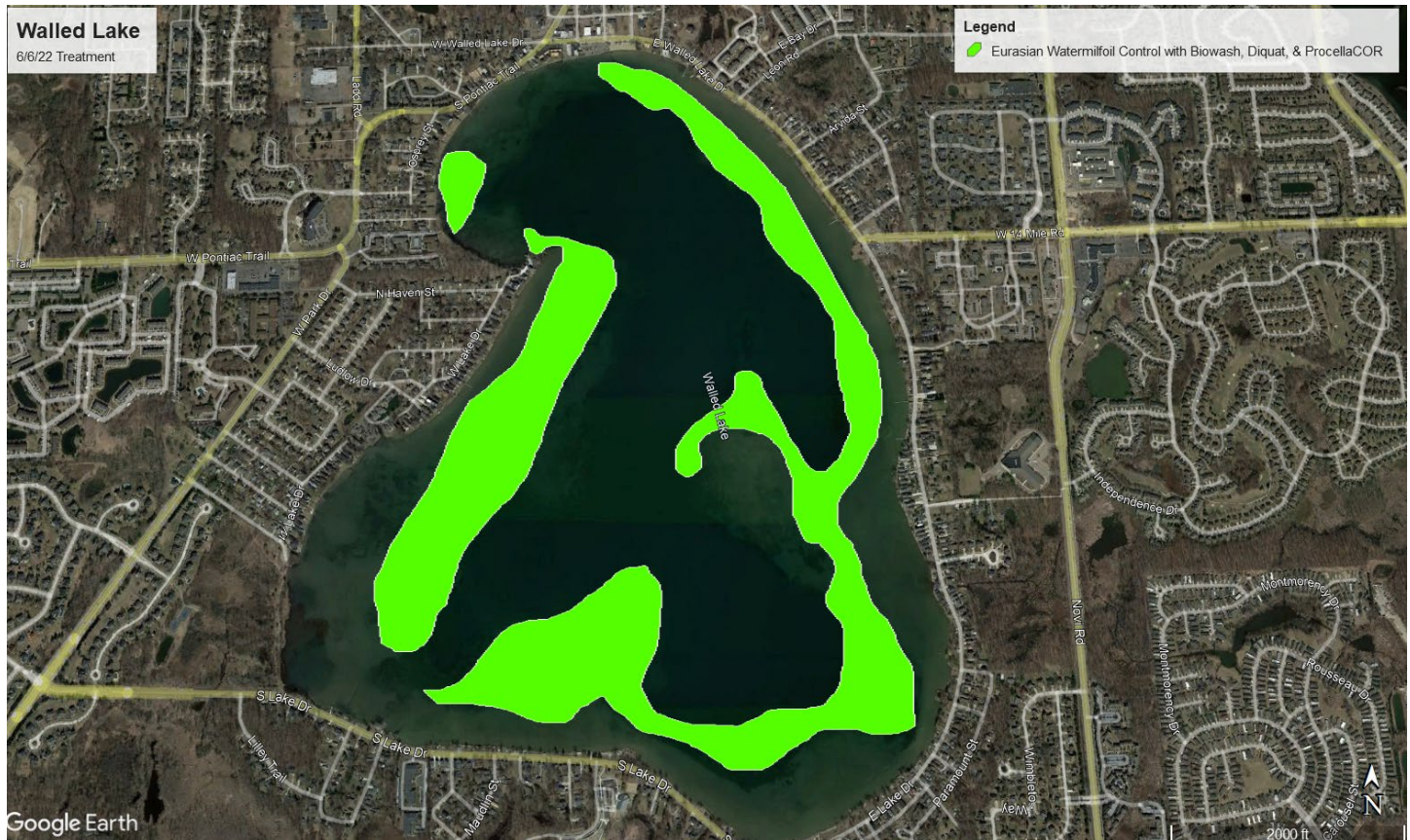


3088 Hottis Rd. Hale, MI 48739 Hale: 989.728.2200 Clare: 989.386.0600 Fax: 989.516.5900

2022 Treatment Summary:

In 2022 Savin Lake Services treated Walled Lake 3 different times. The treatment dates were June 6th, July 18th, and August 15th. On June 6th we treated 100 acres of the lake for Curly Leaf and Eurasian Watermilfoil with a mixture of Diquat and ProcellaCOR. On July 18th we treated 15 acres of the lake for Eurasian Watermilfoil, 15 acres of native vegetation and algae, and 10 acres for Starry Stonewort. On August 15th we treated 15 acres of the lake for Eurasian Watermilfoil and algae, 10 acres of native vegetation, and 7.5 acres for Starry Stonewort.

Below you will find the treatment maps showing where all the treatments that took place for 2022

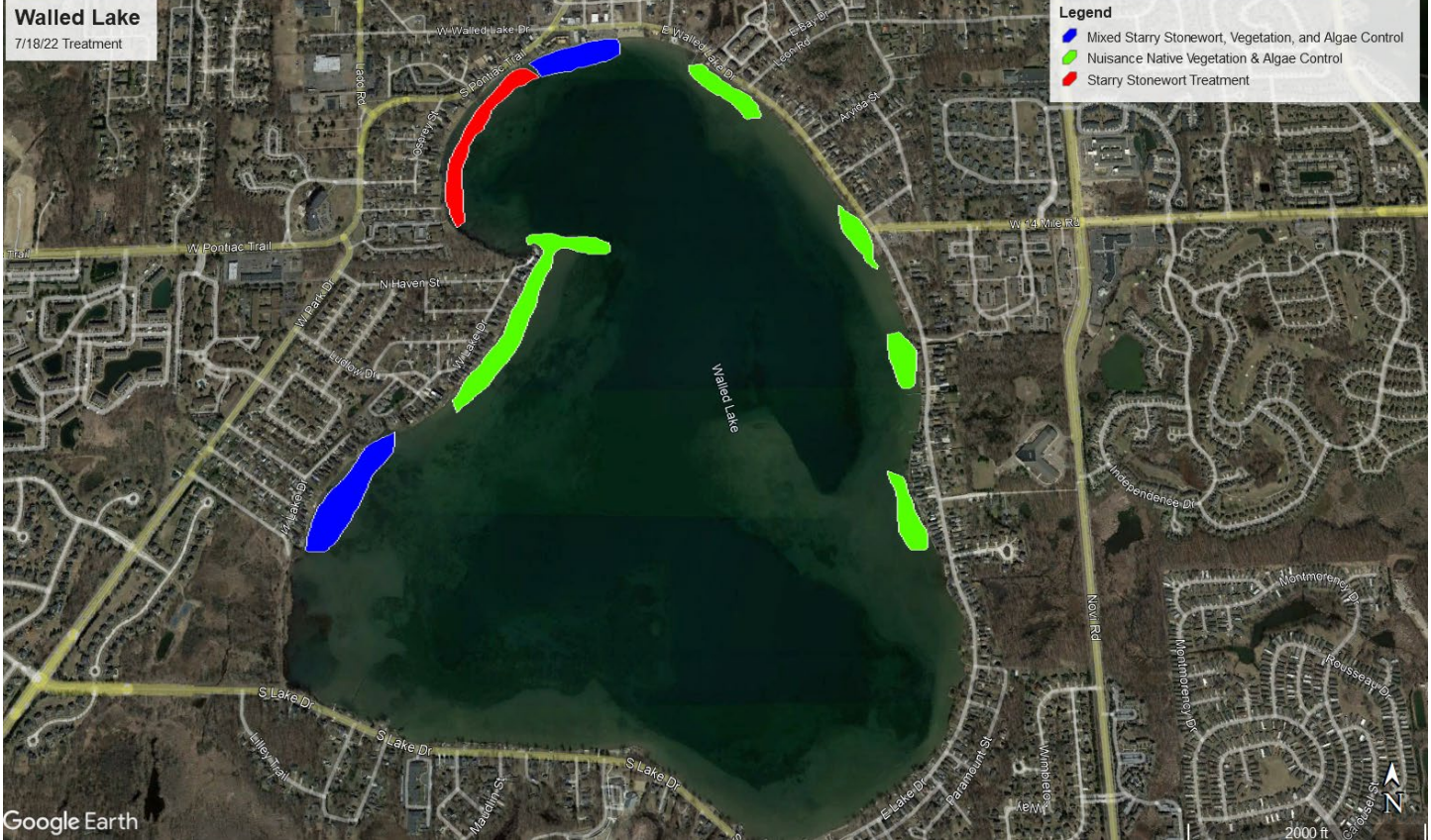


Preserving Our Lakes Today for Our Generations Tomorrow
www.LakeAndPond.com

3088 Hottis Rd. Hale, MI 48739 Hale: 989.728.2200 Clare: 989.386.0600 Fax: 989.516.5900

Walled Lake

7/18/22 Treatment



Walled Lake

8/15/22 Treatment





3088 Hottis Rd. Hale, MI 48739 Hale: 989.728.2200 Clare: 989.386.0600 Fax: 989.516.5900

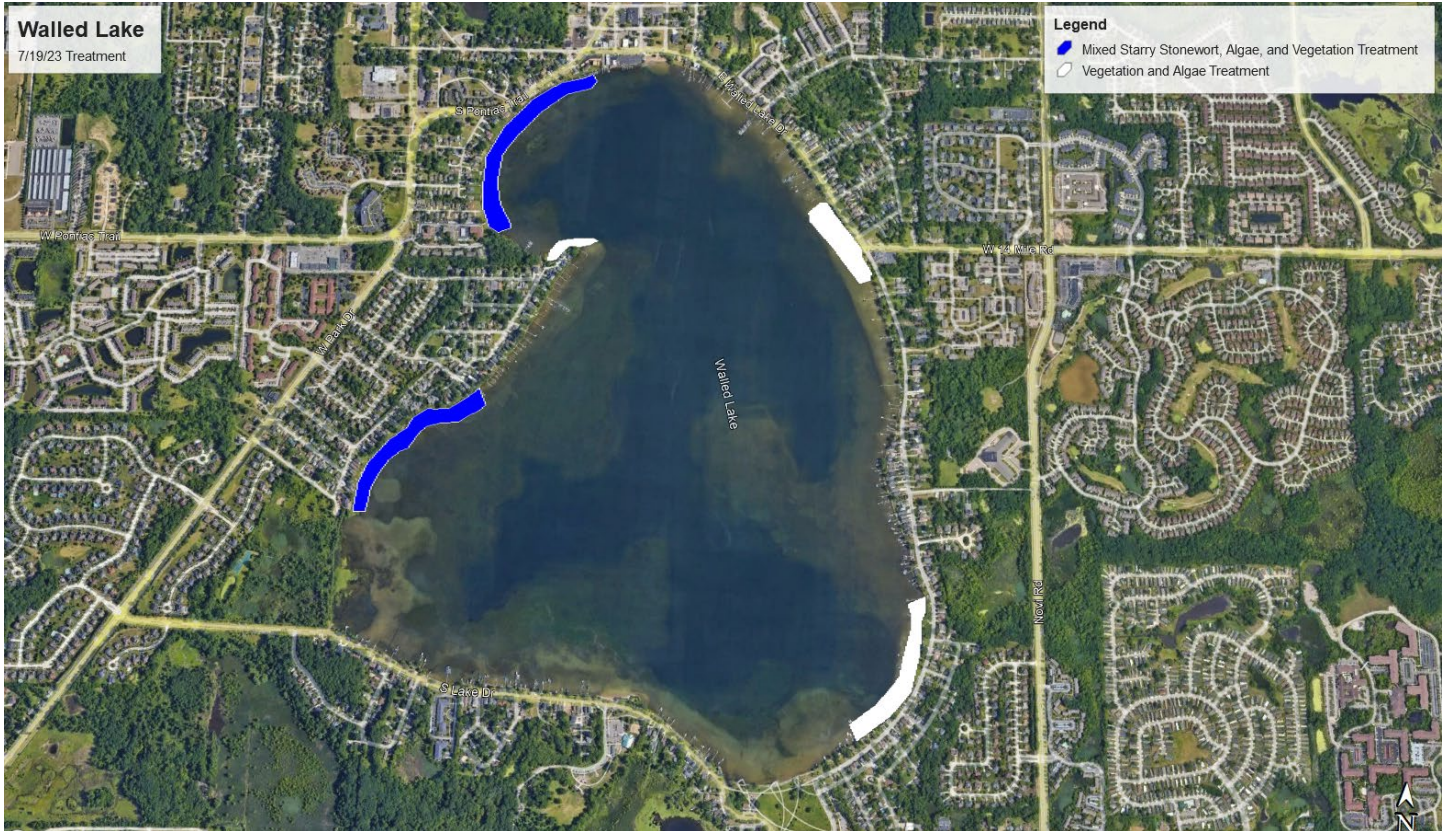
2023 Treatment Summary:

In 2023 Savin Lake Services treated Walled Lake 3 different times. The treatment dates were June 7th, July 19th, and August 23rd. On June 7th we treated 105 acres of the lake for Eurasian Watermilfoil and Curly Leaf with contact herbicides. 40 acres of the 105 total treated was also with systemic herbicide ProcellaCOR. On July 19th we treated 12.5 acres of the lake for Eurasian Watermilfoil and algae, 5 acres of native vegetation, and 10 acres for Starry Stonewort.. On August 23rd we treated 10 acres of the lake for Eurasian Watermilfoil and algae, 5 acres of native vegetation, and 10 acres for Starry Stonewort.

Below you will find the treatment maps showing where all the treatments took place for 2023.



Preserving Our Lakes Today for Our Generations Tomorrow
www.LakeAndPond.com





3088 Hottis Rd. Hale, MI 48739 Hale: 989.728.2200 Clare: 989.386.0600 Fax: 989.516.5900

2024 Treatment Summary:

In 2024 Savin Lake Services treated Walled Lake 4 different times. The treatment dates were May 29th, July 15th, and August 13th. On May 29th we treated 145 acres of the lake for Eurasian Watermilfoil and Curly Leaf with contact herbicides. 50 acres of the 145 total treated was also with systemic herbicide ProcellaCOR. On July 15th we treated 10 acres of the lake for Eurasian Watermilfoil and algae, 7.5 acres of native vegetation, and 10 acres for Starry Stonewort.. On August 13th we treated 12.5 acres of the lake for Eurasian Watermilfoil and algae, 7.5 acres of native vegetation, and 12.5 acres for Starry Stonewort. On October 2nd we treated 20 acres of Eurasian Watermilfoil with full rate ProcellaCOR.

Below you will find the treatment maps showing where all the treatments took place for 2024.



Preserving Our Lakes Today for Our Generations Tomorrow
www.LakeAndPond.com





3088 Hottis Rd. Hale, MI 48739 Hale: 989.728.2200 Clare: 989.386.0600 Fax: 989.516.5900



Preserving Our Lakes Today for Our Generations Tomorrow
www.LakeAndPond.com



3088 Hottis Rd. Hale, MI 48739 Hale: 989.728.2200 Clare: 989.386.0600 Fax: 989.516.5900

Future Budget Recommendations for Walled Lake 2026 - 2030

Budgeting for future years is always a daunting task. There are many unknown factors like the weather, which plants are going to grow, when/where they will grow, etc. A lake is its own unique ecosystem, that I refer to as “being the boss”. Lakes change from year to year which makes accurately predicting what will need to be done in the future nearly impossible.

We use past treatment records, surveys, water quality data, and our knowledge of the lake to provide estimated treatment and budget recommendations. Often treatment recommendations are changed throughout the year to adapt to the current condition of the lake and/or to meet budgetary restraints/concerns. Changes are only made based on what is best for the lake and the property owners.

Our belief is that it is better to be proactive instead of reactive and think many things should be considered when trying to set a budget for future years.

The following are some of factors that should be taken into consideration when planning the future budget/assessment for Walled Lake:

- The lake contains (3) non-native invasive species that can spread throughout the lake very rapidly if not managed properly in a timely manner.
- The assessment should fund all required studies/treatments that need to take place each year plus additional funds to be held in reserves to be utilized later if needed.
- It is always better to overfund a project and not need to use all the funds than to need the funds and not have them available. Assessments can always be reduced or returned once an adequate reserve fund is acquired.
- Awareness that plant communities can develop herbicide resistance/tolerance to a certain herbicide(s) and we may need to evaluate utilizing other herbicide options like Procellacor or Triclopyr to achieve systemic control of the Milfoil.
- Native plant populations may become a nuisance in areas where herbicide management is not permitted, and we may need to implement vegetation harvesting again to manage them.

Preserving Our Lakes Today for Our Generations Tomorrow
www.LakeAndPond.com



3088 Hottis Rd. Hale, MI 48739 Hale: 989.728.2200 Clare: 989.386.0600 Fax: 989.516.5900

After evaluating all the information from past treatment records, surveys, water quality data, and our knowledge of the lake, Savin Lake Services would recommend the budget be established for 2026 – 2030 as follows:

2026 - \$105,000.00
2027 - \$105,000.00
2028 - \$110,000.00
2029 - \$110,000.00
2030 - \$115,000.00

We feel the above budgets for each year will provide adequate funding to properly manage Walled Lake.

These budgets are based on our experience on Walled Lake and the following plan each year:

10 - 20 acres of Systemic Milfoil control of Eurasian Watermilfoil
40 - 50 acres of Combination Contact/Systemic control of Eurasian Watermilfoil
80 - 120 acres of Curly Leaf Pondweed control utilizing contact herbicides
20 - 30 acres of Algae control (total over 2 treatments)
20 - 40 acres of Starry Stonewort control (total over 2 treatments)
20 - 40 acres of Nuisance Natives control utilizing contact herbicides (total over 2 treatments)
All studies, surveys, and recommendations

If you have any questions, comments, or require any additional information, please feel free to contact us.

Sincerely,

Matthew Novotny
Operations Manager
Savin Lake Services Inc.

Preserving Our Lakes Today for Our Generations Tomorrow
www.LakeAndPond.com



3088 Hottis Rd. Hale, MI 48739 Hale: 989.728.2200 Clare: 989.386.0600 Fax: 989.516.5900

Future Lake Management Recommendations for Walled Lake

Walled Lake currently has 3 non-native invasive plant communities that Savin Lake Services has been aggressively managing. The non-native invasive plant communities that have been detected in Walled Lake are Curly Leaf Pondweed, Starry Stonewort, and Eurasian Watermilfoil. In addition to providing non-native invasive weed control, we have also conducted algae treatments and nuisance native weed control in the near shore developed areas when/where treatment is needed.

Each year Walled Lake seems to bring its own unique set of challenges and we welcome the opportunity to meet these challenges for you each year. It has been a pleasure to see the transformation the lake has made since 2012. Which was when we first began managing the lake with herbicides. When herbicide control began the lake was severely infested with Eurasian Watermilfoil. The Eurasian Watermilfoil had already outcompeted the native plants and had pretty much taken over a lot of the littoral zone of the lake containing substrates that can sustain weed growth. In 2012 we treated a total of 168 acres of Milfoil systemically, compared to now treating approximately 50 acres or less systemically each year. We have greatly reduced the Milfoil population and the lake now has a vast amount of plant diversity. When herbicide treatment first started on Walled Lake, Eurasian Watermilfoil was so dominate that it required both a Spring and Fall systemic treatments. Applications have since converted to contact herbicide applications utilizing Diquat Dibromide to manage mainly Curly Leaf Pondweed and small amounts of intermixed Milfoil.

Although Curly Leaf Pondweed is an exotic non-native invasive plant species and can pose a threat to the lake if not properly managed, Curly Leaf Pondweed is much cheaper and easier to gain control of. Only one treatment is required per season for Curly Leaf Pondweed and that treatment is usually completed in May or early June before the plant releases its turions. The contact herbicide Diquat Dibromide that is utilized to control the Curly Leaf Pondweed will also drop the Milfoil that is intermixed for 4-6 weeks, then the Milfoil begins its growth cycle again. Even though the Milfoil does return in the same season utilizing Diquat Dibromide, by the time it does the water is warmer and its growth cycle is very slow until water temperatures start to cool. Once water temperatures begin to cool in the Fall, Milfoil goes through another active growth cycle and that is when we target to treat the Milfoil Systemically. This method of treatment has proven to be the most effective and efficient management technique for Walled Lake.

Starry Stonewort was detected in Walled Lake in 2015 and has been very aggressively treated ever since. We have been very successful at containing the Starry Stonewort to the areas it was originally detected in. Treatments have been very effective for density reduction and more importantly in preventing it from spreading throughout the lake. Some years we have had to complete 2 treatments to keep it under control and isolated, but many years we were able to control it with a single

Preserving Our Lakes Today for Our Generations Tomorrow
www.LakeAndPond.com



3088 Hottis Rd. Hale, MI 48739 Hale: 989.728.2200 Clare: 989.386.0600 Fax: 989.516.5900

treatment. Monitoring the lake often and treating as soon as Starry Stonewort begins to grow greatly increase the efficacy of the treatment and reduces the risk of it being spread to other areas of the lake. At this time there is no systemic treatment for Starry Stonewort, and we are using the best treatment methodology known to the industry at this time. Many lakes in Oakland County have become infested with Starry Stonewort. It is greatly impacting the ecosystems of many lakes by rapidly outcompeting native plant communities and vastly reducing plant diversity. Fortunately, we were able to detect it early and I feel if we continue to monitor the lake often and aggressively treat known areas, we can prevent it from becoming a major problem.

It is my belief that the management program we currently have implemented for Walled Lake's weed control is the most effective and efficient way to keep Walled Lake healthy, clean, and desirable for use by the Walled Lake property owners at this time.

After reviewing all the above factors and treatment records back to 2011, Savin Lake Services recommends the following for 2026 - 2030:

- Continue to complete Water Quality Studies in both the Spring and Fall of each year.
- Complete Visual Surveys periodically throughout the year to determine areas of concern and to ensure the efficacy of treatments, and most importantly to make sure the invasive species are not getting out of control or infesting new areas of the lake.
- Complete a BioBase survey in 2025, and again in 2030.
- Continue to aggressively treat the Eurasian Watermilfoil systemically.
- Treat the Curly Leaf Pondweed utilizing contact herbicides like Diquat Dibromide and Endothall in Late May/Early June.
- Continue to aggressively treat the Starry Stonewort anywhere it is found in the lake.
- Continue herbicide control of Algae and Nuisance Natives when/where it's needed in the near shore developed areas of the lake.

Preserving Our Lakes Today for Our Generations Tomorrow
www.LakeAndPond.com

MEMORANDUM

TO: WALLED LAKE IMPROVEMENT BOARD

FROM: MEGAN MIKUS, SECRETARY/ TREASURER

SUBJECT: FINANCIAL PROJECTION FOR WALLED LAKE ASSESSMENT PROJECT RENEWAL
(PROJECT YEAR 2026-2030)

DATE: JUNE 12, 2025

The current assessment roll, which was adopted by the Lake Board on September 9, 2020, with a revision removing 37 parcels on November 19, 2020, was for a period of five years (Project years 2021-2025; taxes are collected on the December tax bill of the previous year for use in the next). It is estimated that the Lake Board will have a balance of approximately \$138K at the end of 2025.

During this current project's term, the annual herbicide treatment costs have been less than what was budgeted. The Board budgeted ~\$103K annually for all expenses, while costs have averaged \$83K annually from 2021 through 2024. This has led to a higher-than-anticipated balance in reserves.

The Board will first need to decide the estimated expense budget over the next five-year project term (2026-2030). I have prepared some projected expenses for the next five years. The Board can choose to amend these numbers.

Then, the Board will need to decide on how much contingency to maintain and how much of the current reserves to use. A contingency of 10% to 15% of expected expenses can be maintained, which is between ~\$59K to \$88K for a ~\$588K five-year project budget. This will determine how much revenue is required to be assessed.

The attached financial reports provide additional detail on current and future financial status. Additionally, I have provided the history of annual installments.

The table on the next page shows the current assessment per year for each type of lot based on the current assignment.

Current Annual Assessment for the Project Years 2021-2025

Total Assessed Amount \$99,200.78 Annually or \$496,003.93 for the 5-year term

Lot Type	Units of Benefit	Current Annual Assessment
Condominium parcels with lake access	0.1	\$19.63
Lake access parcels	0.2	\$39.27
Waterfront condominium properties	0.75	\$147.26
Residential riparian parcels with up to 95 feet of lake frontage	1.0	\$196.34
Residential riparian parcels with more than 95 feet of lake frontage	1.5	\$294.51
Commercial riparian parcels	3.0	\$589.02

Parcel Map of the current Assessment Roll (2021-2025) can be viewed here on the Lake Board page <https://cityofnovi.org/media/lagnqi5k/2020walledlakemaprollrevised.pdf>

The Assessors for Novi and Walled Lake have reviewed the roll in preparation for the upcoming renewal. There are 1365 parcels in the district, with a total of 504.85 units of benefit. Below is the breakdown of the lot type by units of benefit.

631.00
734.00
1365.00

NOVI PARCELS
WALLED LAKE PARCELS
TOTAL PARCELS

316.55 NOVI UNITS
188.30 WALLED LAKE UNITS
504.85 TOTAL UNITS

Lot Type	Units of Benefit	Quantity
Condominium parcels with lake access	0.1	516
Lake access parcels	0.2	510
Waterfront condominium properties	0.75	29
Residential riparian parcels with up to 95 feet of lake frontage	1.0	286
Residential riparian parcels with more than 95 feet of lake frontage	1.5	15
Commercial riparian parcels	3.0	7

The new assessment roll would require a mailing to each property owner, a public hearing in front of the Lake Board, and a resolution by the Lake Board to proceed with the new assessment roll according to the requirements in the statute.

WALLED LAKE IMPROVEMENT BOARD
FINANCIAL SUMMARY 2011-2025

ESTIMATED																	AVERAGE	NOTES
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025			
INCOME																		
City of Novi Contribution	\$ 30,000.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		1	
Assessments (City of Novi)	\$ 65,038.25	\$ 67,496.96	\$ 55,933.10	\$ 58,659.13	\$ 55,124.90	\$ 46,202.45	\$ 43,470.34	\$ 41,402.36	\$ 39,861.54	\$ 38,313.90	\$ 63,985.12	\$ 64,810.89	\$ 61,529.42	\$ 59,506.04	\$ 61,091.19			
Assessments (City of Walled Lake)	\$ 36,693.18	\$ 36,695.30	\$ 36,695.30	\$ 36,695.30	\$ 36,695.30	\$ 25,421.39	\$ 25,421.39	\$ 25,421.39	\$ 25,421.39	\$ 25,421.39	\$ 37,428.58	\$ 37,376.96	\$ 37,402.77	\$ 37,402.77	\$ 37,402.77			
TOTAL INCOME	\$ 131,731.43	\$ 104,192.26	\$ 92,628.40	\$ 95,354.43	\$ 91,820.20	\$ 71,623.84	\$ 68,891.73	\$ 66,823.75	\$ 65,282.93	\$ 63,735.29	\$ 101,413.70	\$ 102,187.85	\$ 98,932.19	\$ 96,908.81	\$ 98,493.96			
EXPENSES																		
Herbicide and Harvesting	\$ 47,715.00	\$ 106,050.00	\$ 27,578.25	\$ 54,195.00	\$ 35,155.00	\$ 68,299.43	\$ 75,553.78	\$ 86,011.87	\$ 80,970.92	\$ 94,253.63	\$ 74,031.98	\$ 84,574.50	\$ 55,091.41	\$ 100,175.56	\$ 103,238.00	\$72,859.62		
Lake Management Consultant	\$ -	\$ 3,000.00	\$ -	\$ 4,750.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -			
Engineering Services	\$ 16,865.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		2	
Permit Fee	\$ 800.00	\$ 1,500.00	\$ 1,500.00	\$ 3,000.00	\$ -	\$ 3,000.00	\$ 1,500.00	\$ 1,500.00	\$ 1,500.00	\$ 1,500.00	\$ 1,500.00	\$ 1,500.00	\$ -	\$ 1,600.00	\$ 1,600.00	\$1,466.67		
Administrative & Legal	\$ 28,569.65	\$ 2,787.38	\$ 637.10	\$ 2,196.60	\$ 4,466.46	\$ 34.20	\$ 1,006.80	\$ 1,136.60	\$ 2,821.40	\$ 4,321.68	\$ 663.00	\$ 700.20	\$ 949.00	\$ 7,296.63	\$ 8,500.00	\$4,405.78	3,4	
Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 764.43	\$ 761.23	\$ 799.40	\$ -	\$ -	\$ 1,042.94	\$ 1,036.11	\$ 874.90	\$ 1,000.00	\$879.84	5	
TOTAL EXPENSES	\$ 93,949.65	\$ 113,337.38	\$ 29,715.35	\$ 64,141.60	\$ 39,621.46	\$ 71,333.63	\$ 78,825.01	\$ 89,409.70	\$ 86,091.72	\$ 100,075.31	\$ 76,194.98	\$ 87,817.64	\$ 57,076.52	\$ 109,947.09	\$ 114,338.00			
BALANCE ON HAND	\$ 37,781.78	\$ 28,636.66	\$ 91,549.71	\$ 122,762.54	\$ 174,961.28	\$ 175,251.49	\$ 165,318.21	\$ 142,732.26	\$ 121,923.47	\$ 95,287.90	\$ 110,802.17	\$ 125,172.38	\$ 167,028.05	\$ 153,989.77	\$ 138,145.73			

Notes

- 1 One-time contribution
- 2 Engineering study required when forming a lake board
- 3 Administrative & legal fees are higher in the years of the SAD renewal
- 4 Purchased annual Board & Officers Liability insurance starting 2024; current annual premium ~\$3K
- 5 Other- typically reimbursement to Chair for educational trainings

WALLED LAKE IMPROVEMENT BOARD **HISTORY OF ANNUAL INSTALLMENTS**

Winter Tax Bill Project Year <u>Units of Benefit</u>	2010-2014 2011-2015 <u>Assessment</u>	2015-2019 2016-2020 <u>Assessment</u>	2020-2024 2021-2025 <u>Assessment</u>
0.1	\$19.21	\$13.32	\$19.63
0.2	\$38.42	\$26.63	\$39.27
0.75	\$144.09	\$99.87	\$147.25
1.0	\$192.12	\$133.17	\$196.34
2.0	\$288.18	\$199.75	\$294.51
3.0	\$576.37	\$399.50	\$589.02

PROPOSED BUDGET FOR NEW FIVE-YEAR ASSESSMENT- PROJECT YEARS 2026-2030
WALLED LAKE IMPROVEMENT BOARD

	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>TOTAL</u>	<u>NOTES</u>
INCOME							
Assessments (City of Novi)	\$67,445.09	\$67,445.09	\$67,445.09	\$67,445.09	\$67,445.09	\$337,225.46	
Assessments (City of Walled Lake)	\$40,119.76	\$40,119.76	\$40,119.76	\$40,119.76	\$40,119.76	\$200,598.81	
TOTAL INCOME	\$107,564.85	\$107,564.85	\$107,564.85	\$107,564.85	\$107,564.85	\$537,824.27	
EXPENSES							
Herbicide and Harvesting (including studies and surveys)	\$105,000.00	\$105,000.00	\$110,000.00	\$110,000.00	\$115,000.00	\$545,000.00	1
Permit Fee	\$1,600.00	\$1,600.00	\$1,600.00	\$1,600.00	\$1,600.00	\$8,000.00	2
Administrative & Legal	\$4,500.00	\$4,500.00	\$5,000.00	\$5,000.00	\$10,000.00	\$29,000.00	3,4
Other	\$1,100.00	\$1,100.00	\$1,200.00	\$1,200.00	\$1,200.00	\$5,800.00	5
TOTAL EXPENSES	\$112,200.00	\$112,200.00	\$117,800.00	\$117,800.00	\$127,800.00	\$587,800.00	
BALANCE ON HAND	\$133,510.58	\$128,875.44	\$118,640.29	\$108,405.15	\$88,170.00		

15.00% Contingency

*Contingency Allowed 10% to 15%

NOTES

- 1 Based on proposed treatment projections provided by Savin Lake Services
- 2 Current annual EGLE permit fee
- 3 Administrative & legal fees are higher in the years of the SAD renewal due to public notices
- 4 Annual Board & Officers liability insurance is currently at ~\$3K; inflationary assumption 5% annually
- 5 Based on maximum historical requests amount and inflationary assumption 3% annually

PROPOSED BUDGET FOR NEW FIVE-YEAR ASSESSMENT- PROJECT YEARS 2026-2030
WALLED LAKE IMPROVEMENT BOARD

	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>TOTAL</u>	NOTES
INCOME							
Assessments (City of Novi)	\$63,759.48	\$63,759.48	\$63,759.48	\$63,759.48	\$63,759.48	\$318,797.40	
Assessments (City of Walled Lake)	\$37,927.37	\$37,927.37	\$37,927.37	\$37,927.37	\$37,927.37	\$189,636.87	
TOTAL INCOME	\$101,686.85	\$101,686.85	\$101,686.85	\$101,686.85	\$101,686.85	\$508,434.27	
EXPENSES							
Herbicide and Harvesting (including studies and surveys)	\$105,000.00	\$105,000.00	\$110,000.00	\$110,000.00	\$115,000.00	\$545,000.00	1
Permit Fee	\$1,600.00	\$1,600.00	\$1,600.00	\$1,600.00	\$1,600.00	\$8,000.00	2
Administrative & Legal	\$4,500.00	\$4,500.00	\$5,000.00	\$5,000.00	\$10,000.00	\$29,000.00	3,4
Other	\$1,100.00	\$1,100.00	\$1,200.00	\$1,200.00	\$1,200.00	\$5,800.00	5
TOTAL EXPENSES	\$112,200.00	\$112,200.00	\$117,800.00	\$117,800.00	\$127,800.00	\$587,800.00	
BALANCE ON HAND	\$127,632.58	\$117,119.44	\$101,006.29	\$84,893.15	\$58,780.00		

10.00% Contingency

*Contingency Allowed 10% to 15%

NOTES

- 1 Based on proposed treatment projections provided by Savin Lake Services
- 2 Current annual EGLE permit fee
- 3 Administrative & legal fees are higher in the years of the SAD renewal due to public notices
- 4 Annual Board & Officers liability insurance is currently at ~\$3K; inflationary assumption 5% annually
- 5 Based on maximum historical requests amount and inflationary assumption 3% annually