Eagan - Inver Grove Heights
Watershed Management Organization

AGENDA

BOARD OF MANAGERS MEETING

June 17, 2025 at 5:30 P.M.

Eagan Maintenance Facility
3501 Coachman Point, Eagan, MN 55122

1. Call to Order
2. Approval of Agenda
3. Consent Agenda
   - 3.1. Minutes April 15, 2025
   - 3.2. Invoices for Payment
   - 3.3. 2025 Year-to-Date Financial Summary
4. Watershed Plan Update
5. New Business
   - 5.1. Report, Eagan Water Quality Monitoring Trends 1991-2024
   - 5.2. 2025 Communication and Outreach Plan
     - 5.2.1. Outreach, Library Exhibit Update
     - 5.2.2. CLIMB Theater Review
6. Community Updates
7. Adjournment

EAGAN-INVER GROVE HEIGHTS WATERSHED MANAGEMENT ORGANIZATION
Regular Board Meeting Minutes
Inver Grove Heights City Hall
April 15, 2025

1. **Call to Order**

   Chair Jennifer Workman-Jesness called meeting to order at 5:30pm.

   Present: Chair Jennifer Workman-Jesness (Eagan), Vice Chair Kathleen Reitz (Eagan), Secretart/Treasurer Sarah Saito (Inver Grove Heights), Kathleen Reitz (Eagan), Monica Foss (Eagan), Steven Errrante (Inver Grove Heights)

   Others: Joe Barten (Dakota SWCD), Paul Merchlewicz (Inver Grove Heights), Valerie Neppl (Dakota County), Nicole Portugal (Inver Grove Heights), Victoria Ranua (E-IGHWMO), Greg Thompson (Eagan), and Lisa Tilman (Stantec)

2. **Approval of Agenda**

   A motion by Foss to approve the agenda. Second by Saito. Motion carried unanimously.

3. **Consent Agenda**

   A motion by Foss to approve the consent agenda. Second by Errante. Motion carried unanimously.

4. **Watershed Plan Update**

   Stantec presented a draft Issues and Goals section of the Watershed Plan, as well as achievable measurable actions over the next 10 years. They also presented a draft Land and Water Resources section for review. Positive discussion related to refining some of the issues, goals, and achievable measurable goals ensued, with discussion of seeking additional input from the public through a survey as well as members of the Technical Advisory Committee (TAC) via a meeting and materials for the members to comment on.

5. **New Business**

   5.1 Watershed Plan Budget Amendment

   A motion by Foss to authorize a budget adjustment and contract amendment for Stantec in the amount of $14,970. Second by Reitze. Motion carried unanimously.

   Additionally, the board gave general unanimous support for an increase in the Administration budget to account for additional workload during Watershed Planning. This will be looked at in Quarter 3 and 4 to determine the type and monetary amount of adjustments needed. The Dakota SWCD invoices going forward

will break up the Administrator hours between general administrative time and watershed plan update type.

5.2 Special Meeting, Tuesday, May 20

Based on information presented earlier, a special meeting of the WMO was not needed. Time will be used for Stantec to meet with City of Inver Grove Heights and Eagan staff, as well as members of the Technical Advisory Committee, and develop a public input survey.

5.3 2025 Communications and Outreach Plan

5.3.1 Outreach, Library Exhibit Update

Rietz reported that Wescott Library (Eagan) will be having an Earth Day display.

5.3.2 CLIMB Theater

Saito made a motion to pay the CLIMB Theater invoice for $2,000. Second by Foss. Motion carried unanimously.

5.4 Annual Report

Foss made a motion to approve the Annual Report with minor modifications to formatting. Errante seconded. Motion carried unanimously.

6. Community Updates

Inver Grove Heights reported about a recent MS4 Presentation by Dakota SCWD's Joe Barten and their upcoming Touch-a-Truck event in May.

Eagan reported on hosting Dakota SWCD's upcoming Landscaping for Clean Water classes in April and Lawns Re-Imagined workshop in May. They mentioned their Big Rig Rally in May will be another touch point for public interaction. City staff Jenna Olson and Jessie Koehle will be helping coordinate Lake Nights this summer, held at various local lakes.

7. Adjournment

A motion by Errante to adjourn meet. Second by Reitz. Motion carried unanimously. Meeting adjourned at 7:56 pm.

Respectfully submitted,

Victoria Ranua
Administrator

Approved by Board
XX/XX/2025

Stantec

INVOICE

Invoice Number	2402070
Invoice Date	May 29, 2025
Purchase Order	227707496
Customer Number	1312103
Project Number	227707496

Bill To
Eagan-Inver Grove Heights Water Management Organization
Victoria Ranua
4100 220th Street
Suite 102
Farmington MN 55024
United States

EFT/ACH Remit To (Preferred)
Stantec Consulting Services Inc. (SCSI)
Bank of America
ABA No. : 111000012
Account No: 3752096026
Email Remittance: eft@stantec.com

Alternative Remit To
Stantec Consulting Services Inc. (SCSI)
13980 Collections Center Drive
Chicago IL 60693
United States

Project **2nd Generation Watershed Management Plan**

Project Manager	Spector, Diane F	Contract Upset	47,729.00
Current Invoice Total (USD)	5,974.59	Amount Billed to Date	28,848.34
		For Period Ending	**May 23, 2025**

Top Task **100** **Stakeholder Input**

Professional Services

Category/Employee	Current Hours	Rate	Current Amount
Revenue - Rev Adj (Labor)	-10.50	1.00	-10.50
Neumiller, Grace Catherine	9.75	133.00	1,296.75
Young, Kyle	0.75	139.00	104.25
Tilman, Elizabeth (Lisa)	6.25	196.00	1,225.00
Subtotal Professional Services	6.25		2,615.50

Top Task Subtotal Stakeholder Input 2,615.50

Top Task **200** **Plan Update & Review**

Professional Services

Category/Employee	Current Hours	Rate	Current Amount
Revenue - Rev Adj (Labor)	-65.00	1.00	-65.00
Neumiller, Grace Catherine	15.00	133.00	1,995.00
Frett, Michael W	2.00	158.00	316.00
Tilman, Elizabeth (Lisa)	5.00	196.00	980.00
Spector, Diane F	0.25	205.00	51.25
Subtotal Professional Services	-42.75		3,277.25

Top Task Subtotal Plan Update & Review 3,277.25

Top Task **400** **Project Management**

Professional Services

Category/Employee	Current Hours	Rate	Current Amount

Invoice Number	2402070
Invoice Date	May 29, 2025
Purchase Order	227707496
Customer Number	1312103
Project Number	227707496

Revenue - Rev Adj (Labor)	-24.50	1.00	-24.50
Tilman, Elizabeth (Lisa)	0.50	196.00	98.00
Subtotal Professional Services	-24.00		73.50

Disbursements

Direct - Printing			8.34
Subtotal Disbursements			8.34

Top Task Subtotal	Project Management	81.84
	Total Fees & Disbursements	5,974.59
	Credit for rate adjustment from previous invoice 2363300 & 2374097	(1,235.25)
	INVOICE TOTAL (USD)	**4,739.34**

Net Due in 30 Days or in accordance with terms of the contract

Stantec will not change our banking information. If you receive a request noting our banking information has changed, please contact your Stantec Project Manager

Stantec

INVOICE

Invoice Number	2387399
Invoice Date	April 25, 2025
Purchase Order	227707496
Customer Number	1312103
Project Number	227707496

Bill To
Eagan-Inver Grove Heights Water Management Organization
Victoria Ranua
4100 220th Street
Suite 102
Farmington MN 55024
United States

EFT/ACH Remit To (Preferred)
Stantec Consulting Services Inc. (SCSI)
Bank of America
ABA No. : 111000012
Account No: 3752096026
Email Remittance: eft@stantec.com

Alternative Remit To
Stantec Consulting Services Inc. (SCSI)
13980 Collections Center Drive
Chicago IL 60693
United States

Project **2nd Generation Watershed Management Plan**

Project Manager	Spector, Diane F	Contract Upset	32,759.00
Current Invoice Total (USD)	9,400.00	Amount Billed to Date	24,937.00
		For Period Ending	**April 18, 2025**

Top Task **100** **Stakeholder Input**

Professional Services

Category/Employee		Current Hours	Rate	Current Amount
	Neumiller, Grace Catherine	7.00	158.00	1,106.00
	Tilman, Elizabeth (Lisa)	3.50	204.00	714.00
	Subtotal Professional Services	10.50		1,820.00

Top Task Subtotal Stakeholder Input 1,820.00

Top Task **200** **Plan Update & Review**

Professional Services

Category/Employee		Current Hours	Rate	Current Amount
	Wavrin, Thomas	4.50	144.00	648.00
	Hembre, Kaitlyn Marie Elizabeth (Katie)	7.00	152.00	1,064.00
	Neumiller, Grace Catherine	21.00	158.00	3,318.00
	Tilman, Elizabeth (Lisa)	12.50	204.00	2,550.00
	Subtotal Professional Services	45.00		7,580.00

Top Task Subtotal Plan Update & Review 7,580.00

Total Fees & Disbursements	9,400.00
INVOICE TOTAL (USD)	**9,400.00**

Net Due in 30 Days or in accordance with terms of the contract
Stantec will not change our banking information. If you receive a request noting our banking information has changed, please contact your Stantec Project Manager

Invoice Number	2387399
Invoice Date	April 25, 2025
Purchase Order	227707496
Customer Number	1312103
Project Number	227707496

E-IGH Watershed Management Organization

2025

Balance Sheet

Assets	
Cash in Checking	$82,650.92
Cash in Savings	$ 1.00
Total Cash:	**$ 82,651.92**
Accounts Receivable	$ -
Total Assets:	**$ 82,651.92**
Liabilities and Equity	
Accounts Payable	$ 14,139.34
Equity	
General Fund Balance January 1	$ 50,650.92
Fund Balance Reserved for WP	$ 30,323.66
Net Surplus / (-) Deficit	$ (12,462.00)
Total Equity:	**$ 68,512.58**
Total Liabilities and Equity:	**$ 82,651.92**

E-IGH Watershed Management Organization

2025

Revenue and Expense Summary

General Fund	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	2024 TYD	2024 Budget	Remaining	% Utilized
Revenues:								
Member Allocations					$ -	$ 52,000.00	$ 52,000.00	0%
Interest Income					$ -	$ -	$ -	0%
Use of Restricted Fund Balance	$ 15,537.00	$ 14,139.34	$ -	$ -	$ 29,676.34	$ 66,970.00	$ 37,293.66	44%
Total Revenues:	**$ 15,537.00**	**$ 14,139.34**	**$ -**	**$ -**	**$ 29,676.34**	**$ 118,970.00**	$ 89,293.66	25%
Expenses:								
Work Program								
A. File Annual Activity Report, Finance Report and Audit					$ -	$ 4,000.00	$ 4,000.00	0%
B. Publish/Distribute Annual Newsletter or Communication					$ -	$ 300.00	$ 300.00	0%
C. Web Site	$ 1,150.00				$ 1,150.00	$ 1,000.00	$ (150.00)	115%
D. Board Education					$ -	$ 500.00	$ 500.00	0%
E. Implement Watershed Plan								
1. Support Existing Programs (LCW, CLIMB, MWS)	$ 2,000.00	$ 2,000.00			$ 4,000.00	$ 26,200.00	$ 22,200.00	15%
2. WMO Education and Outreach Programs (+LRI)	$ 800.00				$ 800.00	$ 4,000.00	$ 3,200.00	20%
3. Water Conservation Marketing Campaign					$ -	$ 7,500.00	$ 7,500.00	0%
Organizational Administration								
Staff Services (general)	$ 6,425.00				$ 6,425.00	$ 22,000.00	$ 15,575.00	29%
Engineering and Consulting Services (general)	$ 87.00				$ 87.00	$ 3,000.00	$ 2,913.00	3%
Legal Consulting Services (general)					$ -	$ 500.00	$ 500.00	0%
Watershed Plan - RESTRICTED FUNDS								
Consulting Services	$ 15,537.00	$ 14,139.34			$ 29,676.34	$ 49,970.00	$ 20,293.66	59%
Total Expenses:	**$ 25,999.00**	**$ 16,139.34**	**$ -**	**$ -**	**$ 42,138.34**	**$ 118,970.00**	**$ 76,831.66**	

Stantec

Memo

To:	E-IGHWMO Board and Staff	From:	Lisa Tilman
Project/File:	227707496	Date:	June 13, 2025

Reference: Watershed Management Plan Update

To enhance outreach and engagement in the watershed management plan update process, Stantec held meetings with the Technical Advisory Committee and the two member cities. We also developed a community survey and received responses from watershed residents on priorities for WMO action and education.

Input received from meetings with member cities, the technical advisory committee, staff, and the community survey were used to prioritize issues and refine the goals and implementation plan.

Please review the attached documents to determine if the plan accurately reflects the priorities and actions that the Board wishes the watershed to take over the next 10 years.

1. The Community Survey received almost 50 responses and results show key lakes used by residents and the primary issues the respondents would like the watershed to address.
2. The Issues & Goals section is updated to include a summary of the community survey and identified priorities. It also incorporates updated actions from the implementation plan.
3. The Implementation Plan outlines the priority actions for the watershed over the next 10 years and includes estimated costs to complete planned work. The plan expands the WMO role within education and outreach and includes new efforts through a monitoring and technical assistance program and an expanded cost-share program. Costs are currently broken out to reflect new expenses above current budgets so that managers can make decisions on the level of effort and funding that is manageable for the WMO.

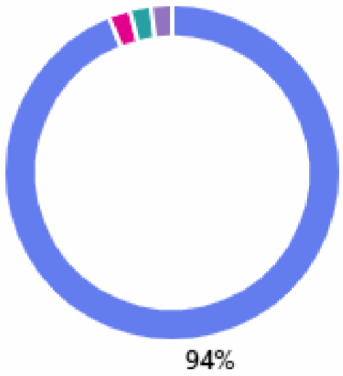
Responses Overview

Active

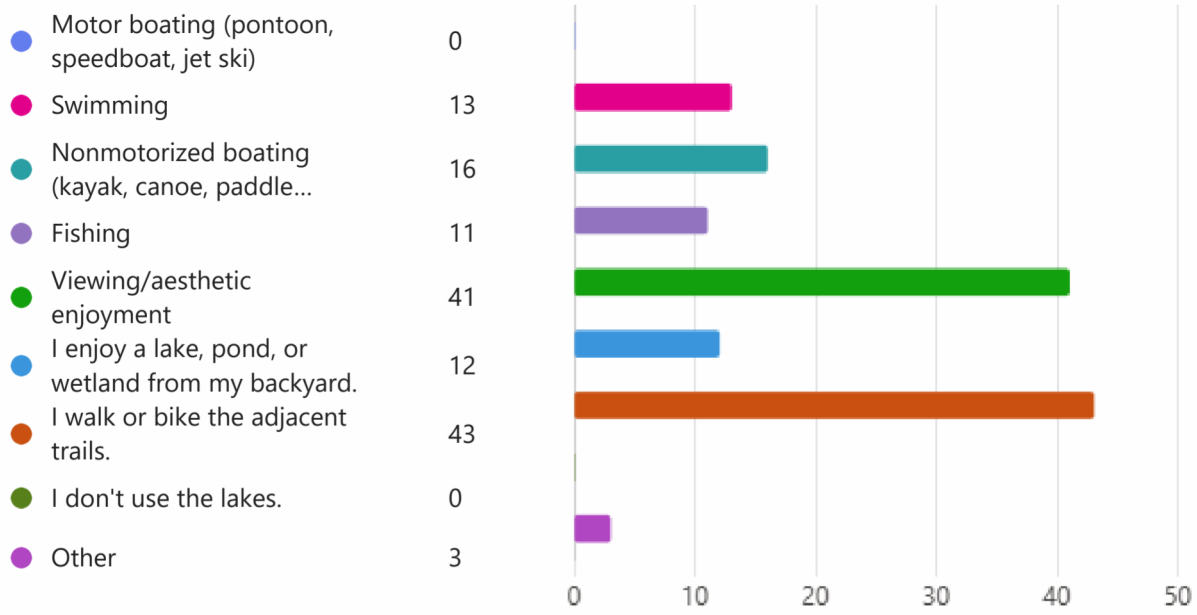
Responses	Average Time	Duration
49	11:01	30 Days

1. Do you live within the Eagan-Inver Grove Heights watershed boundary shown in this image? If not, do you regularly recreate within the watershed? Please note that the watershed encompasses nearly the entirety of the City of Eagan, while the City of Inver Grove Heights only makes up about 4% of the watershed.

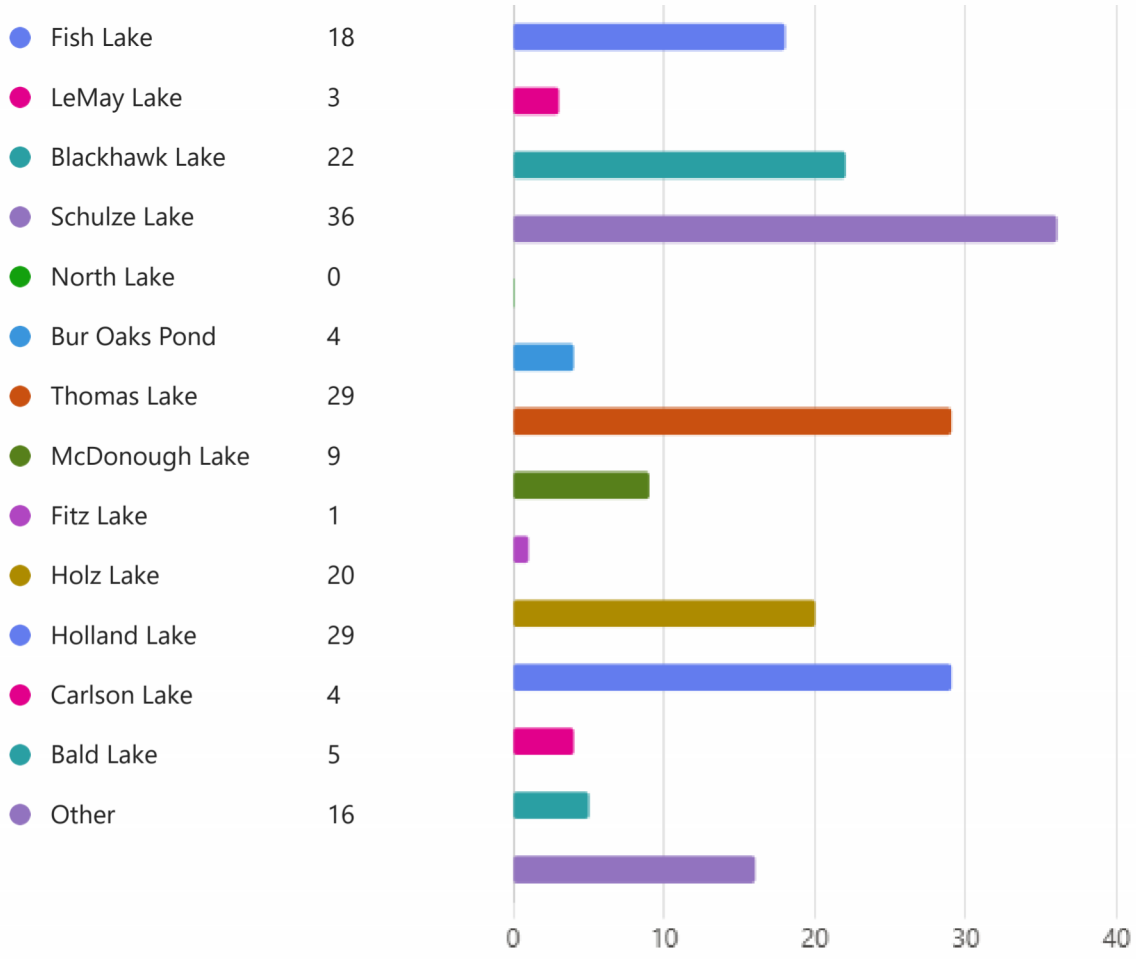
I live in the E-IGH watershed.	46
I regularly spend time at the lakes and ponds within the watershed (ie. Fish Lake, LeMay Lake, Blackhawk...	1
I do not live in or spend time in the E-IGH watershed.	1
Other	1



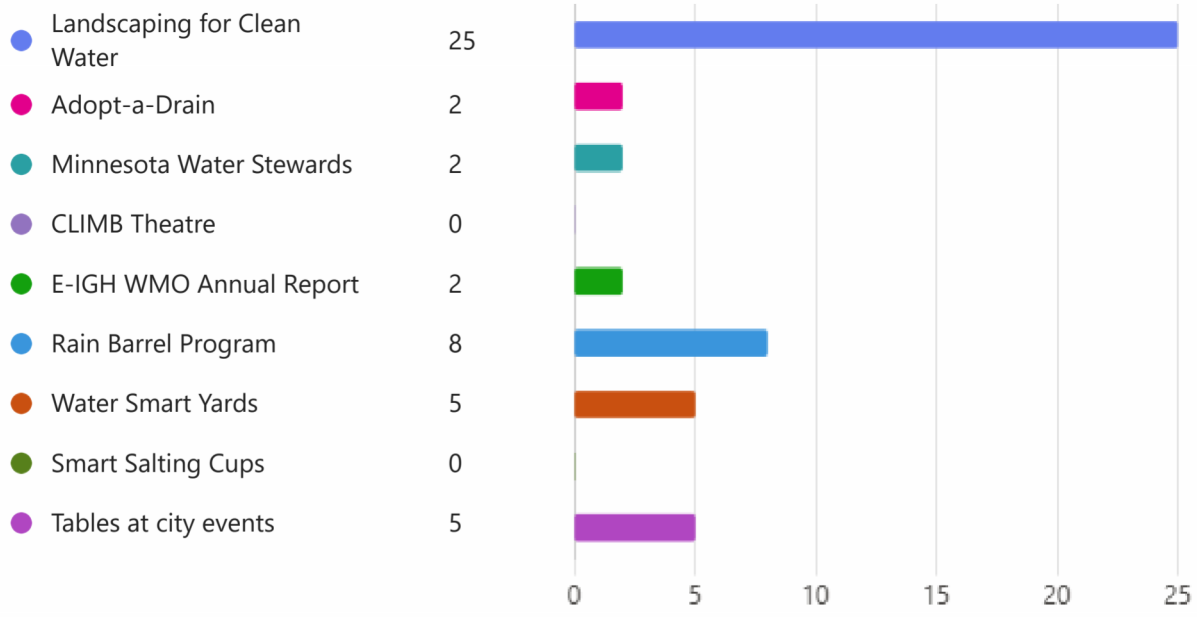
2. The E-IGH watershed covers 30.6 square miles and encompasses nearly all of the City of Eaga n and part of the City of Inver Grove Heights. Which best describes how you use the lakes, po nds, and wetlands within the E-IGH watershed? (Please select all that apply).



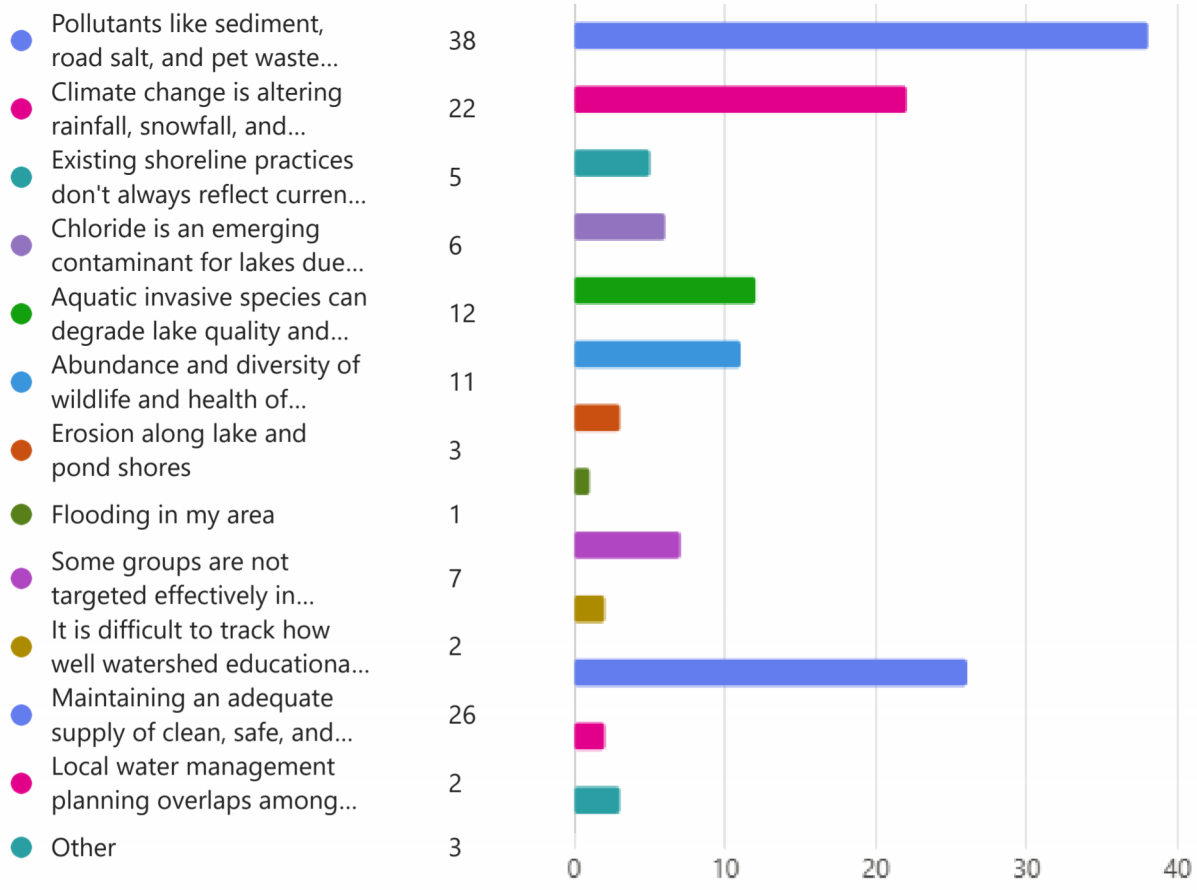
3. Which lakes do you use the most? (Select up to 4)



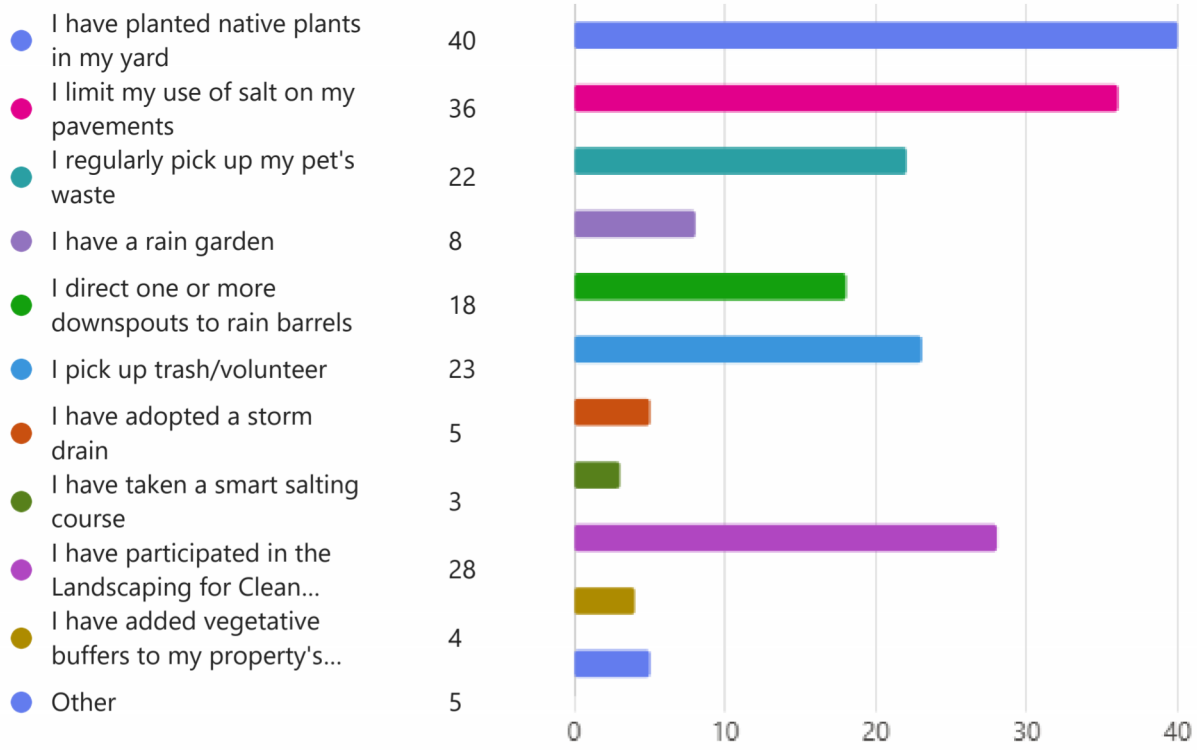
4. Have you engaged with the E-IGH WMO through any of these community events or program s?



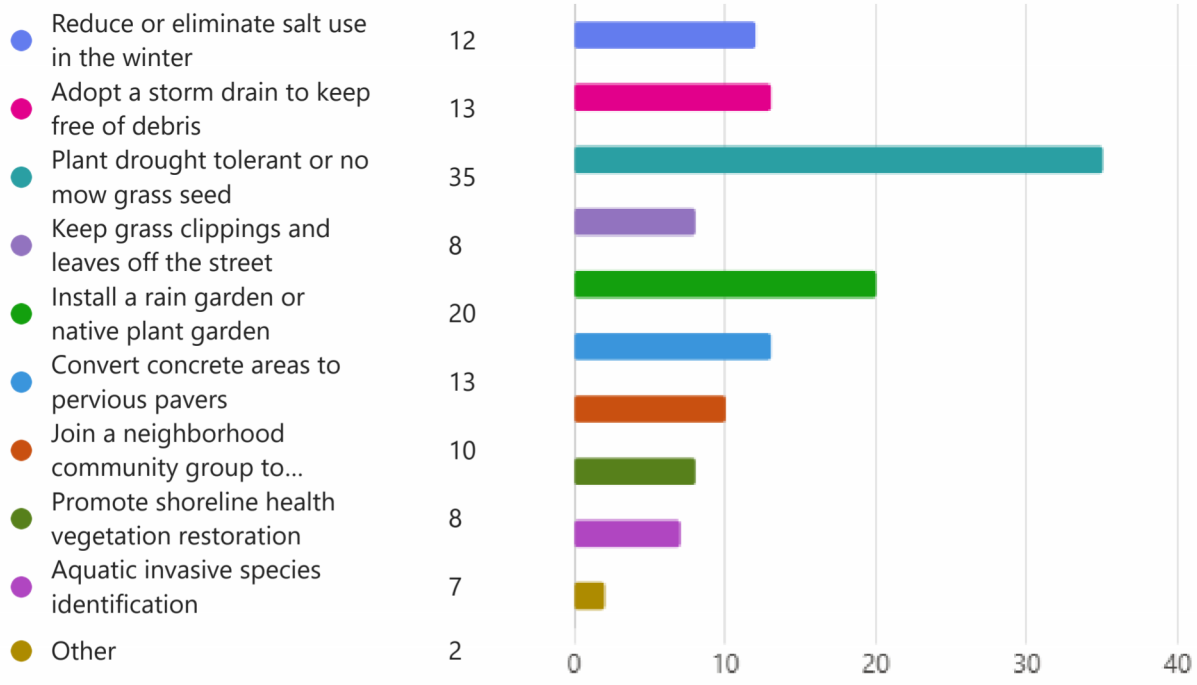
5. What do you think are the <u>three</u> most pressing land use or environmental problems affecting the lakes, ponds, and wetlands in the area?



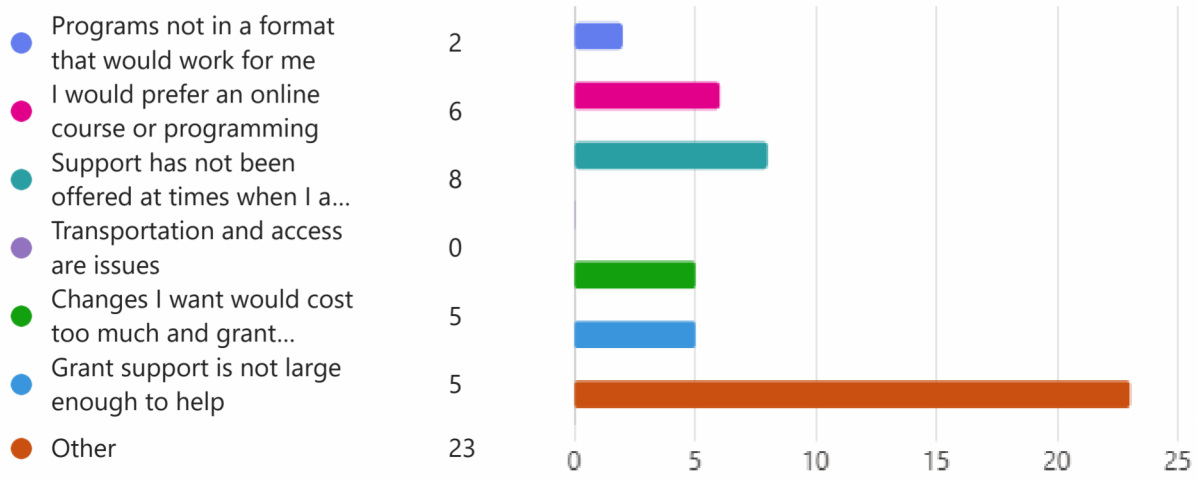
6. Have you undertaken any conservation practices on your property in the past? (Click all that a pply)



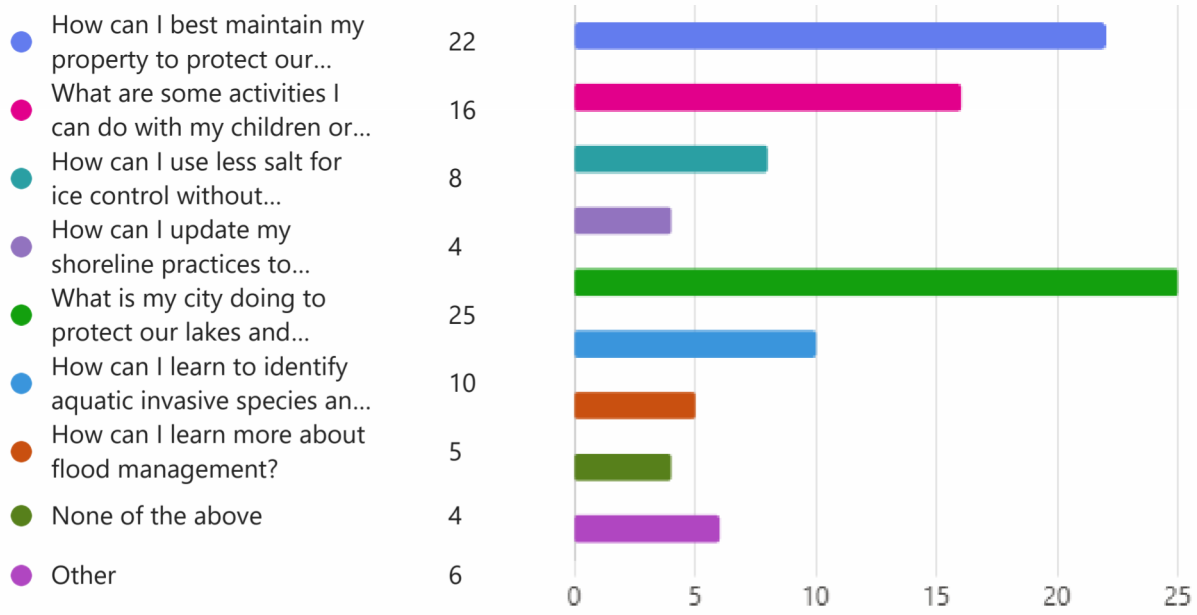
7. Which water quality improvement actions would you like more information about or support f or additional steps? (Click all that apply).



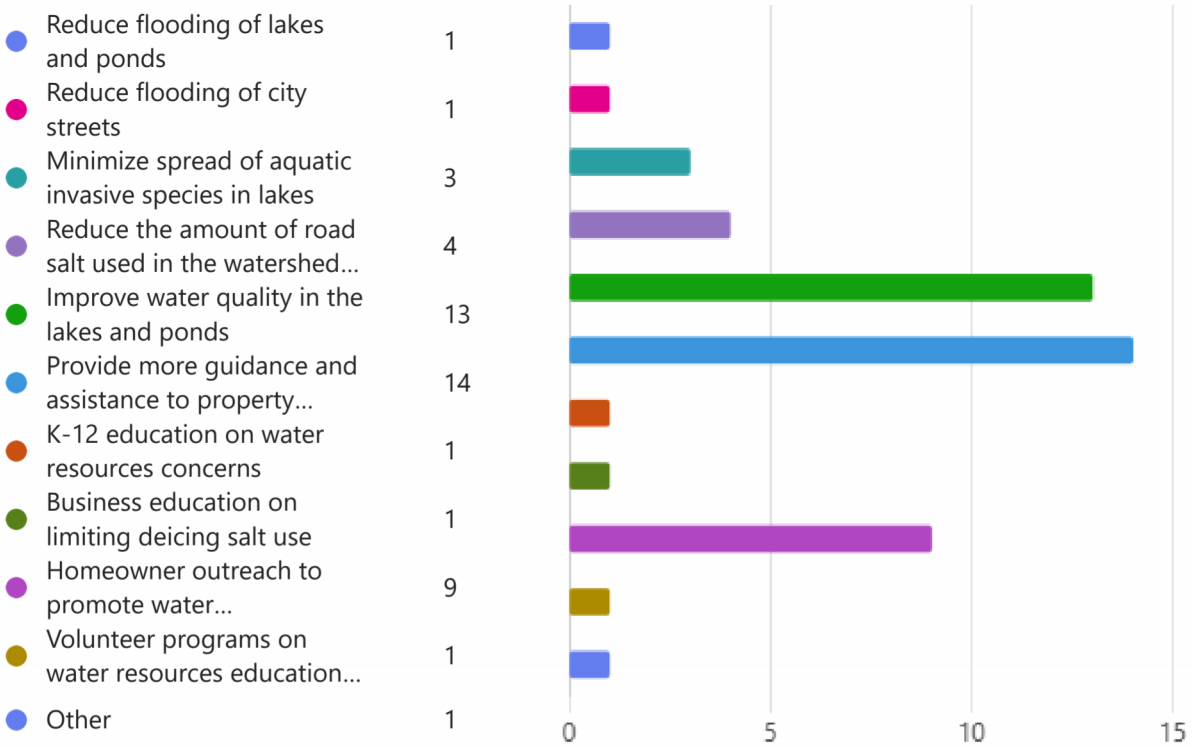
8. If you have not been able to participate in E-IGH WMO water quality conservation activities in the past, what has prevented you?



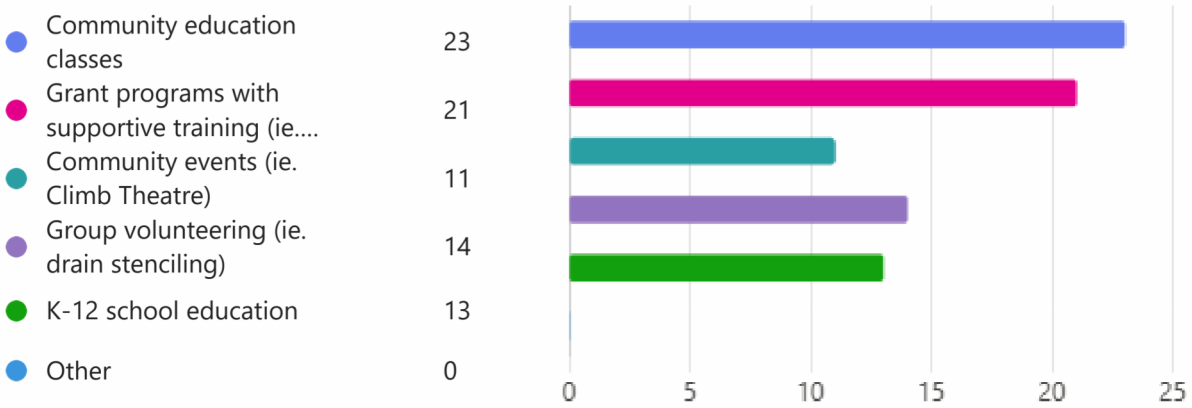
9. What are some topics you'd like to know more about? (check all that apply)



10. The following are the issues the Eagan-Inver Grove Heights Watershed Management Organization and the two cities in the watershed will be tackling in the coming 10 years. Which one is the most important to you?



11. Where would you want to learn more about the actions you can take to protect and improve our local lakes and ponds?



12. If you have any more ideas or comments about education and outreach programming in the watershed, please add them below.

49
Responses

Latest Responses

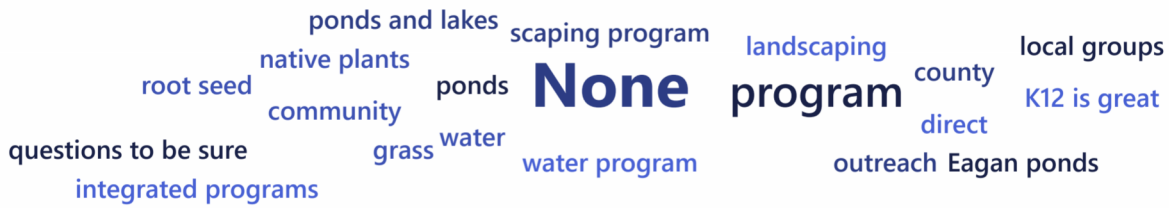
"Water management as a whole and how integrated pro..."

"Can the watershed and Dakota County Master Gardene..."

"Educate policy makers, local lawmakers and public abo... "

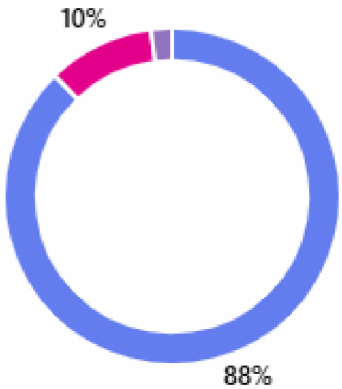
• • •

7 respondents (14%) answered None for this question.



13. Thank you for participating. Your feedback is valuable for our watershed planning efforts. Vis it https://eaganinvergroveheightswmo.org/ for more information. Lastly, in what city do you live?

Eagan	43
Inver Grove Heights	5
None of the above	0
Prefer not to say	1



4.0 Issues and Goals

This Plan section sets forth the Board's Mission and Vision and discusses the problems and issues that were identified during the Plan development process and the goals and policies the Board will pursue to address them.

4.1 Mission and Vision

The E-IGHWMO is a relatively new joint powers organization, but the member cities are not new to watershed management. The predecessor WMO, the Gun Club Lake WMO, had completed and implemented two ten-year management plans prior to disbanding when one member city withdrew. This WMO is relatively unique in the Metro Area: it is almost entirely comprised of land in one city—Eagan—and encompasses most of that city. It faces some special challenges defining a role for the Board that fulfills its statutory obligations without creating duplication of effort.

The City of Eagan has a long history of active water and natural resources management. That part of the watershed that is in Inver Grove Heights is for the most part managed either according to a master plan (the Northwest Area) with stringent volume management requirements or by an existing cooperative agreement between the two cities. Both the member cities are regulated MS4s and are implementing Stormwater Pollution Prevention Programs that include numerous activities to manage stormwater and prevent water resource degradation. Therefore, most of the issues typically administered by WMOs and set forth in their statutory purpose, such as managing inter-community flows and ensuring uniformity of local policies and official controls, are currently managed by the two cities.

Throughout this planning process, the Board discussed what it does well and their proudest efforts and accomplishments. Using their accomplishments as a guide, the Board developed a vision for roles in watershed management and a mission statement. Below is a list of current successful programs that the Board would like to continue into the 2nd Generation Plan.

The Board is proud of its active and involved managers conducting community outreach and of positive partnerships with the City of Eagan and the City of Inver Grove Heights. Notable accomplishments and effective programs include:

- Community Engagement
    - E-IGHWMO tabling at community events
    - Distribution of salt cups to raise awareness and change behavior around salt use for deicing
    - Distribution of pet waste bags to raise awareness and change behavior around pet waste management
    - Water exhibits at Library and community theater events
    - Traveling displays and engaging activities for City use with hands-on experiential learning tools

    - Adopt-a-Drain program
    - Newsletter articles
    - Website
    - Educational Signage at City Hall

- Stormwater Management Practices
    - Landscaping for Clean Water project support

- Be citizen advocates for the protection and improvement of water resources in the watershed.
- Provide targeted support as a partner with member cities to implement actions that will achieve the WMO's and member cities' water resource goals.
- Foster and support collaboration with multiple stakeholders.

MISSION STATEMENT

To implement programs and foster civic engagement within the watershed to promote citizen participation and responsibility in protecting and improving our water resources and to partner with member cities to achieve water resources goals.

4.2 Assessment of Problems and Issues

The Board performed a Visioning and Gaps Analysis in February and March 2025 to identify problems and issues confronting water resources management in the watershed, and to rank those that were of high priority. The Board also took input from the member cities, review agencies, and citizen advisory committees. Table 4.1 shows the problems/issues in three general categories, generally in order of the number of high priority rankings received.

Table 4.1. Current E-IGH watershed issues discussed by the Board.

Item	Problem or Issue	Discussion
Water Quality and Quantity		
A.	There are impaired lakes in the watershed as well as lakes with good water quality. While LeMay, Fitz, and Fish Lakes have been delisted for nutrient impairments (and Carlson and Holz lakes will soon be delisted), North and Blackhawk lakes are impaired for Mercury. Several lakes are at risk for chloride impairment.	Protecting and improving lakes and other resources will require multiple strategies to achieve. Pollutant load and volume reduction projects (ie. Thomas lake nutrient reductions, trash management) need to be supplemented with maintenance practices, regulation, and education and outreach to multiple stakeholders. Maintaining water quality through practices such as LCW maintenance workshops will be a heightened focus as lakes are delisted.
B.	Chloride is a contaminant of concern for surface and groundwater. Several lakes are at risk for chloride impairment in the future.	The current program is successful and there are now others doing similar community engagement and education for chloride awareness. E-IGHWMO efforts could be redirected or expanded to target businesses and churches and address sources in addition to road salt, such as water softeners. The WMO could contribute financially to smart-salt design, subsidize city staff smart salt trainings, or distribute rebates for new water softeners.
C.	Existing shoreline practices don't always reflect current best practices.	Education on shoreline stewardship for shoreline landowners and shoreline users could be expanded to highlight current best practices such as the importance of riparian buffers, reduce the prevalence of turf lawns, and educate about macroinvertebrate aquatic ecosystem health indicators. The E-IGHWMO use of the Landscaping for Clean Water program could be expanded to include more shoreline improvement work in the watershed. E-IGHWMO could install signage at fishing areas highlighting the importance of protecting shoreline vegetation.

Item	Problem or Issue	Discussion
D.	Climate change is altering rainfall and snowfall patterns and snowmelt patterns, affecting deicer usage, lake levels, and flooding concerns requiring updated water resource management and education needs.	As the cities develop climate action plans for infrastructure, the WMO wants to support these initiatives to protect water resources from future impacts. A changing climate also necessitates different expectations for lake levels, water use, deicing practices, and others, so the E-IGH WMO could incorporate these issues into education efforts.
E.	Aquatic invasive species can decrease lake quality and use.	Nuisance aquatic invasive species (AIS) are damaging lake quality in the watershed. E-IGH WMO could educate residents and lake users on reducing the spread of AIS via boat and plantings and could conduct AIS surveys or train volunteers how to survey and manage these volunteers.
Education		
A.	Some groups are not targeted effectively in education and outreach.	E-IGHWMO education and outreach efforts could be refined to better target K-12 education and educators and to communicate effectively with community members whose primary language isn't English. E-IGH WMO could provide educator grants to host a specialist to provide interactive water resource education in local schools or to support water resource-based field trips. Education and outreach could also be expanded or rotated through different venues to engage with the community such as hosting classes through Community Ed or Parks & Rec, partnering with the Climb Theater, and providing events with childcare or food or in easily accessible locations.
B.	Difficult to track how well programs affect behavioral change.	The WMO could find ways to measure the likely impact of its education programs such as number of people contacted.

Item	Problem or Issue	Discussion
Groundwater		
A.	Maintaining an adequate supply of clean, safe, drinkable groundwater is critical to human and environmental health in the watershed.	E-IGH WMO could support cities and residents with irrigation audits to recommend replacement systems. Education and project support programs such as such as water smart yards and Landscaping for Clean Water could include low water use lawns to reduce irrigation and include infiltration practices to recharge groundwater.
Other Issues		
A.	Overlap of local water management planning and watershed and other agency planning.	The E-IGHWMO is a small WMO almost entirely within Eagan and encompassing almost the entire City. Both Eagan and Inver Grove Heights, through their voluntary actions and those required by their NPDES permits, already undertake nearly all the responsibilities of the WMO. The challenge is to support and partner with the cities without replicating what is already being done.

4.3 COMMUNITY SURVEY RESULTS

To assess community opinions on Eagan-Inver Grove Heights Watershed Management Organization goals, the Board voted to incorporate a community survey as part of the 2nd Generation Plan development. The community survey was sent out to residents of the cities of Eagan and Inver Grove Heights to help the Board better understand community priorities as they relate to water resources. Community feedback has helped guide how the E-IGH WMO focuses their efforts on water quality, water quantity, groundwater and water-dependent natural resources, and other key issues over the next decade to allocate limited funding to address those issues.

The E-IGH WMO Community Survey consists of 13 questions aimed at gauging watershed resident usage of water resources, most popular recreation areas, key watershed conservation initiatives for the E-IGH WMO to target, and more.

The Community Survey was available for residents to complete for 30 days, and it received ~50 responses. Of the respondents, 46 live in the E-IGH watershed, 1 regularly spends time at lakes and ponds within the watershed, 1 does not live or spend time in E-IGH watershed, and 1 lives on the edge of the E-IGH and Lower Mississippi River watersheds [Question 1]. Additionally, 43 respondents live in the City of Eagan, while 5 respondents live in Inver Grove Heights, and 1 respondent preferred not to say where they live [Question 13].

Most respondents recreate at the lakes, ponds, and wetlands in the E-IGH watershed by walking or biking the adjacent trails (43) or by casually viewing them and enjoying their aesthetics (41). Approximately 1/5 of respondents use the watershed's water resources through swimming (13), non-motorized boating (16), or fishing (11), and remaining respondents view ponds in their backyards (4) [Question 2].

According to the survey, the most-used lakes in the watershed are Schulze Lake (36), Thomas Lake (29) and Holland Lake (29), Blackhawk Lake (22), Holz Lake (20), Fish Lake (18), and McDonough Lake (9). Respondents also used Bald Lake (5), Jensen Lake (5), Carlson Lake (4), Bur Oaks Pond (4), LeMay Lake (3), Fitz Lake (1), and several other smaller lakes [Question 3].

By far, most survey respondents interact with the E-IGH WMO through the Landscaping for Clean Water program (25), while others engage with the watershed through the Rain Barrel Program (8). Residents also interact with the WMO through the Water Smart Yards program (5) and through tables at city events (5). Several respondents also heard of E-IGH WMO through the Adopt-a-Drain program (2), Minnesota Water Stewards (2), and the E-IGH WMO Annual Report (2) [Question 4].

Respondents elected the following as the most pressing land use or environmental problems affecting the lakes, ponds, and wetlands in the watershed:

1. Pollutants like sediment, road salt, and pet waste entering our lakes and wetlands, contributing to nutrient, mercury and chloride impairments (38).
2. Maintaining an adequate supply of clean, safe, and potable groundwater is critical to human and environmental health in the watershed (26).

3. Climate change is altering rainfall, snowfall, and snowmelt patterns, which affects deicer usage, lake levels, and flooding concerns, requiring updated water resource management and education needs (22).

Participants also expressed concerns that aquatic invasive species can degrade lake quality and use (12), there is a lack of abundance and diversity of wildlife and health of habitats for aquatic life (fish, bugs, plants) (11), that some groups are not targeted effectively in watershed education and outreach, such as K-12 students (7), chloride is an emerging contaminant for lakes due to road salt inputs (6), needing more water quality-centric shoreline practices (5), reducing erosion along shorelines (3), local watershed management planning overlapping with other agencies with competing priorities (2), difficulties tracking how watershed educational programs affect behavioral change (2), and flooding (1) [Question 5].

Residents participated in conservation practices on their properties, including planting native plants in their yards (40), limiting use of salt on pavements (36), participating in the Landscaping for Clean Water program (28), picking up trash or volunteering (23), picking up their pet's waste regularly (22), direct downspouts to rain barrels (18), putting a rain garden in their yard (8), adopting a storm drain (5), adding vegetative buffers to their property's shorelines (4), and taking a smart salting course (3), planting trees (1), and opposing development (1) [Question 6].

Many respondents would like additional information or support about planting drought tolerant or no mow grass seed (35), installing a rain garden or native plant garden (20), converting concrete areas to pervious pavers (13), adopting a storm drain to keep free of debris (13), reducing or eliminating salt use in the winter (12), joining a neighborhood community group to support each other in improving water quality (10), keeping grass clippings and leaves off the street (8), promoting shoreline health vegetation restoration (8), and aquatic invasive species identification (7) [Question 7]. Respondents are also interested in learning more about what their city is doing to protect water quality in lakes and wetlands (25), how to best maintain their property to protect lakes and wetlands through the Landscaping for Clean Water and Water Smart Yard programs (22), and activities they can do with their children or grandchildren to help them learn about water quality (16). Folks also want to learn more about identifying aquatic invasive species (10) and using less salt for ice control while still conserving safety (8) [Question 9].

Factors that have prevented respondents from participating in E-IGH WMO water quality conservation activities include support not being offered during available times (8), a preference for online programming (6), changes being costly and desiring grant support (5), grants not being large enough to help (5), and programs not being in a format that would work for the respondent (2). Nine respondents reported that they have participated in programming and did not have any issues becoming involved. Several respondents wrote that factors such as working during typical volunteer hours, lack of time, being unaware of programming, and living in a townhome that does not respond to requests for greener lawn options contributed to their inability to participate [Question 8].

Survey respondents all chose <u>one</u> issue that would be most important for the E-IGH WMO to tackle in the next ten years. The top issues were:

1. Providing more guidance and assistance to property owners who want to improve their own properties to protect water quality (14)
2. Improving water quality in lakes and ponds (13)

Other issues selected were homeowner outreach to promote water conservation, healthy shoreline practices, and water smart yards (9), reducing the amount of road salt in the watershed without compromising public safety (4), and minimizing spread of invasive species in lakes (3). One respondent each chose the following issues as their most important focus: reducing flooding of lakes and ponds, reducing flooding of city streets, K-12 education on water resources concerns, business education on limiting deicing salt use, volunteer programs on water resources education (ie. aquatic invasive species education, adopt-a-drain), and educating lawmakers on how unchecked development degrades water quality [Question 10].

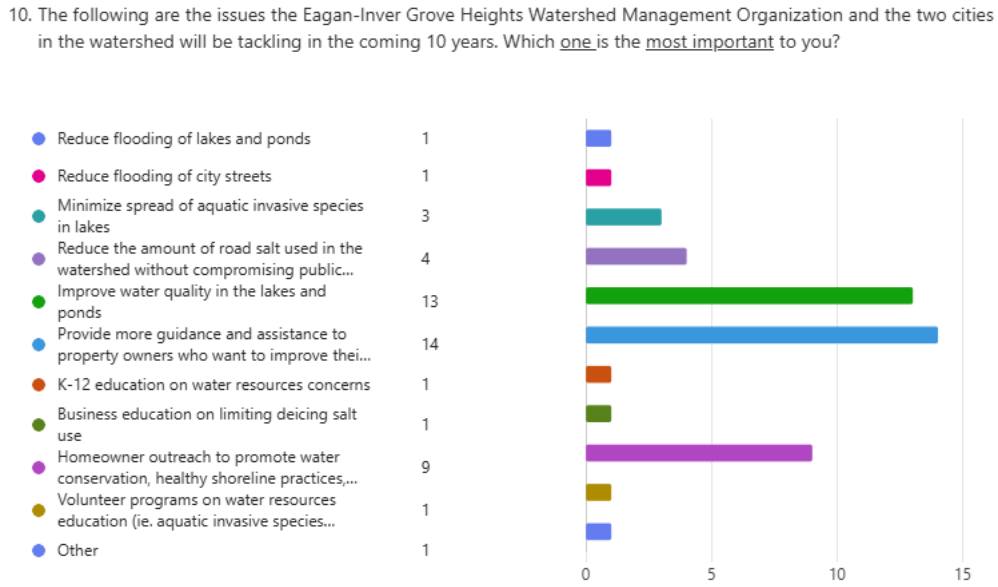


Figure 4-1. Community survey results from Question 10 regarding which one E-IGH WMO issues is the most important to respondents.

Most respondents wanted to learn more about actions to protect and improve local lakes and ponds through community education classes (23) and grant programs with supportive trainings (ie. Landscaping for Clean Water). Other respondents wanted to learn more about protective actions through group volunteering (ie. drain stenciling), K-12 school education (13), and community events (ie. Climb Theatre) (11) [Question 11].

Finally, community members were asked to share any additional comments or questions about the education and outreach program in the watershed. Respondents hoped to see more direct canvassing out homes in the community on water resources topics, more awareness about the Landscaping for Clean Water Program in the community, more educational signage near lakes, ponds, and wetlands, more information and assistance with planting native plants in residential yards, tapping into other local groups to achieve WMO goals, hosting free sustainability courses, more neighborhood outreach for property owners, educating townhome and condo members on introducing native plants, educating policy-makers, local lawmakers, and the public about reducing

development, collaborating with the Dakota County Master Gardener volunteers, and integrating watershed management programs as a whole [Question 11].

4.4 WATERSHED MANAGEMENT PLAN PRIORITIES

Priorities for watershed management have been determined using the community survey results and input from the E-IGH WMO Board discussions during the Second-Generation Plan development process.

The following lakes are used the most frequently by community survey respondents. As such, they should be priority targets for water quality improvements in the E-IGH WMO plan.

1. Schulze Lake
2. Thomas Lake
3. Holland Lake
4. Blackhawk Lake
5. Holz Lake
6. Fish Lake
7. McDonough Lake

The three most pressing land use or environmental problems affecting the lakes, ponds, and wetlands in the E-IGH WMO watershed by community members are:

1. Pollutants like sediment, road salt, and pet waste entering lakes and wetlands and contributing to nutrient, mercury, and chloride impairments
2. Maintaining an adequate supply of clean, safe, and potable groundwater is critical to human and environmental health in the watershed
3. Climate change is altering rainfall, snowfall, and snowmelt patterns, which affects deicer usage, lake levels, and flooding concerns, requiring updated water resource management and education needs

The following issues that the E-IGH WMO will be tackling in the next 10 years were identified as the most important to residents of Eagan and Inver Grove Heights in the community survey:

1. Provide more guidance and assistance to property owners who want to improve their own properties to protect water quality
2. Improve water quality the watershed's lakes and ponds
3. Homeowner outreach to promote water conservation, healthy shoreline practices, and water smart yards

Top issues that community survey respondents would like to learn more about include:

1. How their cities protect lakes and wetlands and how to learn more about water quality
2. How best to maintain their properties to protect lakes and wetlands through the landscaping for Clean Water and Water Smart Yards programs
3. What activities to undertake with children or grandchildren to help them learn more about water quality
4. How to identify aquatic invasive species and reduce the spread to water bodies

E-IGH WMO Board members would like to prioritize:

1. Community involvement that affects behavioral change and awareness on how local actions and the built environment impact water resources
2. Targeting water quality and quantity improvements through Landscaping for Clean Water efforts
3. Maintaining BMPs to ensure water quality protection
4. Aquatic invasive species surveys and shoreline buffer community education
5. Encouraging cities to apply low salt design to developments
6. Watershed resident education on water conservation practices
7. Leveraging grants to support future water resources conservation efforts
8.

4.5 Management Plan Goals and Policies

Based on input and review from the Board and Planning Advisory Committees, the Board of Managers has established the following priorities to guide this Management Plan:

WATERSHED MANAGEMENT PLAN PRIORITIES

1. *Undertake an active communication and engagement program with multiple stakeholders.*
2. *Educate the community and provide resources for actions they can take to improve water quality in the watershed.*
3. *Partner with the cities to fill gaps in water resource assessment and management.*

The Board has developed goals that will guide activities over the coming decade. These goals were derived from the discussions with Managers, Planning Advisory Committee members, state agency staff, and staff at the Cities of Eagan and Inver Grove Heights. These goals will be achieved through implementation of the policies identified for each goal area.

The framework to achieve these goals is set forth in the Implementation Plan detailed in the following sections. Member cities supplement and complement these actions with additional policies and programs tailored to their unique priorities and needs. Successful achievement of the goals in this Plan is dependent on those member cities and their dedication to this effort.

A high-priority goal for the E-IGH WMO is to raise awareness of water resources issues and opportunities, communicate with stakeholders about their potential roles and responsibilities in the management of those resources, and to effect positive change. The Board will develop and implement a three-year Education and Outreach Plan that sets forth more detailed messages, strategies, and metrics for evaluating and measuring change in attitudes and behaviors. The Board

will periodically review its Communication and Outreach Plan and work together with its partners to update priority messages, strategies, and metrics based on current needs.

To meet its broad goal areas in Water Quality and Quantity, Groundwater, and Education, the E-IGH WMO will target public involvement and education on management and protection of water resources. It will develop and disseminate through a variety of media and delivery practices information about water resources, stormwater management, aquatic invasive species, salt use, shoreline protection and other topics developed in a three-year Communication and Outreach Plan.

The WMO publishes an annual report providing an overview of conditions of the waters in the watershed, a summary of E-IGHWMO efforts, and actions stakeholders can take to protect and improve those waters.

E-IGHWMO will partner with entities such as its member cities, Dakota County, Dakota SWCD, nonprofit organizations, Watershed Partners, University Extension, and others to maximize cost-effectiveness, ensure consistency of messaging, and increase audience reach. Finally, it will engage volunteers such as Master Water Stewards, Naturalists, and Gardeners, youth organizations, faith groups, and service clubs to extend the reach of the Board. Finally, it will engage volunteers such as Landscaping for Clean Water residents, youth organizations, K-12 students, Adopt-a-Drain and trash clean-up participants, CLIMB theater, libraries, and Earth Week organizers. Through these methods, the E-IGHWMO will engage with residents to change behavior to better protect water resources and will educate residents to understand the impact of land use and management decisions on water resources.

4.5.1 Water Quantity

A statutory responsibility of watershed management organizations is minimizing the public expense to mitigate flooding. This Plan accomplishes this by ensuring that development and redevelopment do not create excessive new volumes and rates of runoff that may cause downstream flooding. A second responsibility is promoting groundwater recharge, which impacts stream baseflow, wetland hydrology and lake levels. The E-IGHWMO does not operate a regulatory program since both cities implement stormwater management ordinances and MS4 programs, but by policy limits the rate at which member cities can discharge runoff from development and redevelopment. The Board also encourages the member cities, as well as MnDOT and Dakota County, to limit the volume of runoff by requiring and providing infiltration of runoff greater than the requirements of the NPDES Construction Permit, and by undertaking and encouraging voluntary infiltration BMPs. Eagan and Inver Grove Heights have in place a Joint Powers Agreement establishing intercommunity discharge rates.

Goal Area 1: Water Quantity		
#	**Goals**	**Action Items**
1.1	Maintain the existing 100-year flood capacity to minimize flood damage to private and public property and minimize public capital expenditures needed to correct flooding problems.	A. Leverage grant dollars to partner on two flood capacity projects by member cities. B. Incorporate flood damage messaging into the communication and outreach plan, emphasizing the cost savings of stewardship and runoff volume reduction as opposed to repairing and restoring after damage has occurred.
1.2	Reduce stormwater runoff volume and increase infiltration and groundwater recharge.	A. Fund ten stormwater management projects per year through the Landscaping for Clean Water Program. B. Address groundwater recharge through three community outreach events targeted at designing Water Smart Yards and irrigation system improvements, educating the public on water scarcity issues. C. Hold a targeted neighborhood meeting annually to educate and engage citizens in advance of stormwater management improvement projects by member cities. D. Participate in member city processes when cities update land use and stormwater policies and ordinances to promote infiltration and reduce runoff rates and volumes to water resources. Identify areas for E-IGHWMO involvement through education and outreach.
1.3	Facilitate the management of intercommunity stormwater flows.	A. If requested, coordinate intercommunity stormwater runoff design and planning with the member communities, similar to the existing agreement between Eagan and Inver Grove Heights.

4.5.2 Water Quality

Water quality and the ability to enjoy the lakes in the watershed is a high priority to the E-IGH WMO. The water quality of many of the lakes in the watershed is within or better than state nutrient standards. Two lakes have been delisted from their designation as Impaired Waters and now meet standards for recreational use, and two other lakes are expected to be delisted by 2026. The City of Eagan has developed a plan of action to protect and maintain water quality in the delisted lakes by preventing nutrient backsliding. To protect and improve water quality in lakes and wetlands in the watershed and to protect downstream water resources, the E-IGHWMO encourages the member cities, as well as MnDOT and Dakota County, to limit pollutant loading to water resources by requiring and providing infiltration or filtration of runoff greater than the requirements of the NPDES Construction Permit, by preventing erosion and sedimentation, and by undertaking and encouraging voluntary infiltration or filtration BMPs.

Goal Area 2: Water Quality		
#	**Goals**	**Action Items**
2.1	Achieve, maintain, or improve water quality in the watershed's lakes so that each lake meets or exceeds the State of Minnesota intended use and classification and water quality standards.	A. Leverage grant funding and cost-share programs to support member cities with implementation of at least three water quality capital improvement projects including in-lake treatments. B. Conduct submerged aquatic vegetation surveys for five key lakes in the watershed aligned to support planned lake studies by the City of Eagan. C. Develop aquatic vegetation and aquatic invasive species training program for community volunteers to spot invasive species and track changes in aquatic vegetation. Engage two volunteers per surveyed lake to conduct annual spot checks for tracking assessments. D. Distribute water quality newsletter each year to the public with annual lake water quality trend analyses, with metrics on water quality goals and information on completed improvement projects. E. Participate in two collaborative efforts to improve water quality, such as the Metropolitan Council Subregional Engagement effort.

Goal Area 2: Water Quality		
#	**Goals**	**Action Items**
2.2	Protect water resources from chloride impacts.	A. Provide deicing salt reduction education at two events annually. Outreach may include information on the impact of salt and chloride on water bodies, distribution of salt cups, information on local efforts to reduce deicing salt use, and discussion of ways to minimize the need for deicing salt. B. Promote MPCA Smart Salting Trainings annually each winter for businesses and residents in the watershed through targeted communication with local business owners and property managers and through website postings. C. Provide grant support to 10 local business owners or property managers. D. Provide grants to 10 homeowners to remove or reduce home water softener use.
2.3	Prevent erosion of the soil into surface water systems.	A. Support three erosion control and stabilization projects in partnership cities. Initial site to target is Pony Art Park. B. Promote installation of water quality BMPs, such as bio-infiltration and filtration basins and shoreline and wetland native buffers, by providing information and educational opportunities to property owners and by funding at least ten Landscaping for Clean Water projects per year. C. Promote the Adopt-a-Drain program through four annual volunteer events with Hamline to clean out storm drain collection areas of silt and debris throughout the year.

Goal Area 2: Water Quality		
#	**Goals**	**Action Items**
2.4	Protect and enhance fish and wildlife habitat and water recreational facilities.	A. Post signage raising awareness of invasive species at five popular recreational waterbodies in the watershed. B. Improve fishing access points (ie. new piers, shore fishing spots) at two waterbodies. C. Partner with DNR and assist in aquatic invasive species education, early detection, and rapid response through three community education program events. D. Conduct at least five shoreline health evaluations for landowners annually or support cities with cost share program. E. Promote shoreline vegetation restoration annually through community outreach and education events. Leverage participation by residents who participate in shoreline restoration programs or highlight their stories on the E-IGH WMO website. F. Host annual public engagement event to educate citizens about healthy lake shorelines, causes of lake algal blooms, aquatic macrophytes and macroinvertebrates that are indicators of aquatic ecosystem health, and other water quality topics.
2.5	Raise public awareness about mercury exposure through fish consumption particularly in mercury-impaired North and Blackhawk lakes.	A. Raise public awareness about impaired aquatic consumption to reduce public health risk of contamination through holding two fish consumption mercury-focused events or outreach efforts.

4.5.3 Groundwater

The Board has a limited role in groundwater management activities. Over the past two decades, the member cities have worked with the Minnesota Department of Health to undertake or complete and adopt wellhead protection plans and to implement policies and official controls to protect drinking water sources, and Dakota County has undertaken a number of actions as detailed in its 2020-2030 Groundwater Plan (Dakota County 2021). The E-IGHWMO's role is limited to encouraging groundwater recharge through infiltration in accordance with wellhead protection plans and raising awareness about groundwater and water conservation issues.

Goal Area 3: Groundwater		
#	**Goals / Objectives**	**Action Items / Policies**
3.1	Protect the quality and quantity of groundwater resources and promote groundwater recharge.	A. Fund implementation of five groundwater recharge BMPs, such as infiltration, bioswales, or permeable pavements, in the watershed to infiltrate stormwater runoff and support natural water absorption. B. Incorporate groundwater system and aquifer recharge education into one public education outreach event each year to raise awareness of water conservation and recharge, potentially using a watershed model. C. Develop visual display of local groundwater system to promote understanding and share on the E-IGH website. D. Promote water conservation, particularly reducing water use for irrigation, implementing Water Smart Lawns, and incorporating water reuse tactics in priority groundwater recharge areas listed in the Groundwater Protection Plan by distributing educational pamphlets to fifty community members.

4.5.4 Wetlands

The Board's primary tool for managing wetlands is the State of Minnesota's Wetland Conservation Act (WCA). Eagan and Inver Grove Heights are the responsible Local Government Units (LGU) for administration of the Wetland Conservation Act within the watershed. Certain actions affecting a wetland, such as draining or filling through construction or development, may require a permit or some other authorization through WCA and often some other regulatory agency such as the US Army Corps of Engineers or the MNDNR. Applicants will need to show efforts to avoid or minimize wetland impacts and may be required to replace drained or filled wetland area. In addition, BWSR has developed a method to evaluate and quantify how well individual wetlands provide functions such as flood storage or values such as habitat. Those functions and values assessments can be used to classify the quality of wetlands, and the highest quality wetlands may have additional regulatory protections. Both cities have completed inventories or a framework for the completion of wetlands functions and values assessments and have a classification system for those wetlands and official controls to regulate wetland impacts. The E-IGH WMO's role is to educate the public about the functions and values of wetlands and promote their preservation or restoration.

Goal Area 4: Wetlands		
#	**Goals / Objectives**	**Action Items / Policies**
4.1	Protect, restore, or enhance wetlands to improve or maintain their functions and values.	A. Incorporate education on the benefits and functions of wetlands at one event annually and promote community volunteers to participate in the Wetland Health Evaluation Program (WHEP)

Potential operating programs were reviewed during the planning process and are described in this section. This section includes a summary of planned programs including regulatory, monitoring and technical assistance, education and outreach, cost-share, and capital improvements along with a cost estimate for operations over the coming ten-year period (Table 5.2). To achieve the goals set forth in this Plan, the Board will primarily focus on its education and outreach program and will work with its partners to complete work that supports member cities to ensure goals are being achieved.

1.1.1 Coordination with Other Agencies

The E-IGHWMO is unlike most other WMOs in the Twin Cities Metro Area. The watershed lies almost entirely in one city and comprises almost that entire city. A typical Metro area WMO encompasses several cities, and drainage boundaries do not coincide with municipal boundaries. Therefore, the need for many of the 'traditional' WMO functions of coordinating management and regulatory policies, stormwater runoff rates, volumes, and water quality between cities is very limited. However, those statutory purposes still must be addressed, whether by the WMO or by the cities or other agencies. Because of this, the E-IGHWMO defined its primary role as collaboration on member city implementation programs and supporting civic engagement to promote the improvement of water resources.

MS 103B.201, which is reproduced in Section 1.0 of this Plan, sets forth the purpose of water management planning in the Metro area.

1.1.2 Regulatory Program

The E-IGHWMO does not operate a regulatory program. Both member cities are MS4s with approved permits to discharge stormwater, and they along with Dakota County and MnDOT as MS4s, will be responsible for ensuring that development, redevelopment, and construction meet NPDES requirements. Both cities currently operate a permitting program and have local controls in place consistent with the E-IGHWMO policies. Local Water Management Plans are expected to include an overview of the official controls and procedures the member cities have in place to assure that land disturbing activity in the watershed is conducted consistent with E-IGHWMO policies.

E-IGHWMO will participate in member city processes when cities update land use and stormwater policies and ordinances to promote water quality and quantity protections for local water resources. If requested, E-IGHWMO will coordinate intercommunity stormwater runoff design and planning with the member communities, similar to the existing agreement between Eagan and Inver Grove Heights. Also, E-IGHWMO will participate in collaborative efforts to improve water quality.

1.1.3 Monitoring and Technical Assistance Program

The E-IGHWMO does not operate a water quality monitoring program. The City of Eagan and other partners monitor the quality of lakes and wetlands in the watershed. Those partners will be required to annually or periodically present monitoring data and water quality trends to the Board. The WMO will work together with its partners to disseminate monitoring results in its annual report and in other formats as desired.

E-IGHWMO will conduct monitoring of submerged aquatic vegetation and shoreline health in watershed lakes to support comprehensive lake management evaluations. Surveys will be conducted on five key lakes in the watershed aligned to support planned lake studies by member cities. Beyond surveys, E-IGHWMO will develop aquatic an aquatic vegetation and aquatic invasive species training program for community volunteers to spot invasive species and track changes in aquatic vegetation. Two volunteers per surveyed lake will be tasked with conducting annual spot checks for tracking assessments.

E-IGHWMO will also provide technical assistance to homeowners including layout, mid-point, and final inspections for raingardens, native plantings, and shoreline stabilization through the Landscaping for Clean Water Program.

1.1.4 Education and Outreach Program

Communication and Public Outreach is a core function of the Eagan-Inver Grove Heights Watershed Management Organization. The Board will develop and implement a three-year Communication and Outreach Plan that sets forth more detailed messages, strategies, and metrics for evaluating and measuring change in attitudes and behaviors. The Board will periodically review its Communication and Outreach Plan and work together with its partners to update priority messages, strategies, and metrics based on current needs. Developing partnerships with the member cities, Dakota County, lake associations, nonprofits, and other interested parties will be key to widespread dissemination of information.

Stakeholder Goals. Stakeholders and target audiences are individuals or groups to whom communication is being directed. The Plan has identified the following target audiences and general goals for each. Often more than one target audience will benefit from an educational activity.

1. All property owners and residents (residential and non-residential)
    - Understand that they live in a watershed and know where their stormwater runoff goes
    - Understand nutrient and chloride sources and their impacts on lakes, wetlands, and streams
    - Understand how runoff rates and volumes affect lakes, wetlands and streams
    - Understand groundwater processes and the importance of protecting the quality and quantity of groundwater resources
    - Understand and undertake Best Management Practices (BMPs) on their properties to reduce nutrient and chloride loads and runoff volume
    - Participate in volunteer activities or events

2. Lakeshore property owners
    - Know the water quality status of their lake, and the types and magnitude of actions needed to protect and improve lake water quality
    - Understand the importance of healthy lake shorelines and implement naturalshoreline protection methods
    - Understand and participate in activities to reduce the risk of Aquatic Invasive Species (AIS)
    - Understand and undertake Best Management Practices such as native shoreline buffers and proper application of fertilizer, herbicides, and pesticides

3. Educators and students
    - Create opportunities for volunteer monitoring, service projects, and other hands-on learning
    - Educators are aware of and have access to continuing education centered around water resources
    - Educators and Students understand that they live in a watershed and know where their stormwater runoff goes

- Educators and Students understand nutrient and chloride sources and their impacts on lakes, wetlands, and streams

4. Water-based recreation users
   - Know the water quality and fishery status of the lake and the types and magnitude of actions needed to protect and improve it
   - Understand and take action to reduce the risk of Aquatic Invasive Species (AIS)
   - Understand the risks of impaired aquatic fish consumption and reduce contamination risk Participate in volunteer activities or events

Community Survey Education Goals. In May 2025, the E-IGH WMO sent out a community survey to gauge what residents in the watershed deemed to be priorities for water resources management to help guide E-IGH WMO plan development. Residents voted for several education and outreach goals to be high priority in the E-IGH plan development. These include:

- Water resources education needs to reflect altered rainfall, snowfall, and snowmelt patterns and consequently affected de-icer usage, lake levels, and flood concerns due to climate change.
- Watershed education and outreach should more effectively target groups such as K-12 students and townhome/condo owners.
- More awareness should be spread about Landscaping for Clean Water Programming in the community.
- More educational signage about aquatic invasive species should be placed near lakes, ponds, and wetlands.
- More information and assistance about native plantings should be provided in residential yards.
- Tracking how watershed educational programs affect behavioral change should be improved.
- Businesses should be educated on limiting de-icing salt usage.
- Aquatic invasive species education and Adopt-a-Drain volunteer programs should be highlighted.
- Lawmakers should be educated on water quality impacts from development.
- Homes in the community should be canvassed to spread awareness about water resource topics.
- Collaboration with other organizations in the watershed, including the Dakota County Master Gardeners, should be emphasized.

EDUCATION AND OUTREACH PROGRAM GOALS

The goal of the E-IGHWMO's Education & Outreach Program is to engage people in the community in the protection and improvement of lakes, wetlands, and groundwater through education, increased water awareness, and community participation.

Implementation Strategies. Each year the Board will review progress made from the Education and Outreach plan and refine education and outreach activities for the coming year. Progress and success of the education and outreach program will be evaluated in multiple ways and will be tailored to the specific audiences. Trends in participation, such as number of website hits, social media followers, and social media activity, and attendance at events, will be useful metrics for gauging the reach of various messages. Another potential source of information is the periodic resident surveys the cities undertake to better understand the needs and desires of their citizens.

The Board will rely on the following and other strategies to implement the program and achieve the Plan's communication and outreach goals:

- Establish key messages for the coming year, delivery mechanisms, and methods of evaluating outcomes.
- Engage groups of citizens or other partners such as member cities, Master Water Stewards, Dakota County, and Dakota SWCD as needed to advise the Board and to assist in program development and implementation.
- Participate with collaborative groups to pool resources to undertake activities in a cost-effective manner, promote interagency cooperation and collaboration, and promote consistency of messages.
- Use the WMO's, member cities', and educational partners' websites and newsletters, social media, local newspapers and cable TV to share useful information to stakeholders on ways to improve water quality.
- Prominently display the E-IGHWMO logo on information and outreach items, project and interpretive signs, and other locations to increase visibility.
- Provide opportunities for the public to learn about and participate in water quality activities.
- Enhance education opportunities for youth.
- Provide opportunities for bridge-building between stakeholders with sometimes competing ideas and interests.

Table 5.1. Education and Outreach Programs, Resources, and Partners.

Program Area	Action Items	Partners
General Outreach and Messaging	• Incorporate flood damage messaging into the communication and outreach plan, emphasizing the importance of effective stormwater management for reducing the impact of runoff volumes on downstream flooding. • Develop visual display of local groundwater system to promote understanding and share on the E-IGH website. • Promote water conservation, particularly reducing water use for irrigation, implementing Water Smart Yards, and incorporating water reuse tactics in priority groundwater recharge areas listed in the Groundwater Protection Plan by distributing educational pamphlets to fifty community members. • Communicate water quality updates each year to the public. Updates may include annual lake water quality trend analyses, metrics on water quality goals, and information on completed improvement projects. Additionally, provide educational messages on water quality topics such as the importance of restricting the surface runoff of household chemicals, yard waste, illicit discharges, and pet waste to lakes within the watershed. Communications may be through city newsletters or WMO outlets such as emails and social media posts. • Partner with member cities to encourage efforts for reducing deicing salt use through the design of low salt programs and minimizing the need for deicing salt. • Post signage raising awareness of invasive species and/or native landscapes at five popular recreational waterbodies in the watershed. • Promote native shoreline vegetation restoration annually through community outreach and education events. Leverage participation by residents who participate in shoreline restoration programs or highlight their stories on the E-IGH WMO website. • Incorporate education on wetland benefits, function, and watershed stewardship to K-12 students at Eagan Elementary schools each year through in class education programs, CLIMB, or providing cost share on field trips to local locations such as the SMM and the Bell Museum. • Collaborate with member cities to protect groundwater sources through educational outreach on well sealing practices and value.	MN DNR (AIS Signage) Water Smart Yards City of Eagan (Water Quality Updates) CLIMB SMM Bell Museum
	• Promote the Adopt-a-Drain program to clean out storm drain collection areas of silt and debris	Adopt-a-Drain

Volunteer Programs	throughout the year through annual volunteer recruitment events.	
Community Events	• Address stormwater runoff and groundwater usage reduction through three community outreach events targeted at designing low water use landscapes and irrigation systems and educating the public on reducing irrigation water usage. • Provide deicing salt reduction education at two events annually. Outreach may include items such as: information on the impact of salt and chloride on water bodies, distribution of salt cups, and information on local efforts to reduce deicing salt use. • Raise awareness about impaired aquatic consumption to reduce public health risk of contamination through two fish consumption mercury-focused events or outreach efforts. • Incorporate groundwater system and aquifer recharge education into one public education outreach event each year to raise awareness of water conservation and recharge, potentially using a watershed model. • Incorporate education on the benefits and functions of wetlands at one event annually and promote community volunteers to participate in the Wetland Health Evaluation Program (WHEP). • Host annual public engagement event to educate citizens about healthy lake shorelines, causes of lake algal blooms, aquatic macrophytes and macroinvertebrates that are indicators of aquatic ecosystem health, and other water quality topics. • If requested, participate in and provide water quality education at community events such as LakeFest and the Eagen Home and Leisure Show. • Provide access to the Landscaping for Clean Water program through introduction class, design course, and maintenance workshop. • Provide a Lawns ReImagined workshop that helps homeowners transition their yards to low-input systems by reducing fertilizer, water use, and mowing frequency.	WaterSmart Yards U of Mn Extension Water Wisely MetCouncil EPA WaterSense MDH (Mercury awareness event) Dakota County (Groundwater recharge education) WHEP Landscaping for Clean Water Lawns ReImagined
Partnerships	• Partner with DNR and assist in aquatic invasive species education, early detection, and rapid response through three community education program events. • Promote chloride impact reduction actions annually each winter for businesses and residents in the watershed through targeted communication with local business owners and property managers, local training events, and website postings. Efforts may host local training	MN DNR MPCA Smart Salting Dakota County Low Salt No Salt City of Eagan

	sessions and utilize messaging from existing programs such as MPCA Smart Salting and the Dakota County Low Salt No Salt program.	City of Inver Grove Heights

1.1.5 Cost-Share Program

E-IGHWMO will implement projects through a cost-share partnership program to support water quality improvement efforts within the watershed. In order to protect water resources from chloride impacts, E-IGHWMO will provide grant support to local business owners or property managers to aid in deicing salt reduction efforts and the implementation of smart salting programs. E-IGHWMO will also provide grant support to local homeowners to remove or reduce home water softener use.

Additionally, E-IGHWMO will fund smaller stormwater management projects and water quality BMPs through the Landscaping for Clean Water Program. E-IGHWMO will promote water quality BMP projects such as bioinfiltration, infiltration basins, as well as shoreline and wetland native buffers. E-IGHWMO will also support capital improvement projects for groundwater resources by funding the implementation of five groundwater BMPs such as infiltration, bioswales, or permeable pavements within the watershed. One goal of the Landscaping for Clean Water Program is to help prevent backsliding for lakes that meet or exceed the State of Minnesota water quality goals.

1.1.6 Capital Improvement Program

The JPA allows the Board to acquire, operate, construct, and maintain capital improvements included in the Capital Improvement Program (CIP) of its Management Plan. Member cities construct Best Management Practices (BMPs), either as stand-alone capital improvement projects or incorporated into street, highway, and other public improvement projects. Table 5.2 shows the expected costs and funding sources for implementing this Plan, including a Capital Improvement Program (CIP) of capital projects the cities plan to undertake.

Overall goals for E-IGHWMO involvement in member cities capital improvement projects include partnering on runoff capacity projects, supporting erosion control and stabilization projects, and improving fishing access points. The WMO may assist member cities to acquire funding needed to move forward with water quality and water quality improvement projects. Capital projects are funded 100% by the member cities. E-IGHWMO will assist cities in leveraging grant funding or identifying other funding sources when available.

The City of Eagan’s Water Resources Capital Improvements Program projects for 2026-2030 are:

- City of Eagan Water Quality Cost-Share Partnership Program: $374,500
- Water Resources Infrastructure Maintenance (small projects fund for repair, replacement, expansion): $318,500
- Iron-Sand Filtration Systems Maintenance: $139,000
- Bur Oaks Protection Project (direct-drainage areas): $138,000
- Fish Lake Alum Treatment System Settling Basin Maintenance: $151,000
- Alum applications (includes lake bottom sediment – nutrient release analysis to determine if timing is appropriate for alum treatment): Cliff Lake, Schwanz Lake, Hay Lake, North Lake, LeMay Lake, Bald Lake, Bur Oaks Pond, Almquist Lake: $634,500
- Carlson Lake direct drainage water quality improvements: $171,000
- Thomas Lake direct-drainage water quality improvements: $210,000

- Fish Lake direct-drainage water quality improvements: $95,000
- North Lake direct-drainage water quality improvements: $380,000
- McCarthy Lake direct-drainage water quality improvements: $681,000

The City of Inver Grove Heights does not currently have capital projects planned within the E-IGHWMO area.

MS4 Maintenance Requirements. As regulated MS4s, Eagan and Inver Grove Heights are required to undertake periodic maintenance of BMPs and conveyances such as pond sediment removal projects. Additionally, the cities require periodic replacement of street sweeping and other maintenance equipment. These expenses are also part of the capital improvement program.

Cities review and revise their CIPs periodically. As part of its annual budget process and ongoing communications with member cities, the E-IGHWMO will request updated CIPs and adjust the Implementation Plan and CIP as necessary in accordance with the Plan Amendment process detailed in Section 4.6, Amendments to the Plan.

1.1.7 Administration Program

Administrative and operational costs for general expenses incurred by the E-IGHWMO are outlined in table 5.2. E-IGHWMO organizational costs include staffing, engineering and consulting services, as well as legal services. Work program costs include annual reporting for activity, finance, and audits, as well as the distribution of an annual newsletter. Additional work program costs include the E-IGHWMO website, board education, and updates to the education and outreach program plan and watershed management plan updates.

1.1.8 Implementation Plan Cost and Funding

The estimated cost of implementing this Plan is set forth in Table 5.2 below. The primary source of funding will be assessments from the member cities. The Board may apply for grants to fund special projects or to supplement member cities' projects or programs.

Table 5.2. Eagan-Inver Grove Heights 2nd Generation Watershed Management Plan Implementation Plan.

Program	Goal	Action Item	Goal Area	Objective	Planned Action Descriptions	Partners	Total 10-year Cost	Estimated Cost by Year (Planning Level) - presented in 2025 dollars									
								2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Regulatory	1.2	D	Water Quality and Water Quantity	Reduce stormwater runoff volume and increase infiltration and groundwater recharge where appropriate.	1.2.D. Participate in member city processes when cities update land use and stormwater policies and ordinances to promote water quality and quantity protections for local water resources.	City of Eagan City of Inver Grove Heights	Included in staff services administrative costs		***					***			
	1.3	A	Water Quantity	Facilitate the management of intercommunity stormwater flows.	1.3.A. If requested, coordinate intercommunity stormwater runoff design and planning with the member communities, similar to the existing agreement between Eagan and Inver Grove Heights.	City of Eagan City of Inver Grove Heights	Included in staff services administrative costs		***					***			
	2.1	E	Water Quality	Achieve, maintain, or improve water quality in the watershed's lakes so that each lake meets or exceeds the State of Minnesota intended use and classification and water quality standards.	2.1.E. Participate in two collaborative efforts to improve water quality, such as County planning or the Metropolitan Council Subregional Engagement effort.	MetCouncil, Dakota County	Included in staff services administrative costs			***						***	
Monitoring & Technical Assistance	2.1	B	Water Quality	Achieve, maintain, or improve water quality in the watershed's lakes so that each lake meets or exceeds the State of Minnesota intended use and classification and water quality standards.	2.1.B. Conduct submerged aquatic vegetation surveys for five key lakes in the watershed aligned to support planned lake studies by member cities.	City of Eagan City of Inver Grove Heights	$ 50,000	$ 10,000		$ 10,000		$ 10,000		$ 10,000		$ 10,000	
	2.1	C	Water Quality	Achieve, maintain, or improve water quality in the watershed's lakes so that each lake meets or exceeds the State of Minnesota intended use and classification and water quality standards.	2.1.C. Develop aquatic vegetation and aquatic invasive species training program for community volunteers to spot invasive species and track changes in aquatic vegetation. Engage two volunteers per surveyed lake to conduct annual spot checks for tracking assessments.	MN DNR	$ 35,000	$ 8,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000
	2.3	B	Water Quality	Prevent erosion of the soil into surface water systems.	2.3.D. Provide technical assistance to homeowners including layout, mid-point, and final inspections for raingardens, native plantings, and shoreline stabilization.	Landscaping for Clean Water Program	$ 72,000	$ 7,200	$ 7,200	$ 7,200	$ 7,200	$ 7,200	$ 7,200	$ 7,200	$ 7,200	$ 7,200	$ 7,200
	2.4	D	Water Quality	Protect and enhance fish and wildlife habitat and water recreational facilities.	2.4.D. Conduct shoreline health evaluations for five key lakes in the watershed aligned to support planned lake studies by member cities.	City of Eagan City of Inver Grove Heights	$ 50,000		$ 10,000		$ 10,000		$ 10,000		$ 10,000		$ 10,000
	1.1	B	Water Quantity	Maintain the existing 100-year flood capacity to minimize flood damage to private and public property and minimize impact on downstream flooding events.	1.1 B. Incorporate flood damage messaging into the communication and outreach plan, emphasizing the importance of effective stormwater management for reducing the impact of runoff volumes on downstream flooding.		$ 2,000			$ 2,000							
	2.1, 3.1	F, E	Water Quality, and Groundwater	Achieve, maintain, or improve water quality in the watershed's lakes so that each lake meets or exceeds the State of Minnesota intended use and classification and water quality standards. Protect the quality and quantity of groundwater resources and promote groundwater recharge.	F. Provide access to the Landscaping for Clean Water program through introduction class, design course, and maintenance workshop. E. Provide a Lawns ReImagined workshop that helps homeowners transition their yards to low-input systems by reducing fertilizer, water use, and mowing frequency.	Landscaping for Clean Water Lawns ReImagined	$ 110,000	$ 11,000	$ 11,000	$ 11,000	$ 11,000	$ 11,000	$ 11,000	$ 11,000	$ 11,000	$ 11,000	$ 11,000

Program	Goal	Action Item	Goal Area	Objective	Planned Action Descriptions	Partners	Total 10-year Cost	Estimated Cost by Year (Planning Level) - presented in 2025 dollars									
								2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Education and Outreach	1.2, 3.1	B, C, D	Water Quantity and Groundwater	Reduce stormwater runoff volume and increase infiltration and groundwater recharge where appropriate. Protect the quality and quantity of groundwater resources and promote groundwater recharge where appropriate.	1.2.B. Address stormwater runoff and groundwater usage reduction through three community outreach events targeted at designing low water use landscapes and irrigation systems and educating the public on reducing irrigation water usage. 3.1.D. Promote water conservation, particularly reducing water use for irrigation and incorporating water reuse tactics in priority groundwater recharge areas listed in the Groundwater Protection Plan through targeted education outreach to at least fifty community members. Efforts may leverage programs such as WaterSmart Yards, U of Mn Extension, Water Wisely, MetCouncil and/or EPA WaterSense.	WaterSmart Yards U of MN Extension Water Wisely MetCouncil EPA WaterSense	$ 2,000		$ 2,000			***			***		
	2.4	C	Water Quality	Protect and enhance fish and wildlife habitat and water recreational facilities.	2.4.C. Partner with DNR and assist in aquatic invasive species education, early detection, and rapid response through three community education program events.	MN DNR	$ 1,000		$ 1,000				***				***	
	2.1	D	Water Quality	Achieve, maintain, or improve water quality in the watershed's lakes so that each lake meets or exceeds the State of Minnesota intended use and classification and water quality standards.	2.1.D. Communicate water quality updates each year to the public. Updates may include annual lake water quality trend analyses, metrics on water quality goals, and information on completed improvement projects. Additionally, provide educational messages on water quality topics such as the importance of restricting the surface runoff of household chemicals, yard waste, illicit discharges, and pet waste to lakes within the watershed. Communications may be through city newsletters or WMO outlets such as emails and social media posts.	City of Eagan City of Inver Grove Heights	$ 10,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000
Education and Outreach	2.2	A, E	Water Quality	Protect water resources from chloride impacts.	2.2.A. Provide deicing salt reduction education at two events annually. Outreach may include items such as: information on the impact of salt and chloride on water bodies, distribution of salt cups, and information on local efforts to reduce deicing salt use. 2.2.E. Partner with member cities to encourage efforts for reducing deicing salt use through the design of low salt programs and minimizing the need for deicing salt.	City of Eagan City of Inver Grove Heights Dakota County Low Salt No Salt MPCA Smart Salting	$ 5,000	$ 500	$ 500	$ 500	$ 500	$ 500	$ 500	$ 500	$ 500	$ 500	$ 500
	2.2	B	Water Quality	Protect water resources from chloride impacts.	2.2.B. Promote chloride impact reduction actions annually each winter for businesses and residents in the watershed through targeted communication with local business owners and property managers, local training events, and website postings. Efforts may host local training sessions and utilize messaging from existing programs such as MPCA Smart Salting and the Dakota County Low Salt No Salt program.	Dakota County Low Salt No Salt MPCA Smart Salting	$ 20,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000
	2.3	C	Water Quality	Prevent erosion of the soil into surface water systems.	2.3.C. Promote the Adopt-a-Drain program to clean out storm drain collection areas of silt and debris throughout the year through annual volunteer recruitment events.	Adopt-a-drain Hamline University	$ 5,000	$ 500	$ 500	$ 500	$ 500	$ 500	$ 500	$ 500	$ 500	$ 500	$ 500
	2.4	A	Water Quality	Protect and enhance fish and wildlife habitat and water recreational facilities.	2.4.A. Post signage raising awareness of invasive species and/or native landscapes at five popular recreational waterbodies in the watershed.	MN DNR	$ 30,000		$ 6,000		$ 6,000		$ 6,000		$ 6,000		$ 6,000
	2.4	E, F	Water Quality	Protect and enhance fish and wildlife habitat and water recreational facilities.	2.4.E. Promote native shoreline vegetation restoration annually through community outreach and education events. Leverage participation by residents who participate in shoreline restoration programs or highlight their stories on the E-IGH WMO website. 2.4.F. Host annual public engagement event to educate citizens about healthy lake shorelines, causes of lake algal blooms, aquatic macrophytes and macroinvertebrates that are indicators of aquatic ecosystem health, and other water quality topics.		$ 2,000	$ 2,000	***	***	***	***	***	***	***	***	***

Program	Goal	Action Item	Goal Area	Objective	Planned Action Descriptions	Partners	Total 10-year Cost	Estimated Cost by Year (Planning Level) - presented in 2025 dollars									
								2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Education	2.5	A	Water Quality	Raise public awareness about mercury exposure through fish consumption particularly in mercury-impaired North and Blackhawk lakes.	2.5.A. Raise awareness about impaired aquatic consumption to reduce public health risk of contamination through two fish consumption mercury-focused events or outreach efforts.	MDH	$ 4,000					$ 2,000					$ 2,000
	3.1	B, C	Groundwater	Protect the quality and quantity of groundwater resources and promote groundwater recharge.	3.1.B. Incorporate groundwater system and aquifer recharge education into one public education outreach event each year to raise awareness of water conservation and recharge, potentially using a watershed model. 3.1.C. Develop visual display of local groundwater system to promote understanding and share on the E-IGH website.	Dakota County Eagan Inver Grove Heights	$ 5,000	$ 3,000	$ 2,000	***	***	***	***	***	***	***	***	***
	2.1	F	Water Quality	Achieve, maintain, or improve water quality in the watershed's lakes so that each lake meets or exceeds the State of Minnesota intended use and classification and water quality standards.	2.1.F. If requested, participate in and provide water quality education at community events such as LakeFest and the Eagan Home and Leisure Show. 2.1.G. Incorporate education on watershed stewardship to K-12 students at Eagan Elementary schools each year through in class education programs, CLIMB, or providing cost share on field trips to local locations with watershed education (e.g. nature centers, SMM, Bell Museum).	Eagan Inver Grove Heights CLIMB theater Nature Centers Museums	$ 20,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000
	3.1	E.	Groundwater	Protect the quality and quantity of groundwater resources and promote groundwater recharge.	3.1.E. Collaborate with member cities to protect groundwater sources through educational outreach on well sealing practices and value.	Dakota County	$ 1,500	$ 500				$ 500				$ 500	
	4.1	A, B	Wetlands	Protect, restore, or enhance wetlands to improve or maintain their functions and values.	4.1.A. Incorporate education on the benefits and functions of wetlands at one event annually and promote community volunteers to participate in the Wetland Health Evaluation Program (WHEP)	WHEP	$ 500	$ 500									
Project Cost-Share	2.2	C, D	Water Quality	Protect water resources from chloride impacts.	2.2.C. Provide grant support to 10 local business owners or property managers. 2.2.D. Provide grants to 10 homeowners to remove or reduce home water softener use.	Business Owners Homeowners	$ 10,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000
	1.2, 2.1, 2.3, 3.1	A, G, B, A	Water Quantity, Water Quality, and Groundwater	Reduce stormwater runoff volume and increase infiltration and groundwater recharge. Achieve, maintain, or improve water quality in the watershed's lakes so that each lake meets or exceeds the State of Minnesota intended use and classification and water quality standards. Prevent erosion of the soil into surface water systems. Protect the quality and quantity of groundwater resources and promote groundwater recharge where appropriate.	1.2.A. Fund ten stormwater management projects per year through a cost-share program such as the Landscaping for Clean Water Program. 2.1.G. Promote installation of water quality BMPs to help prevent backsliding for lakes that meet or exceed the State of Minnesota water quality goals by funding at least ten projects per year through a cost-share program such as the Landscaping for Clean Water Program. 2.3.B. Promote installation of water quality BMPs, such as bioinfiltration and filtration basins and shoreline and wetland native buffers, by providing information and educational opportunities to property owners and by funding at least ten projects per year through a cost-share program such as the Landscaping for Clean Water Program. 3.1.A. Fund implementation of groundwater recharge BMPs, such as infiltration, bioswales, or permeable pavements in the watershed to infiltrate stormwater runoff and support natural water absorption by funding at least ten projects per year through a cost-share program such as the Landscaping for Clean Water Program.	Landscaping for Clean Water Program	$ 30,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000
	1.1	A	Water Quantity	Maintain the existing 100-year flood capacity to minimize flood damage to private and public property and minimize impact on downstream flooding events.	1.1.A. Leverage grant dollars to partner on two volume reduction projects as requested by member cities to reduce downstream flooding.	City of Eagan City of Inver Grove Heights	$ 3,000				$ 1,500				$ 1,500		

Program	Goal	Action Item	Goal Area	Objective	Planned Action Descriptions	Partners	Total 10-year Cost	Estimated Cost by Year (Planning Level) - presented in 2025 dollars									
								2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Capital Improvement	2.1	A	Water Quality	Achieve, maintain, or improve water quality in the watershed's lakes so that each lake meets or exceeds the State of Minnesota intended use and classification and water quality standards.	2.1.A. Leverage grant funding and WMO resources to support member cities with implementation of at least three water quality capital improvement projects including stormwater water quality infrastructure and in-lake treatments.	City of Eagan City of Inver Grove Heights	$ 4,500			$ 1,500		$ 1,500		$ 1,500				
	2.3	A	Water Quality	Prevent erosion of the soil into surface water systems.	2.3.A. Support three erosion control and stabilization projects in partnership with member cities. Initial site to target is Caponi Art Park.	City of Eagan City of Inver Grove Heights	$ 90,000		$ 30,000			$ 30,000				$ 30,000	
	2.4	B	Water Quality	Protect and enhance fish and wildlife habitat and water recreational facilities.	2.4.B. Improve fishing access points (ie. new piers, shore fishing spots) at two waterbodies.	MN DNR City of Eagan City of Inver Grove Heights	$ 120,000			$ 50,000					$ 70,000		
Administration				Organizational Administration	Staff Services		$ 220,000	$ 22,000	$ 22,000	$ 22,000	$ 22,000	$ 22,000	$ 22,000	$ 22,000	$ 22,000	$ 22,000	$ 22,000
					Engineering and Consultant Services		$ 30,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000
					Legal Services		$ 5,000	$ 500	$ 500	$ 500	$ 500	$ 500	$ 500	$ 500	$ 500	$ 500	$ 500
				Work Program	File Annual Activity Report, Finance Report, and Audit		$ 40,000	$ 4,000	$ 4,000	$ 4,000	$ 4,000	$ 4,000	$ 4,000	$ 4,000	$ 4,000	$ 4,000	$ 4,000
					Publish/Distribute Annual Newsletter or Communication		$ 3,000	$ 300	$ 300	$ 300	$ 300	$ 300	$ 300	$ 300	$ 300	$ 300	$ 300
					Website		$ 30,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000
					Board Education		$ 5,000	$ 500	$ 500	$ 500	$ 500	$ 500	$ 500	$ 500	$ 500	$ 500	$ 500
				Watershed Plan	Develop three-year communication and outreach plan		$ 4,500	$ 1,500			$ 1,500			$ 1,500			
					Watershed Plan Update		$ 50,000									$ 25,000	$ 25,000
						Additional	$ 510,000	$ 31,000	$ 59,500	$ 72,000	$ 27,500	$ 52,500	$ 24,500	$ 21,500	$ 96,000	$ 74,000	$ 51,500
						Current	$ 567,000	$ 58,500	$ 56,500	$ 56,500	$ 56,500	$ 56,500	$ 56,500	$ 56,500	$ 56,500	$ 56,500	$ 56,500
						Total	$ 1,077,000	$ 89,500	$ 116,000	$ 128,500	$ 84,000	$ 109,000	$ 81,000	$ 78,000	$ 152,500	$ 130,500	$ 108,000

Water Quality Monitoring Trends

1991 - 2024

EAGAN

Introduction to Water Quality Monitoring

What data are you collecting?

The City of Eagan has been collecting water quality data since 1991. Every summer between June and September, City staff collect samples from between 12 and 16 waterbodies across Eagan. Those samples are sent to a lab to be analyzed for the following parameters:

- Total phosphorous
- Ortho phosphorous
- Chlorophyll-a
- Secchi depth (clarity)
- Temperature
- Dissolved oxygen
- pH
- Conductivity
- Total dissolved solids
- Kjeldahl nitrogen
- Nitrate / nitrite

What do you do with this information?

At the end of the year, we compare these results against the State of Minnesota's Water Quality Standards, and look at the overall trends in each waterbody over time. Collectively, this gives us a snapshot of ecosystem health - and tells us where we need to focus improvement efforts moving forward.

The Water Resources Team will meet in the fall to discuss the monitoring data, along with any other observations collected over the summer season. We then assemble our list of Capital Improvement Projects for the coming cycle. Every spring, the Public Works Department presents a comprehensive, updated 5-year CIP list to City Council for approval.

What's in this guide?

Surface waterbodies are complex systems that respond to a wide range of natural, and unnatural, variables. Climate change, development, and the introduction of invasive plants and animals are just some of the factors that have significant impacts on the quality of our surface waters from one year to the next.

The City has been conducting water quality improvement projects since the early 1990's - these sheets only include the last 5 years of improvements for the sake of space. These fact sheets and the accompanying data tables are designed to provide a more complete picture of each waterbody that we have data for. Values for each year is calculated as the median value of all the samples collected during that sampling season.

Total Phosphorous (TP)

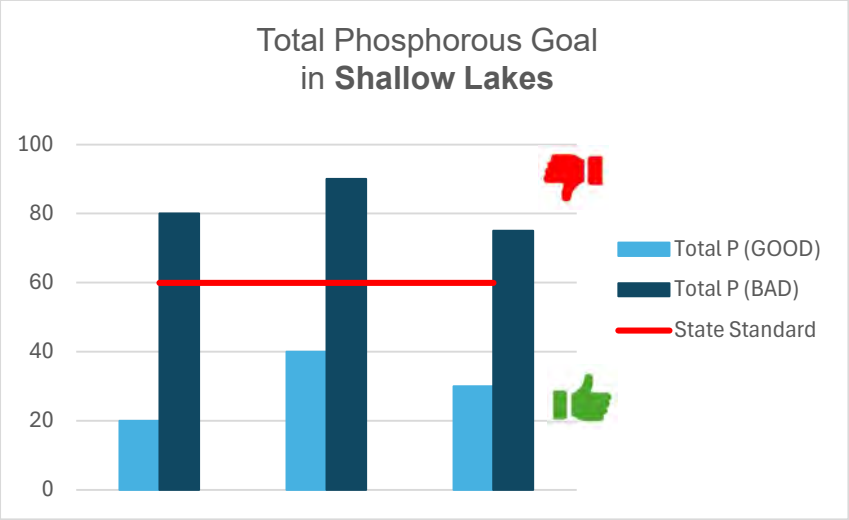
Phosphorous is an important component in lakes, ponds, and wetlands. Plants and algae are the foundation of these aquatic ecosystems - and they can't exist without phosphorous. However, excess phosphorous from stormwater runoff can overload a waterbody - leading to algae blooms which can choke out other aquatic vegetation. This vegetation provides critical habitat and food sources, and supports dissolved oxygen levels that other aquatic organisms need to survive.

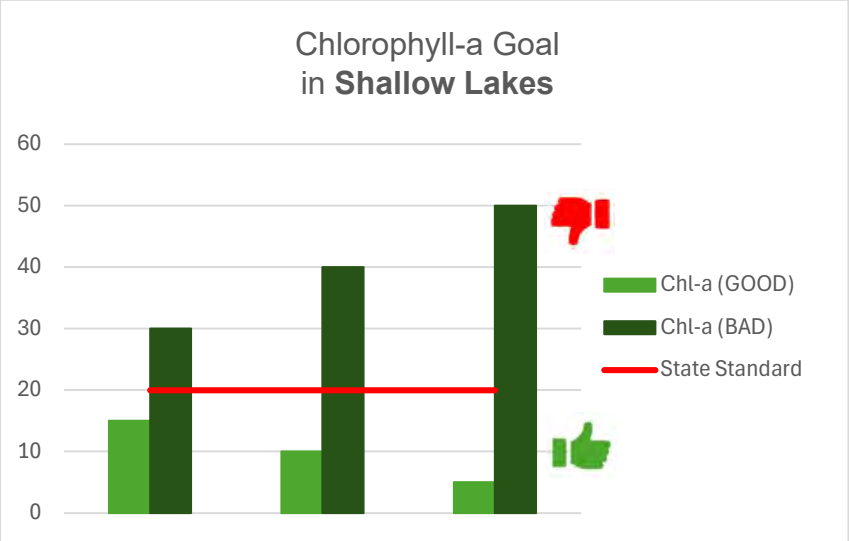
Chlorophyll-a (Chl-a)

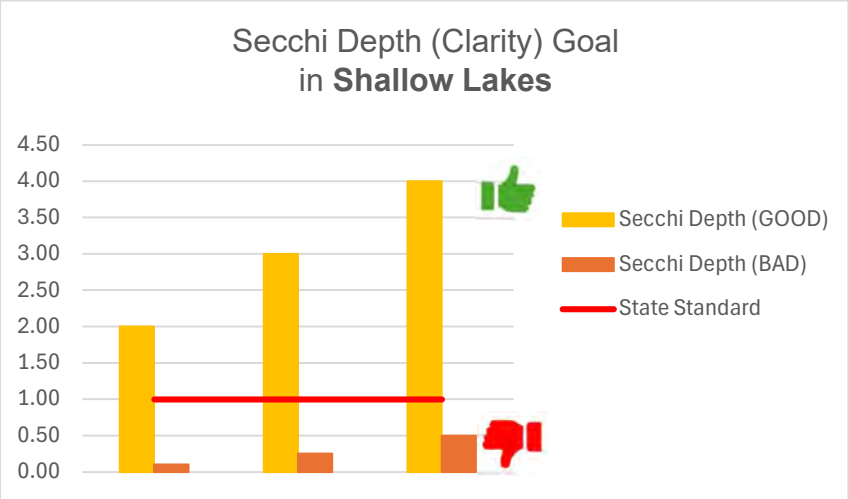
Algae cells need chlorophyll to absorb sunlight and turn it into oxygen - which in turn is used by other organisms in a waterbody in a cycle. Monitoring chlorophyll-a tells us how many active algae cells are in a sample. When levels are too high, the balance is thrown off and algae cells can replicate too quickly, or 'bloom.'

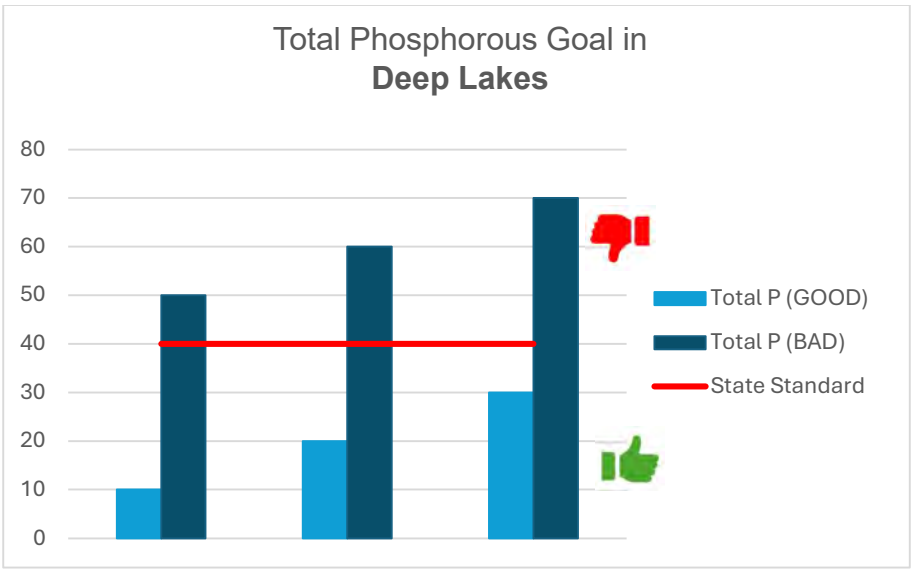
Secchi Depth (Clarity)

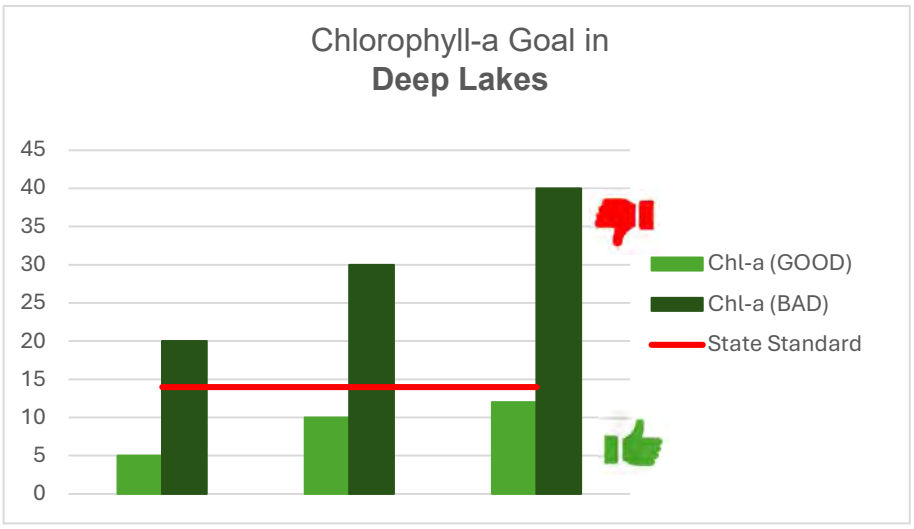
Secchi depth tells us how clear the water is at a given time. Better clarity means that light can penetrate further, which allows aquatic plants to grow in their natural cycle. Aquatic plants release dissolved oxygen, and provide critical habitat and food sources for fish and other wildlife.

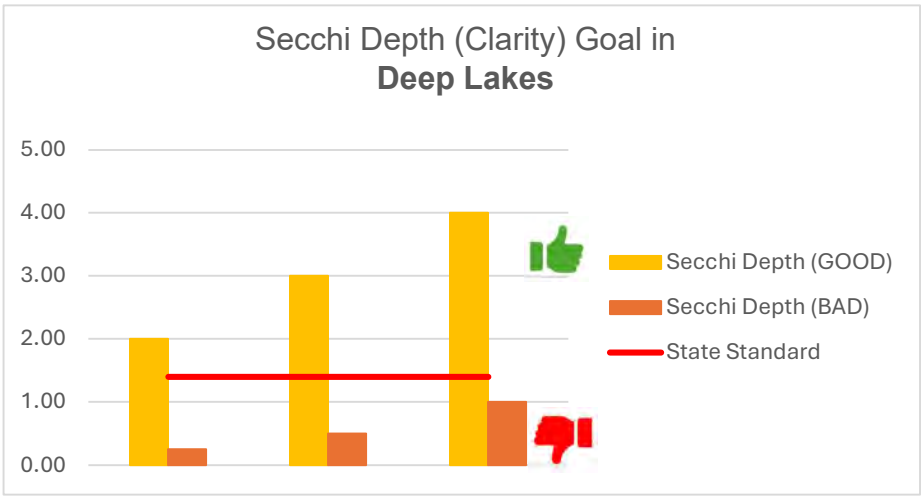

Total Phosphorous Goal
in **Shallow Lakes**
100
80
60
40
20
0
Total P (GOOD)
Total P (BAD)
State Standard


Chlorophyll-a Goal
in **Shallow Lakes**
60
50
40
30
20
10
0
Chl-a (GOOD)
Chl-a (BAD)
State Standard


Secchi Depth (Clarity) Goal
in **Shallow Lakes**
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
Secchi Depth (GOOD)
Secchi Depth (BAD)
State Standard


Total Phosphorous Goal in
Deep Lakes
80
70
60
50
40
30
20
10
0
Total P (GOOD)
Total P (BAD)
State Standard


Chlorophyll-a Goal in
Deep Lakes
45
40
35
30
25
20
15
10
5
0
Chl-a (GOOD)
Chl-a (BAD)
State Standard


Secchi Depth (Clarity) Goal in
Deep Lakes
5.00
4.00
3.00
2.00
1.00
0.00
Secchi Depth (GOOD)
Secchi Depth (BAD)
State Standard

Jump to Your Lake!

Click on the name of the lake below to jump to that section.

Almquist Lake

City ID:	BLP-4
Waterbody type:	Wetland
Surface area:	9.36 acres
Maximum depth:	5.50 feet
Public access:	No
Supported uses:	Habitat, Education, Aesthetics

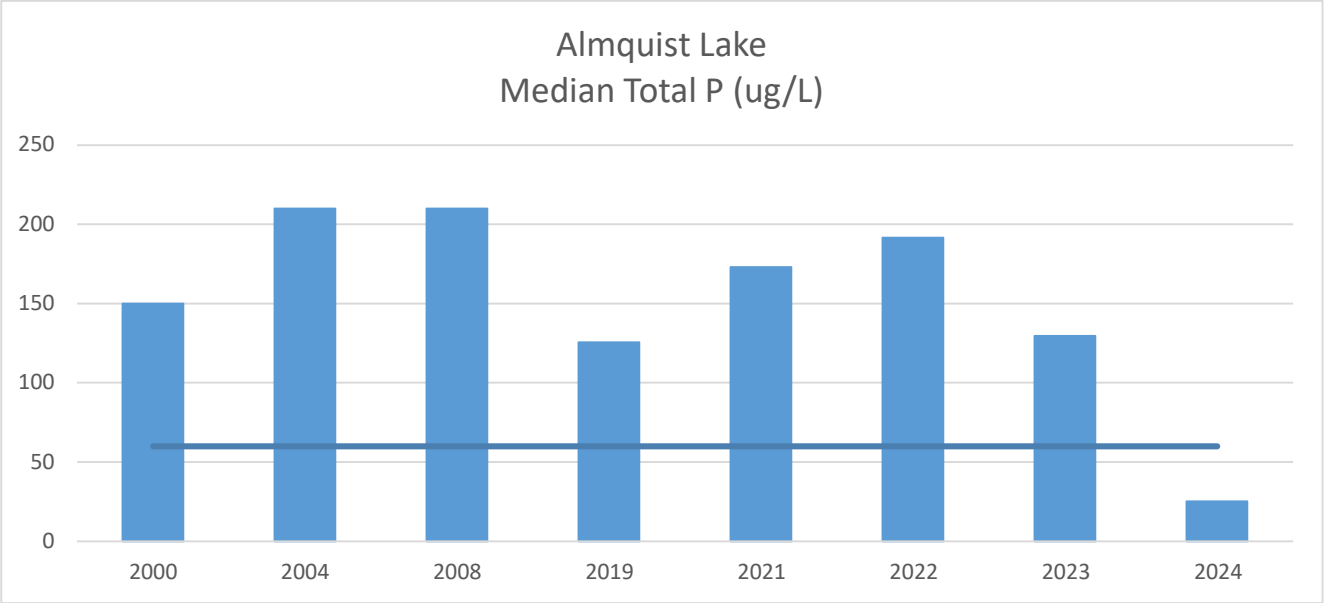
WATER QUALITY IMPROVEMENTS [2020–PRESENT]

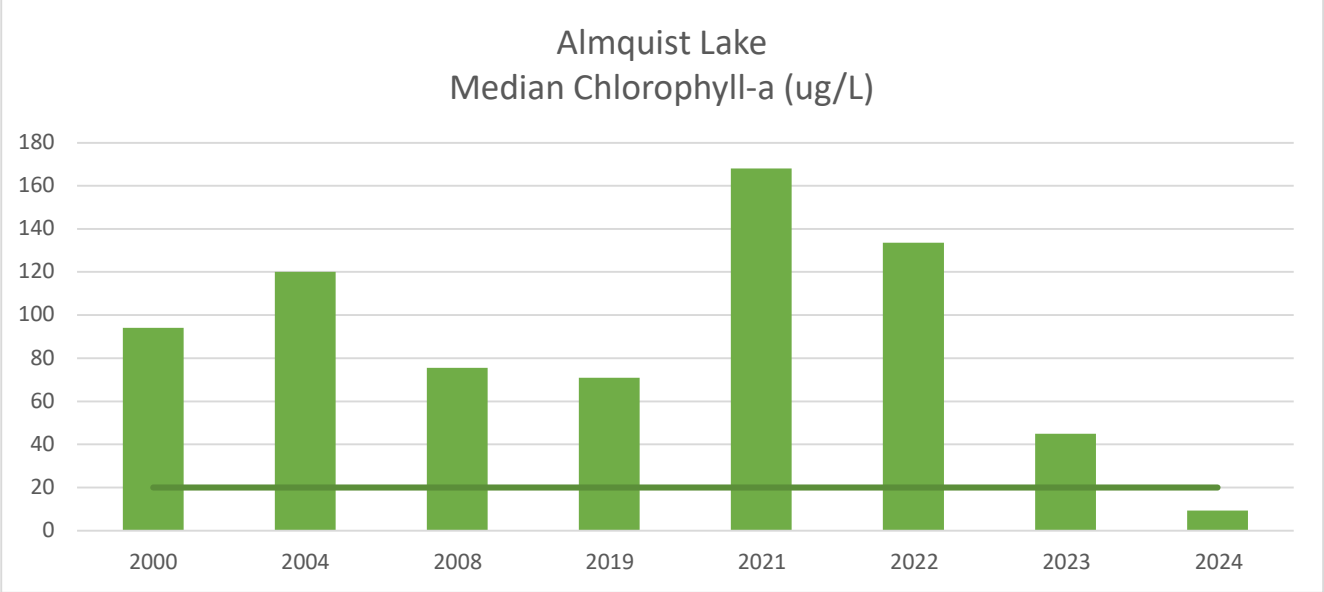
2021 — Fish population survey completed to assess overall health of the lake's fishery (results were excellent)

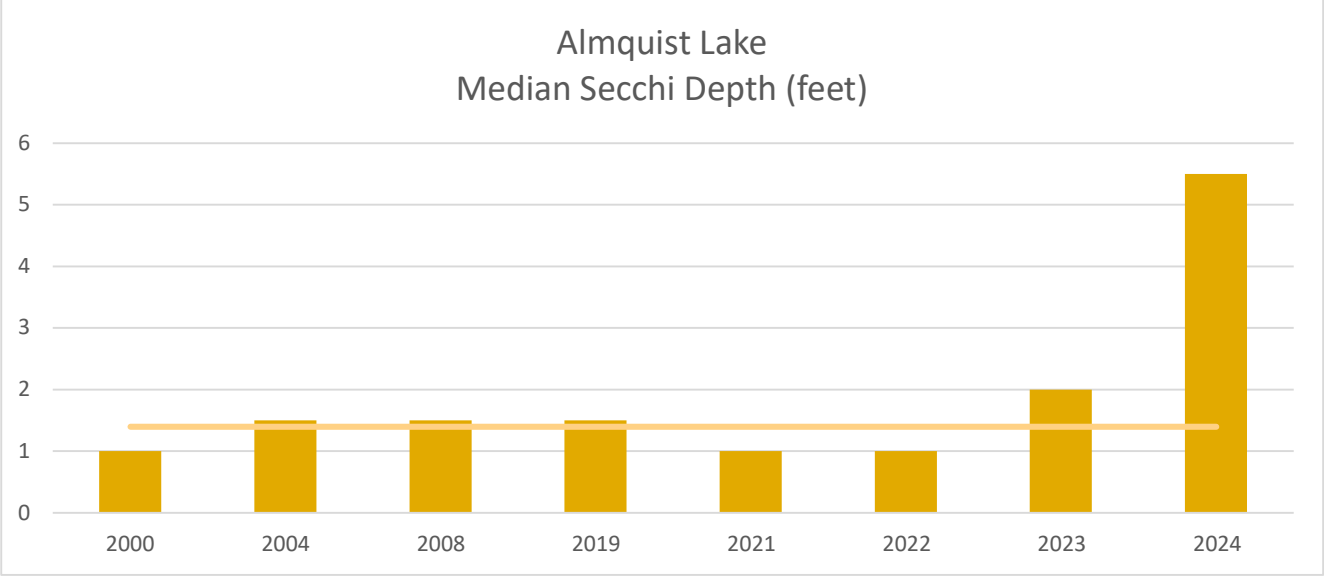
2022 — Rotenone treatment to eliminate goldfish infestation

2023 — Alum application to reduce in-lake nutrient load; Electroshocking to remove additional goldfish

2024 — 450 bluegill sunfish stocked to compete with few remaining goldfish and add native fish species


Almquist Lake
Median Total P (ug/L)
250
200
150
100
50
0
2000
2004
2008
2019
2021
2022
2023
2024


Almquist Lake
Median Chlorophyll-a (ug/L)
180
160
140
120
100
80
60
40
20
0
2000
2004
2008
2019
2021
2022
2023
2024


Almquist Lake
Median Secchi Depth (feet)
6
5
4
3
2
1
0
2000
2004
2008
2019
2021
2022
2023
2024

Bald Lake

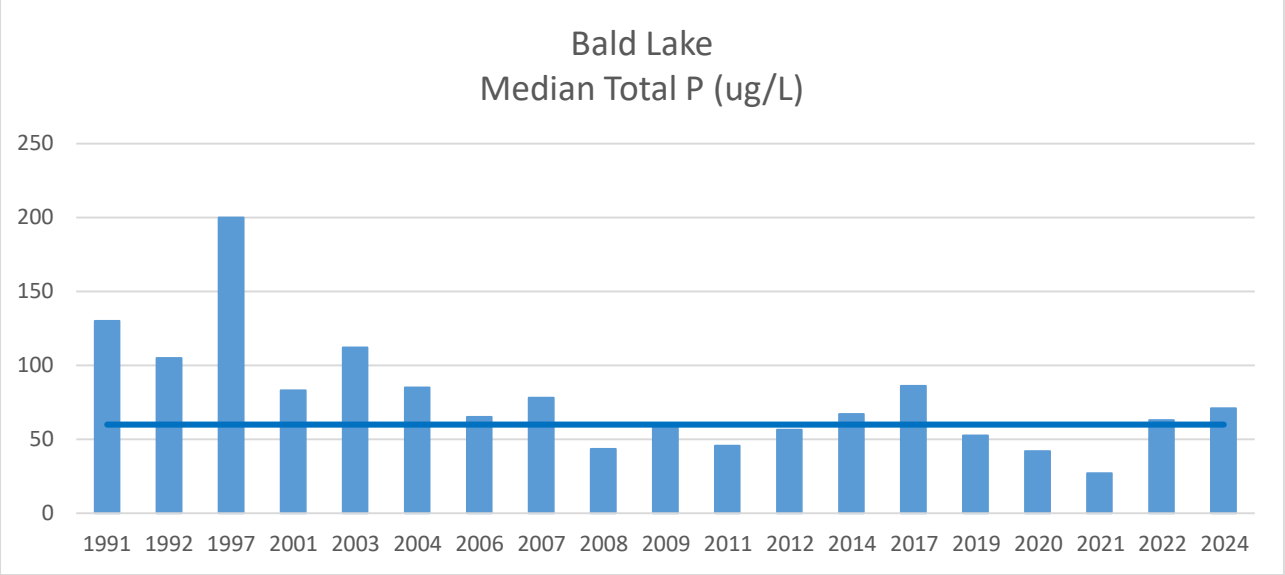
City ID:	JP-20
Waterbody type:	Shallow Lake
Surface area:	10.30 acres
Average depth:	4.10 feet
Maximum depth:	8.50 feet
Public access:	Yes
Supported uses:	Fishing, Canoeing/ Kayaking

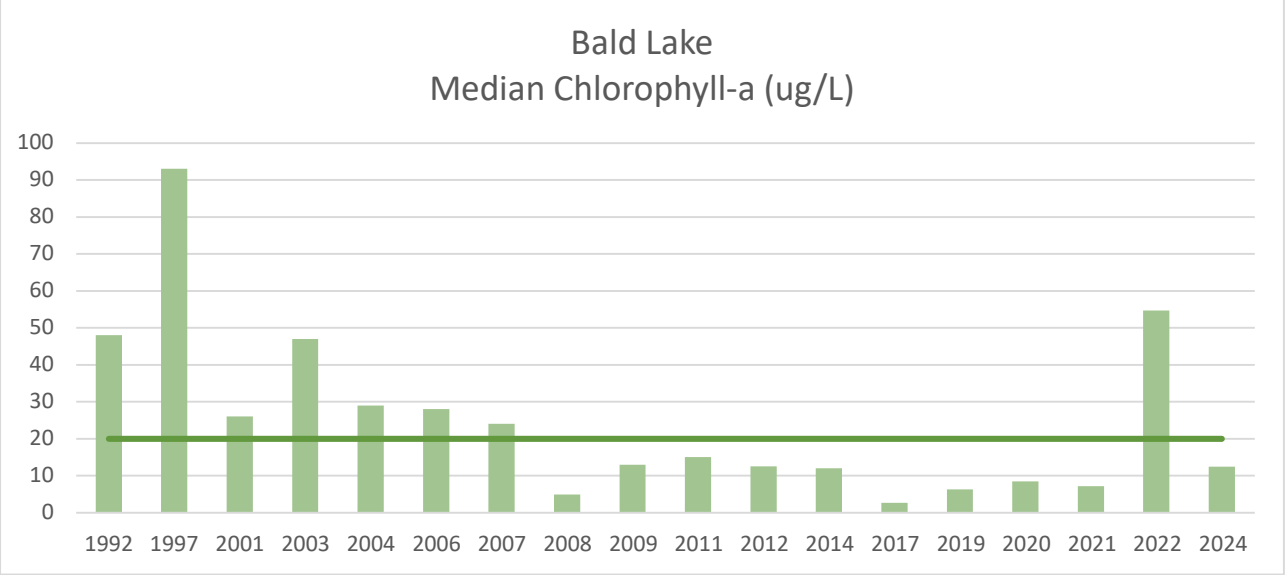
WATER QUALITY IMPROVEMENTS [2020–PRESENT]

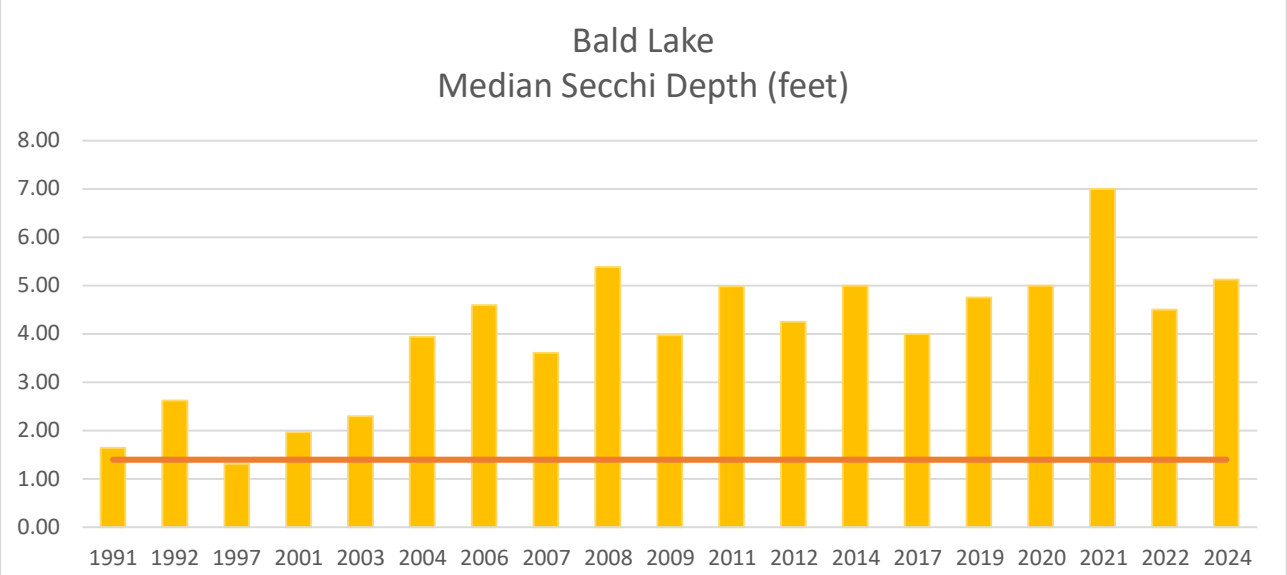
As needed — Aerated in winter as needed to prevent fish kills

2020 — Stocked: 200 pounds of fathead minnows

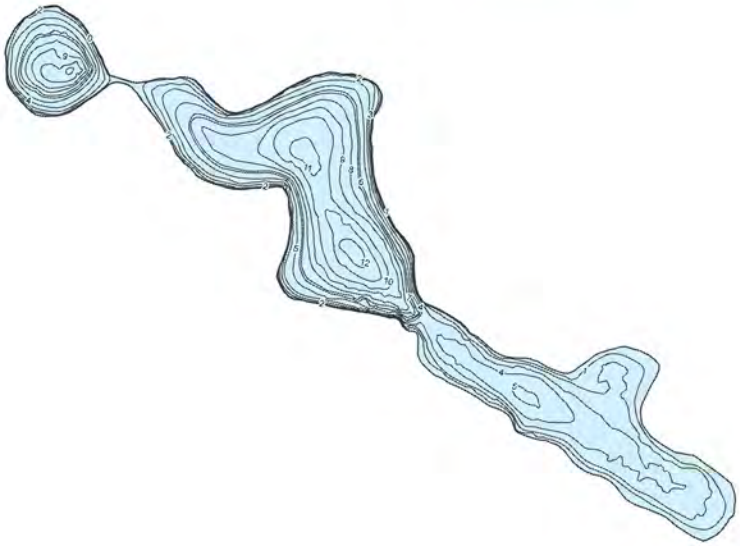
Alum application to reduce in-lake nutrient load


Bald Lake
Median Total P (ug/L)
250
200
150
100
50
0
1991 1992 1997 2001 2003 2004 2006 2007 2008 2009 2011 2012 2014 2017 2019 2020 2021 2022 2024


Bald Lake
Median Chlorophyll-a (ug/L)
100
90
80
70
60
50
40
30
20
10
0
1992 1997 2001 2003 2004 2006 2007 2008 2009 2011 2012 2014 2017 2019 2020 2021 2022 2024


Bald Lake
Median Secchi Depth (feet)
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
1991 1992 1997 2001 2003 2004 2006 2007 2008 2009 2011 2012 2014 2017 2019 2020 2021 2022 2024

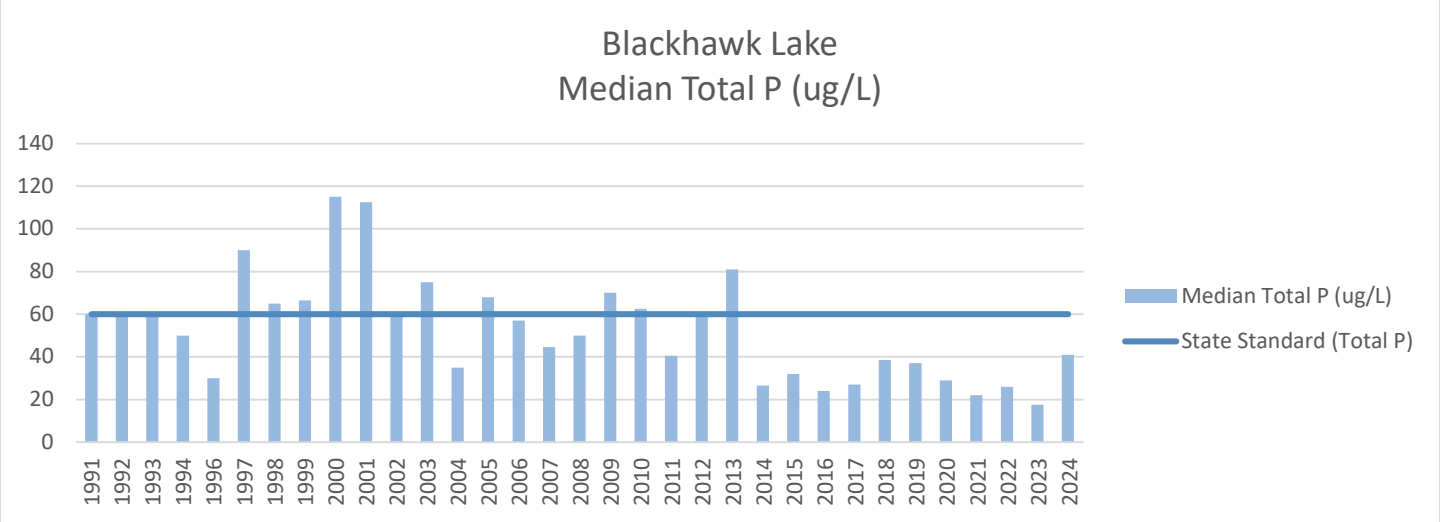
Blackhawk Lake

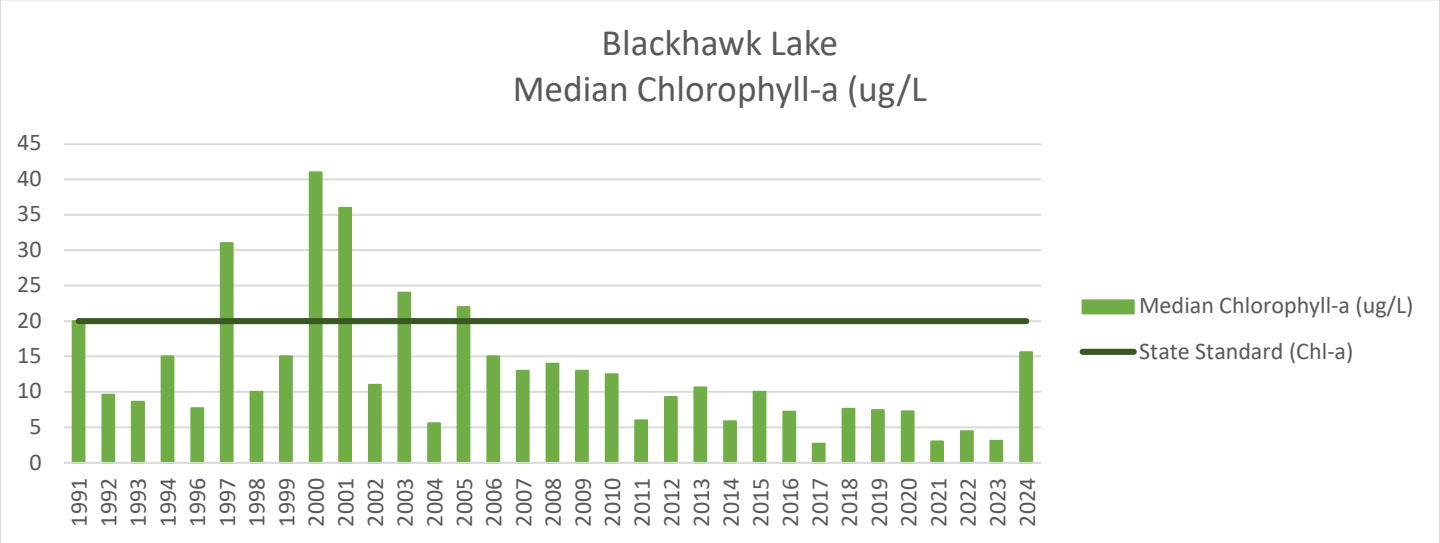


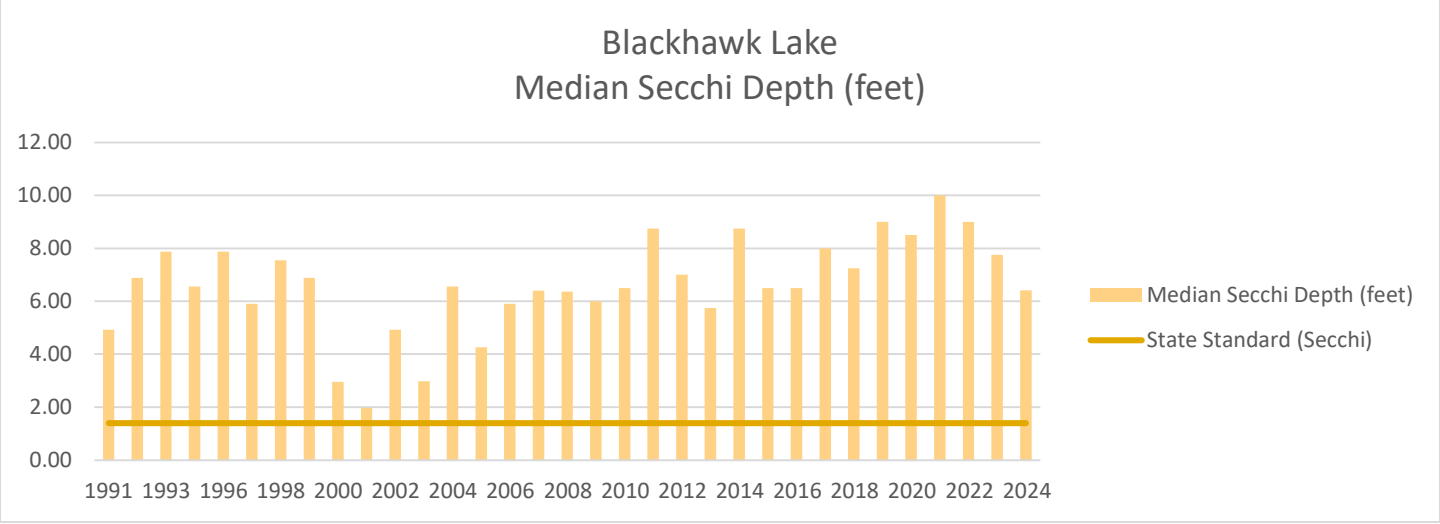
City ID:	BP-1
Waterbody type:	Shallow Lake
Surface area:	46.40 acres
Average depth:	5.00 feet
Maximum depth:	12.20 feet
Public access:	Yes
Supported uses:	Fishing, Canoeing/ Kayaking

WATER QUALITY IMPROVEMENTS [2019–PRESENT]

As Needed	Aerated in winter to prevent fish kills
As Needed	Lake plants harvested in summer months to reduce biomass
2019	Alum application to reduce in-lake nutrient load
2021	Stocked: 450 walleye (6–8 inches)


Blackhawk Lake
Median Total P (ug/L)
140
120
100
80
60
40
20
0
1991 1992 1993 1994 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024
Median Total P (ug/L)
State Standard (Total P)


Blackhawk Lake
Median Chlorophyll-a (ug/L
45
40
35
30
25
20
15
10
5
0
1991 1992 1993 1994 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024
Median Chlorophyll-a (ug/L)
State Standard (Chl-a)


Blackhawk Lake
Median Secchi Depth (feet)
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1991 1993 1996 1998 2000 2002 2004 2006 2008 2010 2012 2014 2016 2018 2020 2022 2024
Median Secchi Depth (feet)
State Standard (Secchi)

Impairment Summary

Blackhawk Lake

Year Listed:	2006
Impairment:	Mercury in Fish Tissue
TMDL Approved:	Yes; Southwest Region Mercury TMDL
Impaired Use(s):	Aquatic Consumption

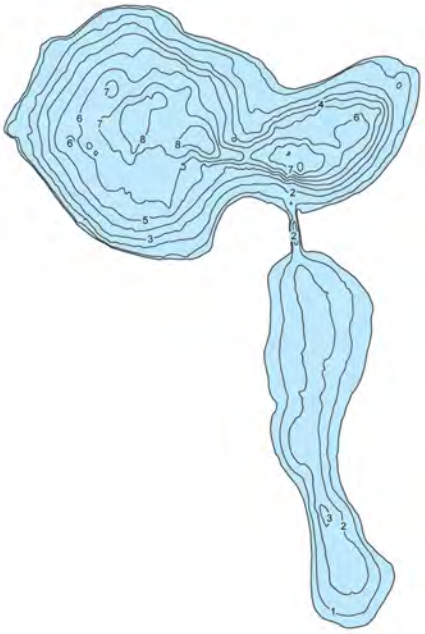
A waterbody is listed as impaired for mercury when more than 10% of a fish species fillets have a mercury concentration of at least 0.20 parts per million (ppm). Mercury accumulates in fish tissue, specifically as 'methylmercury,' which is the most hazardous form of mercury for humans. Once a waterbody is contaminated with mercury, it is very difficult to remove it.

Mercury is a naturally occurring element that is highly toxic to both humans and animals. While most people associate mercury with the liquid, silvery substance from old thermometers, it can also evaporate and become airborne - and in this form can come from a variety of sources.

In Eagan's case, the primary source is atmospheric deposition from coal-fired power plants in North Dakota. Because the source of these contaminants is not local, the state of Minnesota oversees a statewide 'total maximum daily load' or TMDL to manage the sources of mercury accumulating in our surface waters.

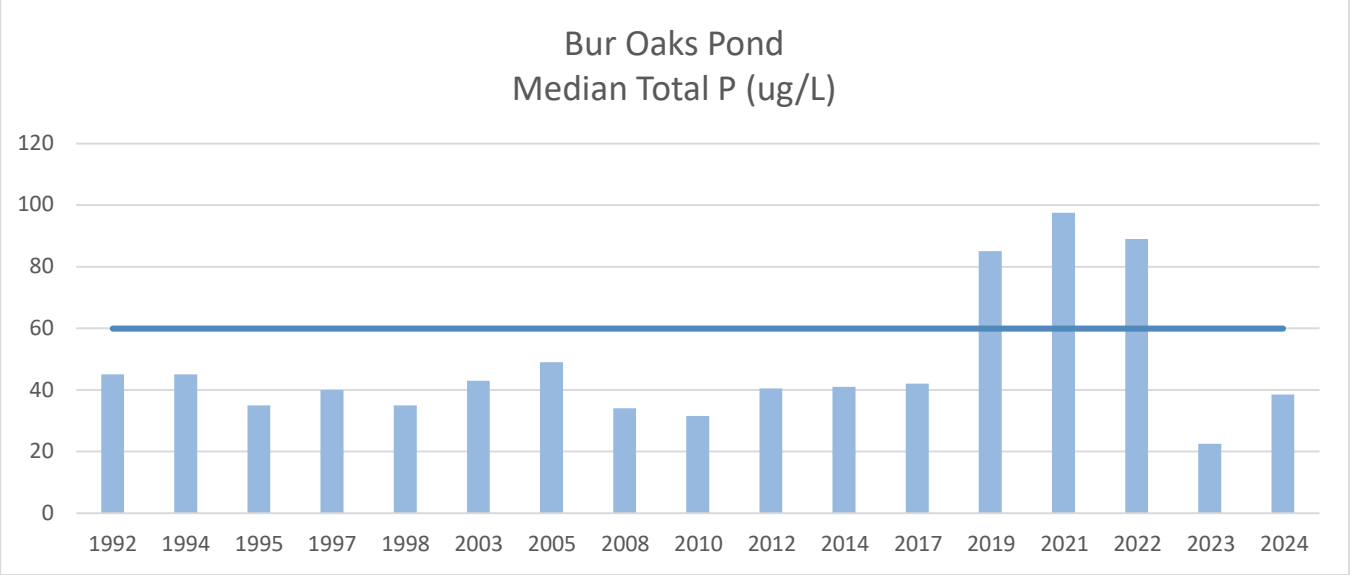
Bur Oaks Pond

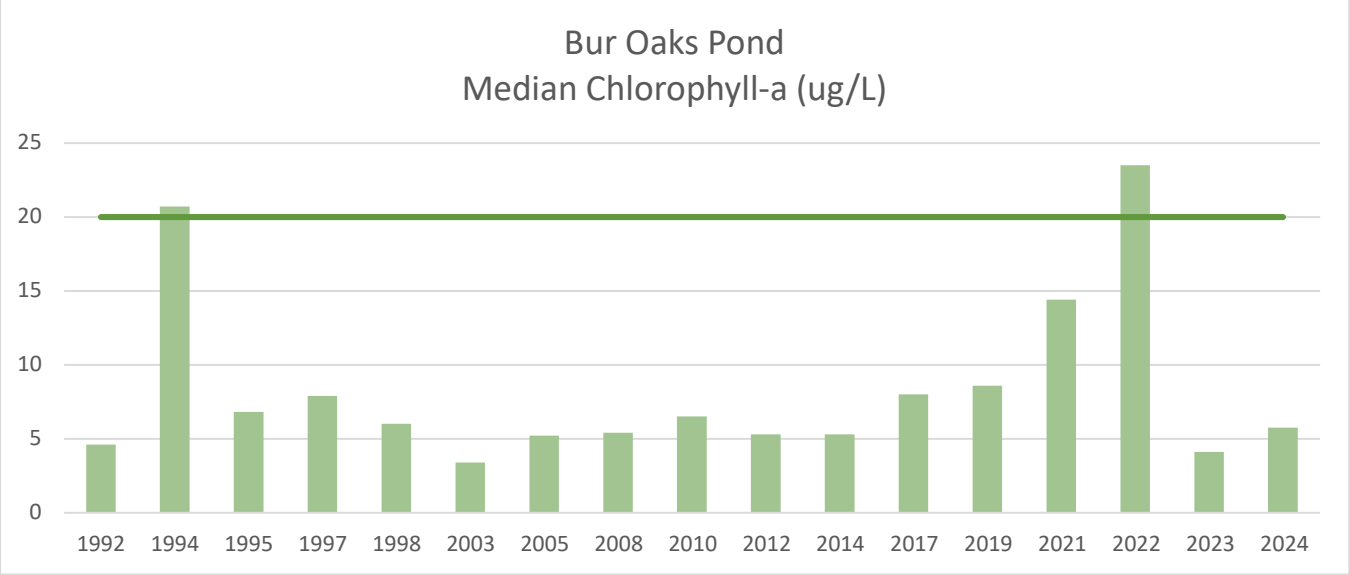
City ID:	GP-1
Waterbody type:	Shallow Lake
Surface area:	15.50 acres
Average depth:	3.51 feet
Maximum depth:	8.92 feet
Public access:	Yes
Supported uses:	Fishing, Canoeing/ Kayaking

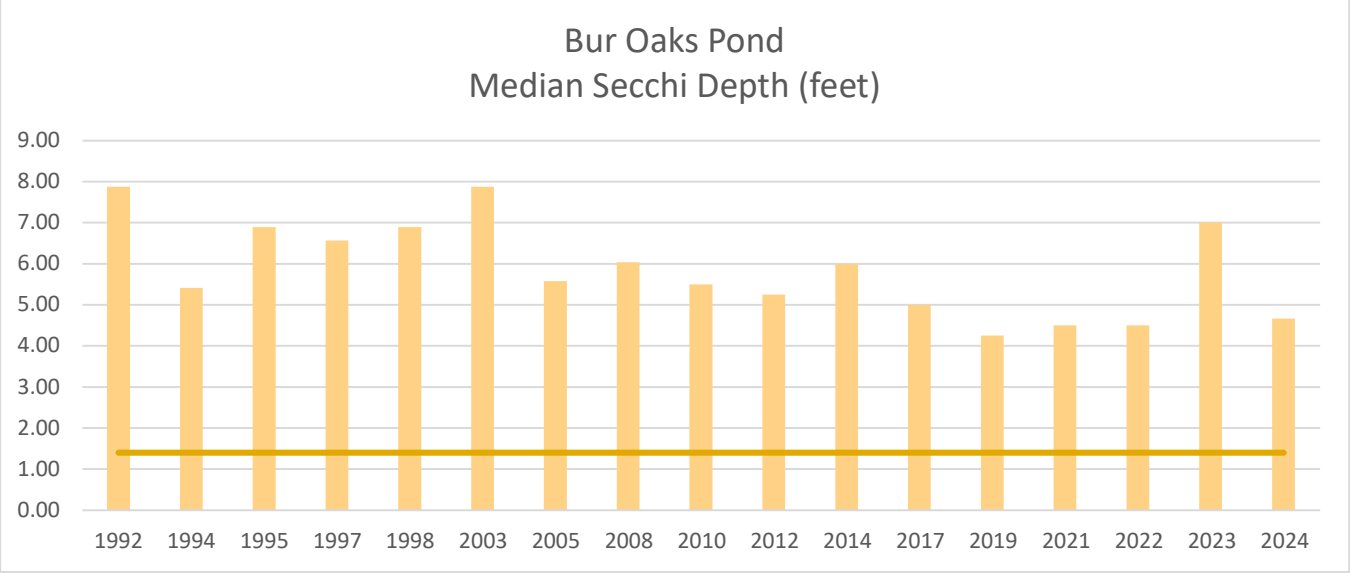


WATER QUALITY IMPROVEMENTS [2020–PRESENT]

As needed	Aerated in winter as needed to prevent fish kills
2020	Fish population survey completed to assess overall health of the lake's fishery. Stocked: 850 bluegills (2–4 inches) and 300 pounds of fathead minnows
2022	Alum application to reduce in-lake nutrient load
2023	Stocked: 1,300 green sunfish (yearlings)

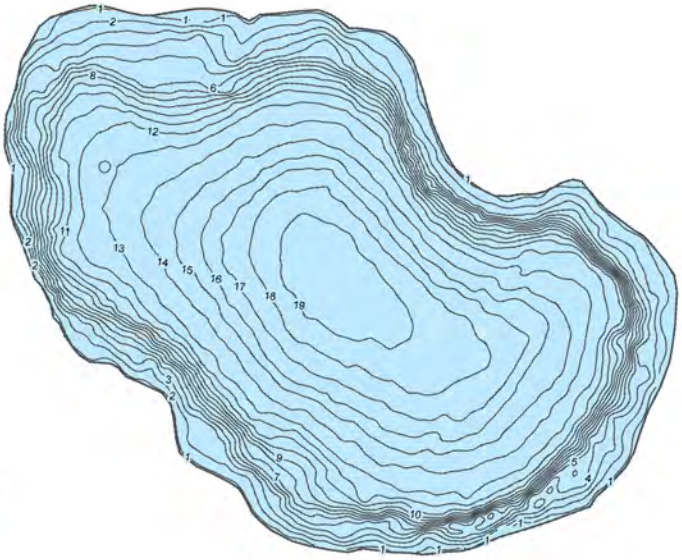

Bur Oaks Pond
Median Total P (ug/L)
120
100
80
60
40
20
0
1992
1994
1995
1997
1998
2003
2005
2008
2010
2012
2014
2017
2019
2021
2022
2023
2024


Bur Oaks Pond
Median Chlorophyll-a (ug/L)
25
20
15
10
5
0
1992
1994
1995
1997
1998
2003
2005
2008
2010
2012
2014
2017
2019
2021
2022
2023
2024


Bur Oaks Pond
Median Secchi Depth (feet)
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
1992
1994
1995
1997
1998
2003
2005
2008
2010
2012
2014
2017
2019
2021
2022
2023
2024

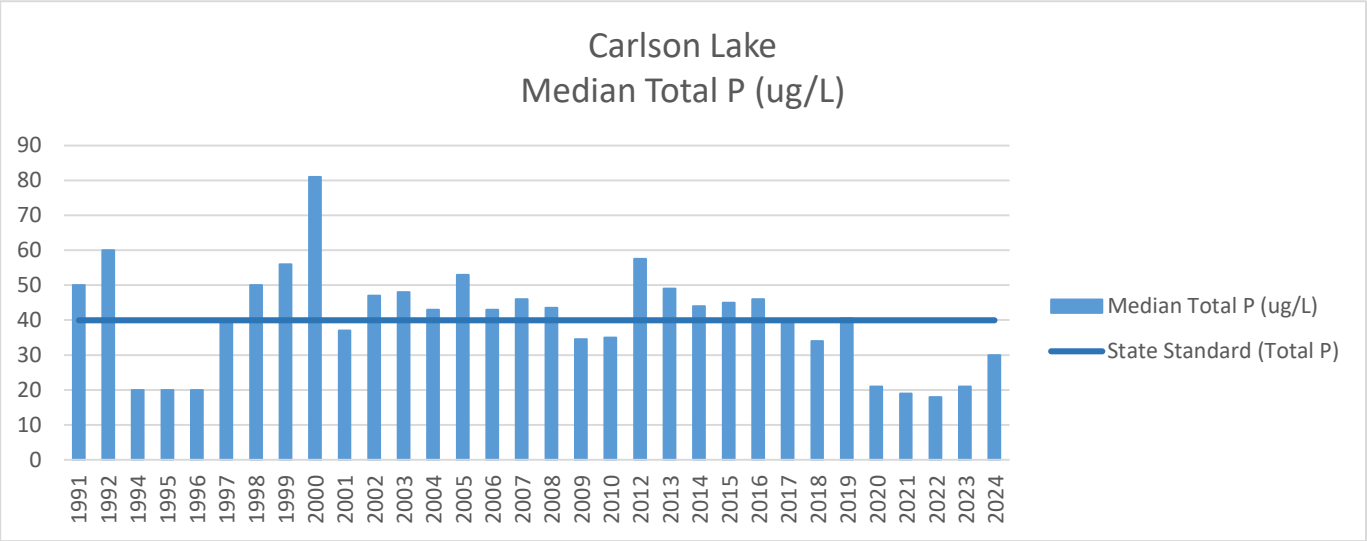
Carlson Lake

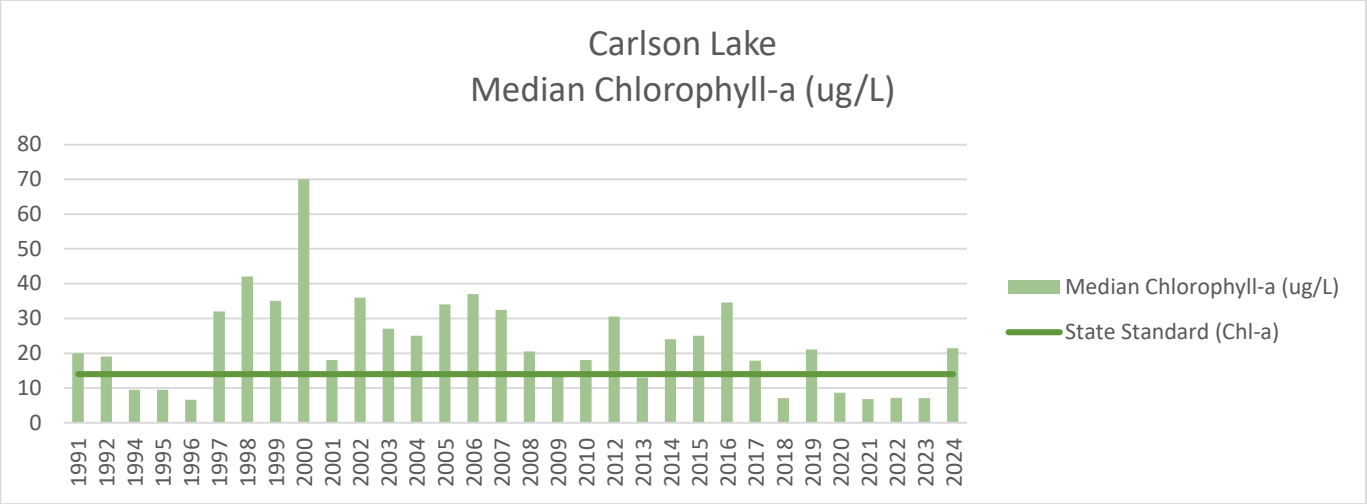
City ID:	LP-42
Waterbody type:	Deep Lake
Surface area:	13.10 acres
Average depth:	10.60 feet
Maximum depth:	20.00 feet
Public access:	Yes
Supported uses:	Fishing, Canoeing/ Kayaking, Swimming

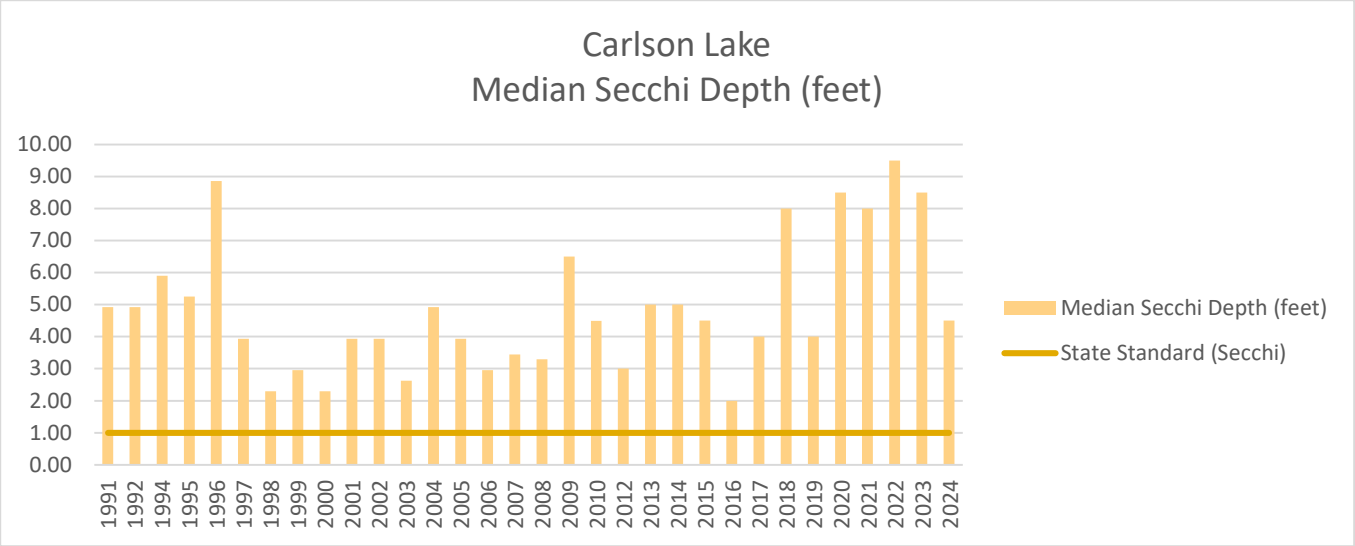


WATER QUALITY IMPROVEMENTS [2019–PRESENT]

As needed	Aerated in winter as needed to prevent fish kills
2019	Alum application to reduce in-lake nutrient load
2022	Subsurface stormwater filters installed upstream to remove nutrients from stormwater entering the lake


Carlson Lake
Median Total P (ug/L)
90
80
70
60
50
40
30
20
10
0
1991 1992 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024
Median Total P (ug/L)
State Standard (Total P)


Carlson Lake
Median Chlorophyll-a (ug/L)
80
70
60
50
40
30
20
10
0
1991 1992 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024
Median Chlorophyll-a (ug/L)
State Standard (Chl-a)


Carlson Lake
Median Secchi Depth (feet)
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
1991 1992 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024
Median Secchi Depth (feet)
State Standard (Secchi)

Impairment Summary

Carlson Lake

Year Listed:	2014
Year Delisted:	*Pending* (2026)
Impairment:	Nutrients (Stormwater)
TMDL Approved:	Yes; 2015
Impaired Use(s):	Aquatic Recreation

Excessive nutrient loading is one of the most common sources of impairment in surface waterbodies, especially those in urban areas like Eagan. In our landscape, nutrients mainly come from developed areas - referred to as 'impervious surfaces' - where water can't soak into the ground. Rather, it runs off the surface into nearby waterways, carrying whatever pollutants have accumulated with it.

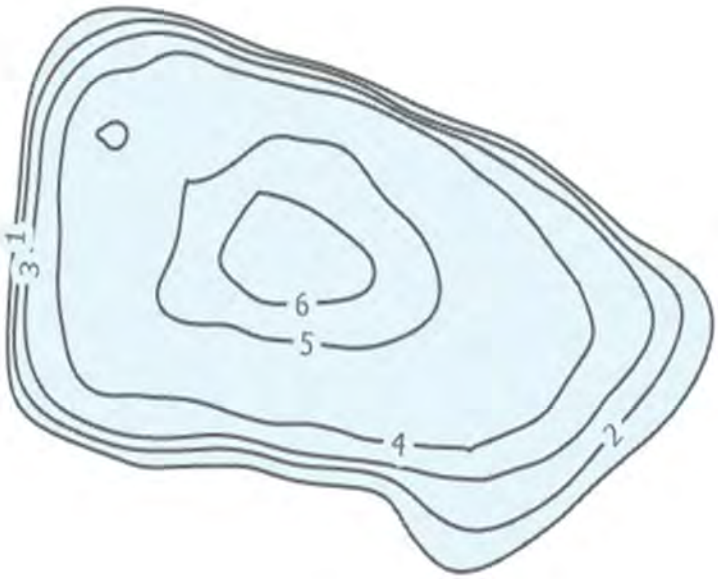
Nutrient pollution can lead to excessive algae growth, low dissolved oxygen levels, and ultimately toxicity to aquatic life.

The City of Eagan has used several strategies to reduce nutrient levels in our lakes. Alum applications, watershed management practices, and regulating developments to require that they treat stormwater before it leaves their properties are just some of the ways we have restored these waters back to meeting standards.

As of 2026, the City will have no nutrient impaired waters listed on the State of Minnesota's 3030(d) List of Impaired Waters. This is a direct result of Eagan's restoration efforts - supported by our community each year!

Cliff Lake

City ID:	AP-11
Waterbody type:	Shallow Lake
Surface area:	11.76 acres
Average depth:	2.77 feet
Maximum depth:	4.76 feet
Public access:	Yes
Supported uses:	Fishing, Canoeing / Kayaking

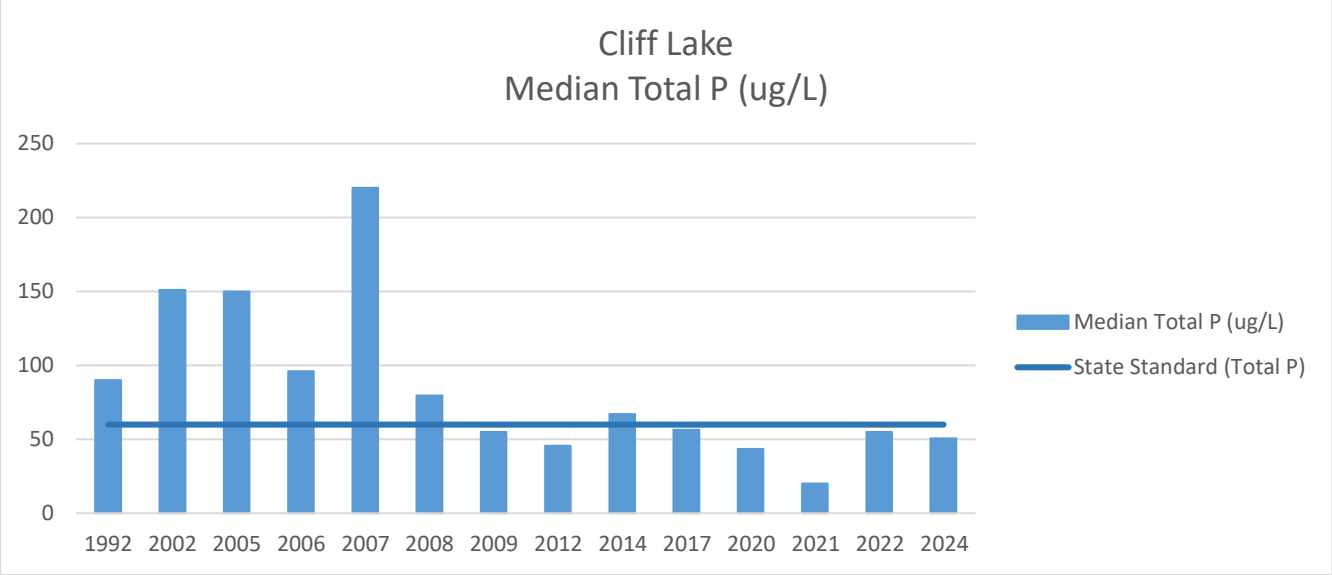


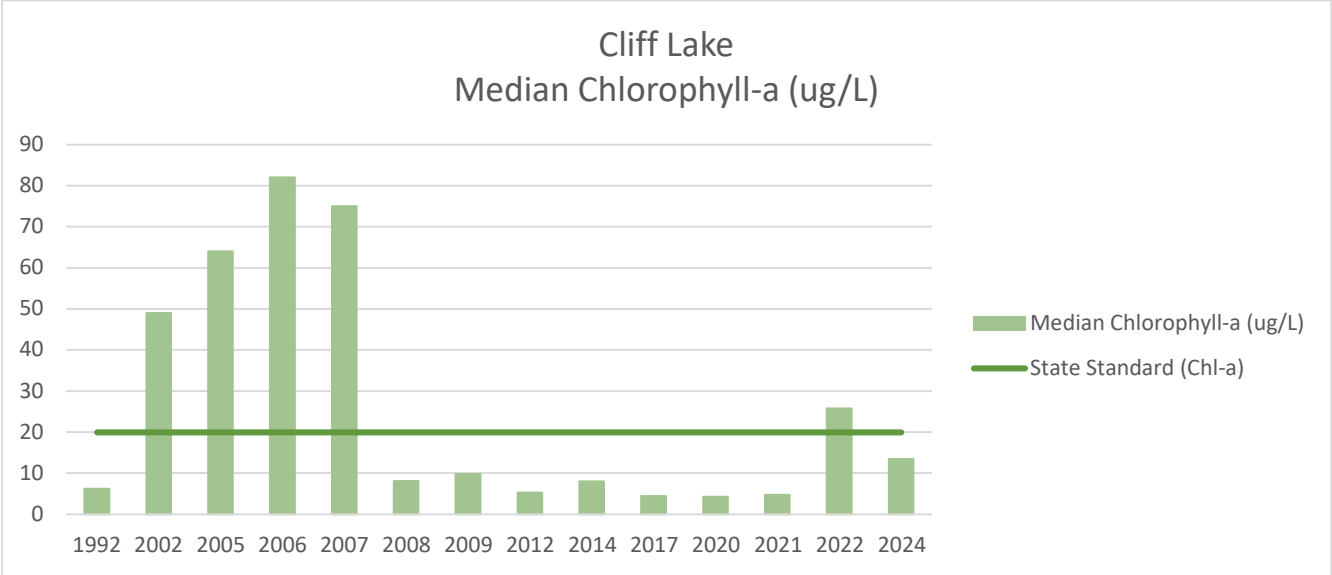
WATER QUALITY IMPROVEMENTS [2020–PRESENT]

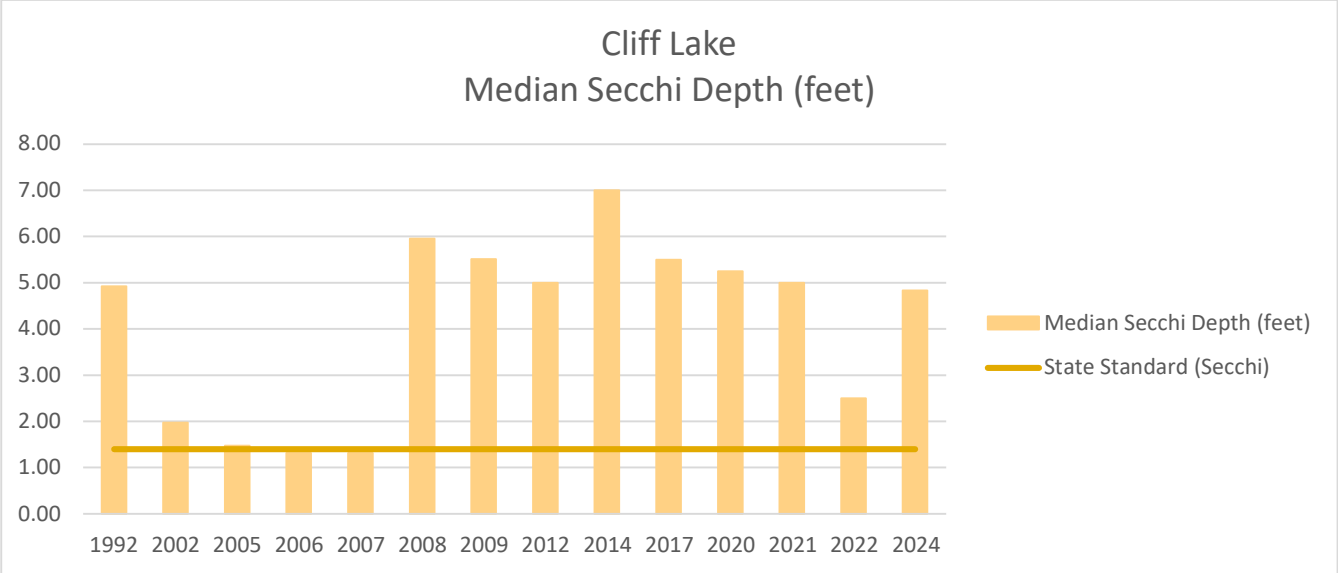
As needed — Aerated in winter as needed to prevent fish kills

2020 — Alum application to reduce in-lake nutrient load

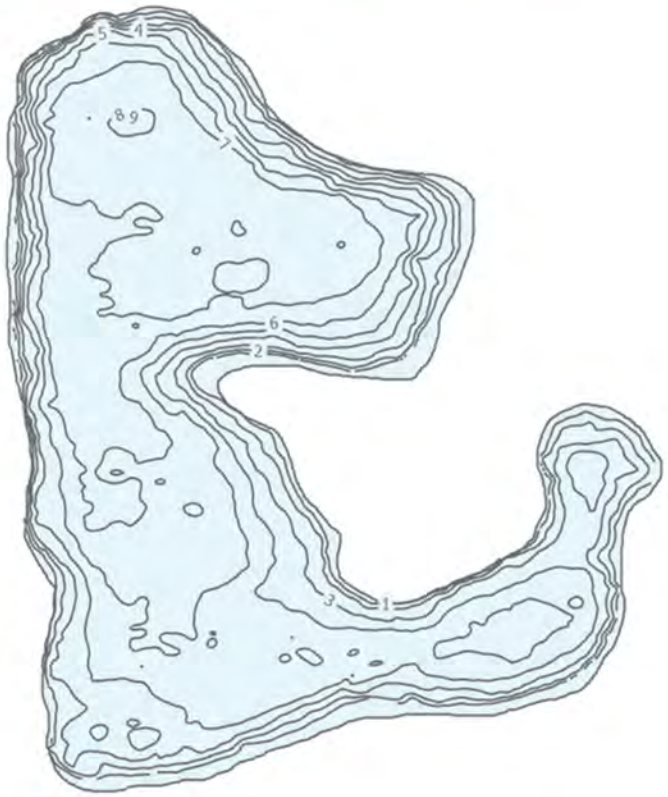
2024 — Fish population survey completed to assess overall health of the lake's fishery


Cliff Lake
Median Total P (ug/L)
250
200
150
100
50
0
1992 2002 2005 2006 2007 2008 2009 2012 2014 2017 2020 2021 2022 2024
Median Total P (ug/L)
State Standard (Total P)


Cliff Lake
Median Chlorophyll-a (ug/L)
90
80
70
60
50
40
30
20
10
0
1992 2002 2005 2006 2007 2008 2009 2012 2014 2017 2020 2021 2022 2024
Median Chlorophyll-a (ug/L)
State Standard (Chl-a)


Cliff Lake
Median Secchi Depth (feet)
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
1992 2002 2005 2006 2007 2008 2009 2012 2014 2017 2020 2021 2022 2024
Median Secchi Depth (feet)
State Standard (Secchi)

East Thomas Lake



City ID: BP-8

Waterbody type: Shallow Lake

Surface area: 9.20 acres

Average depth: 4.80 feet

Maximum depth: 9.50 feet

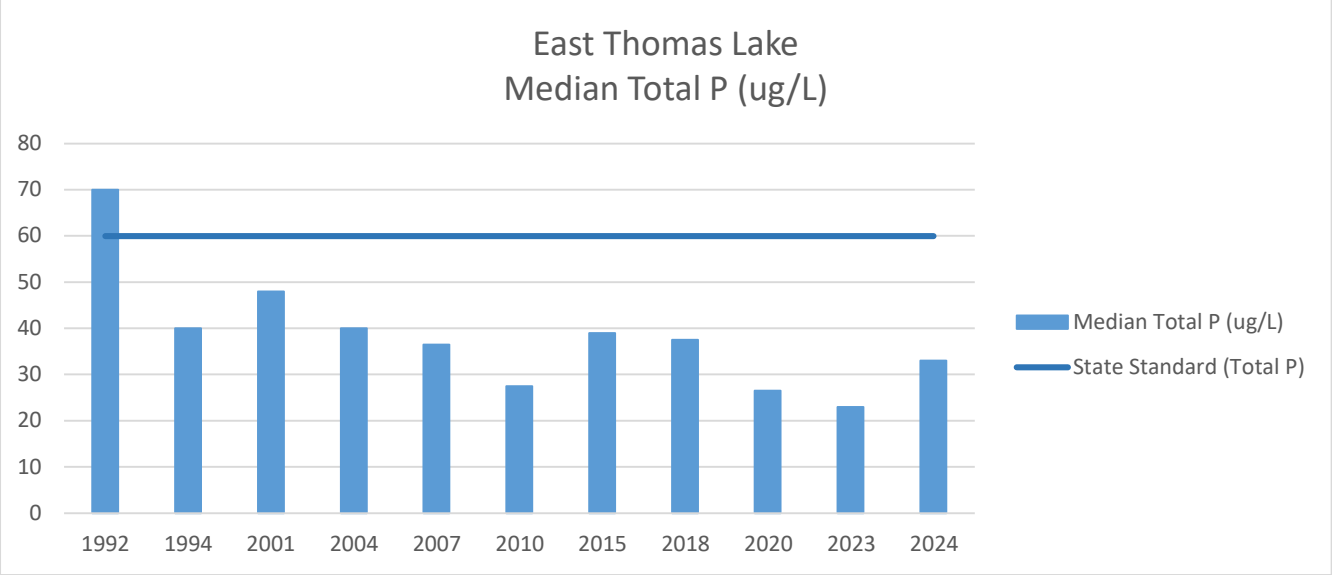
Public access: No

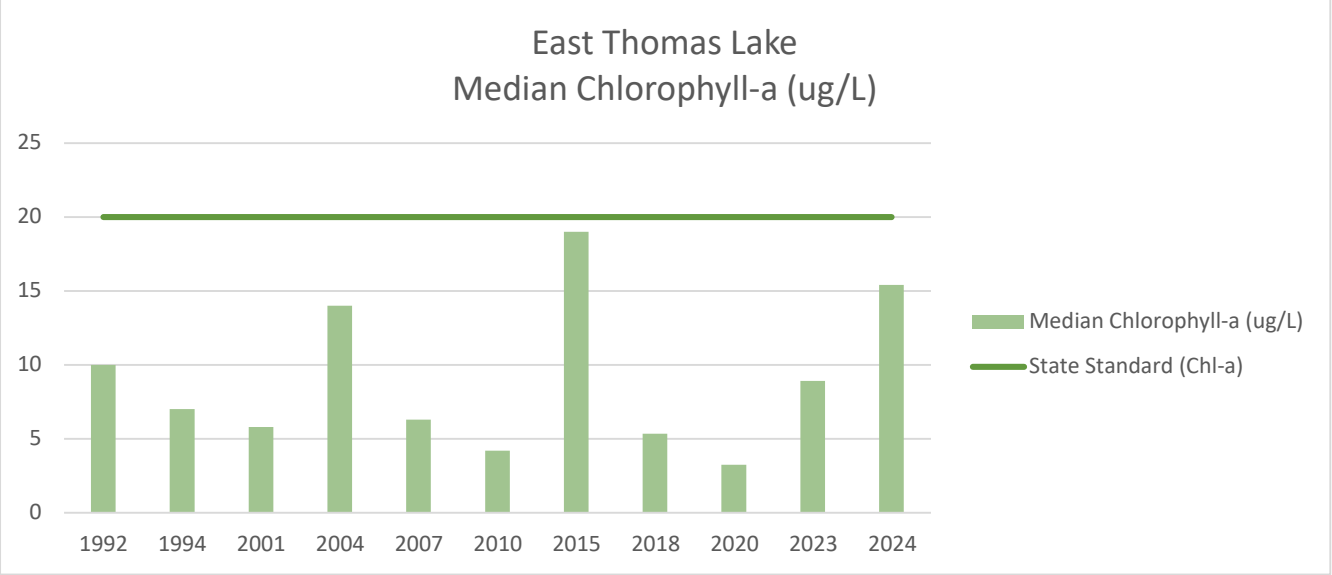
Supported uses: Fishing, Canoeing/ Kayaking

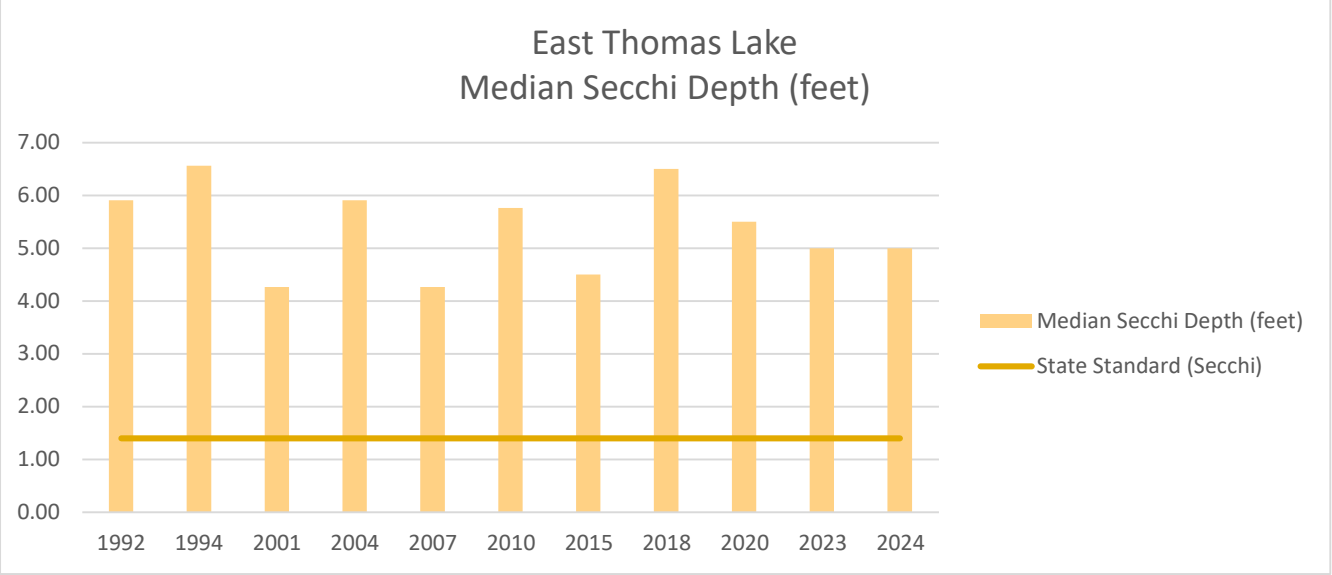
WATER QUALITY IMPROVEMENTS [2020–PRESENT]

As Needed — Aerated in winter as needed to prevent fish kills

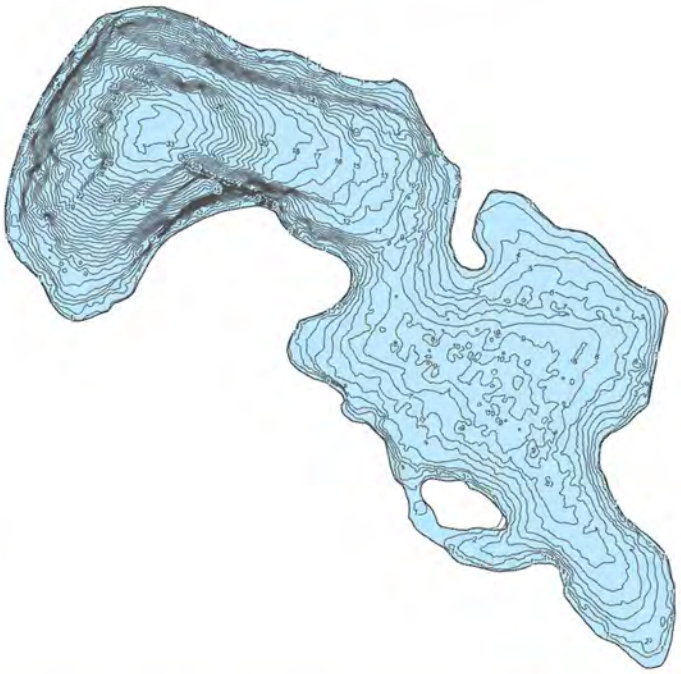
2021 — Fish population survey completed to assess overall health of the lake's fishery (results were excellent)


East Thomas Lake
Median Total P (ug/L)
80
70
60
50
40
30
20
10
0
1992
1994
2001
2004
2007
2010
2015
2018
2020
2023
2024
Median Total P (ug/L)
State Standard (Total P)


East Thomas Lake
Median Chlorophyll-a (ug/L)
25
20
15
10
5
0
1992
1994
2001
2004
2007
2010
2015
2018
2020
2023
2024
Median Chlorophyll-a (ug/L)
State Standard (Chl-a)


East Thomas Lake
Median Secchi Depth (feet)
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
1992
1994
2001
2004
2007
2010
2015
2018
2020
2023
2024
Median Secchi Depth (feet)
State Standard (Secchi)

Fish Lake



City ID:	JP-4
Waterbody type:	Shallow Lake
Surface area:	30.30 acres
Average depth:	9.50 feet
Maximum depth:	33.80 feet
Public access:	Yes
Supported uses:	Fishing, Canoeing/ Kayaking, Swimming

WATER QUALITY IMPROVEMENTS [2020–PRESENT]

As needed

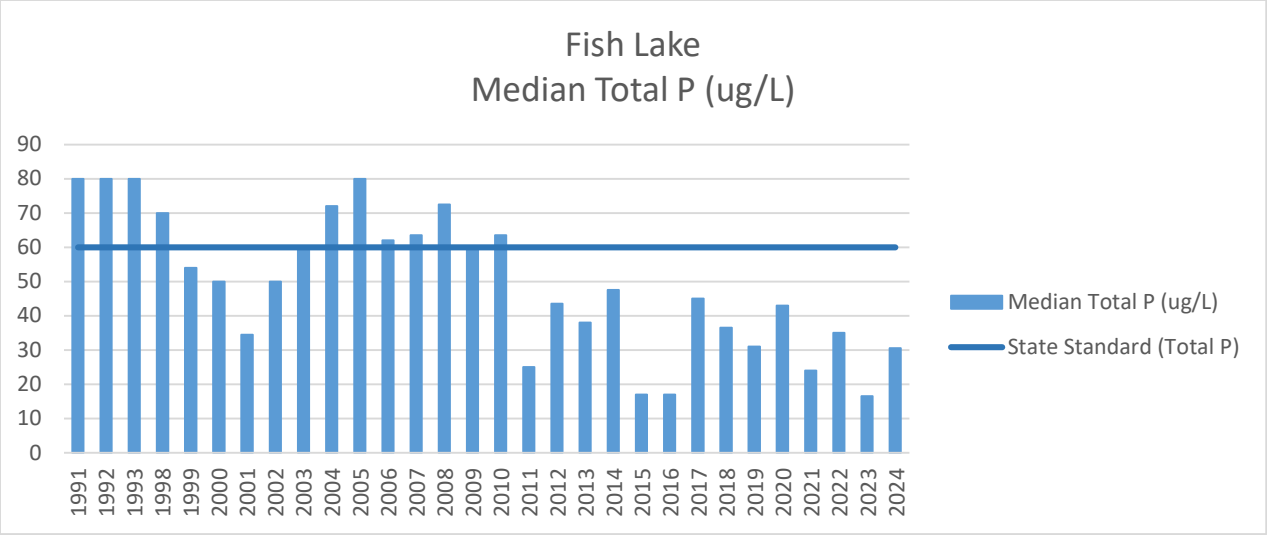
- Aerated in winter as needed to prevent fish kills
- Lake plants harvested in summer months to reduce biomass
- Alum station in place to provide ongoing dosing throughout the summer months when necessary

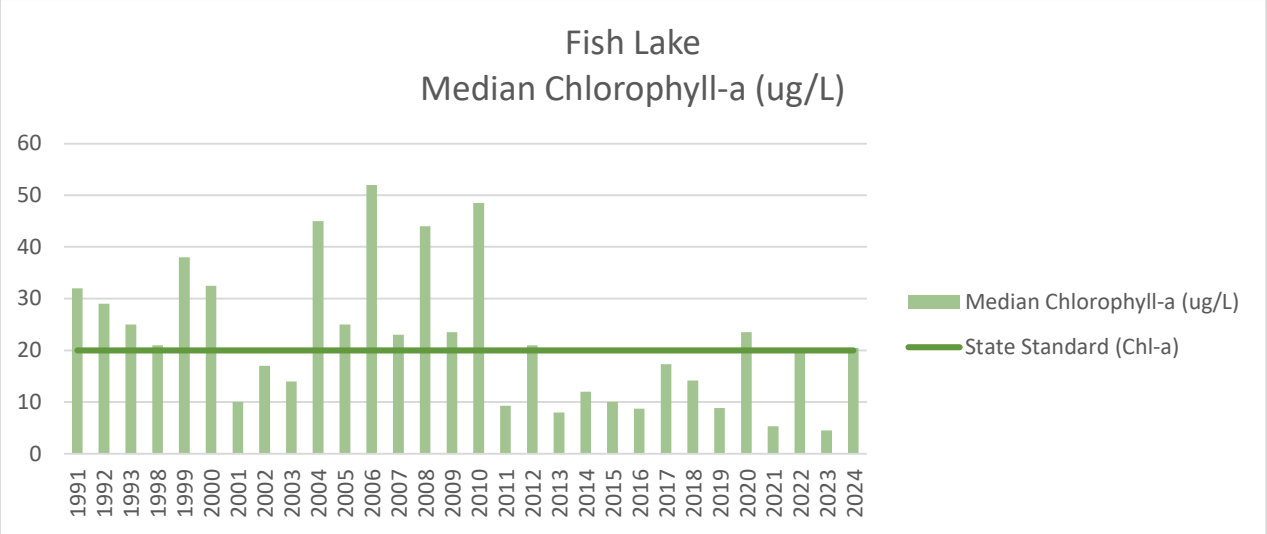
2021

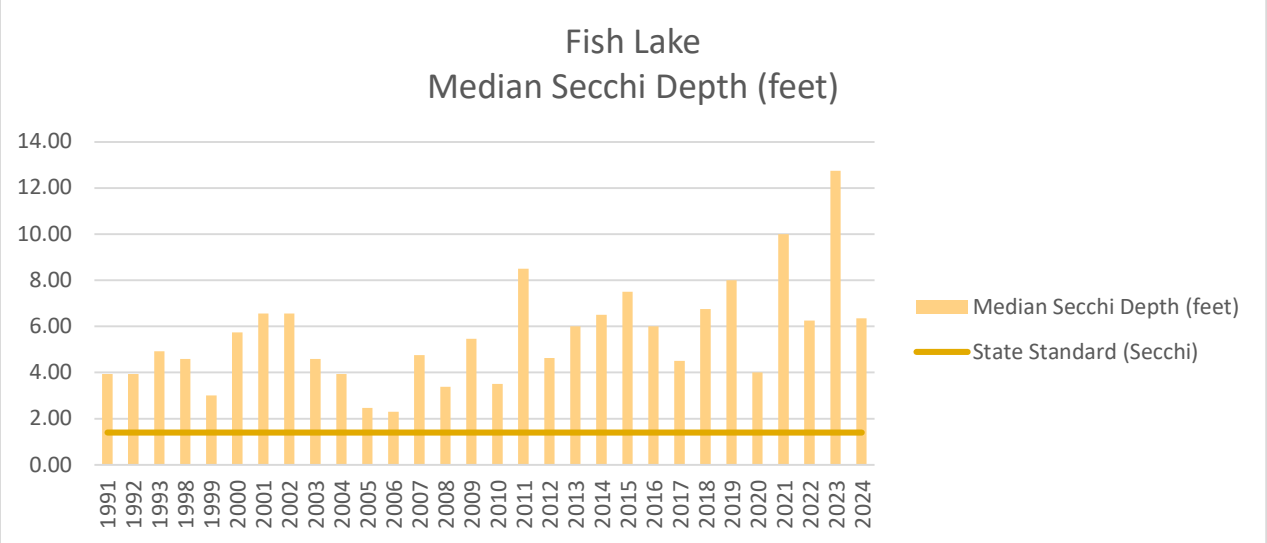
- Stocked: 450 walleye (6–8 inches)

2022

- Alum application to reduce in-lake nutrient load


Fish Lake
Median Total P (ug/L)
90
80
70
60
50
40
30
20
10
0
1991 1992 1993 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024
Median Total P (ug/L)
State Standard (Total P)


Fish Lake
Median Chlorophyll-a (ug/L)
60
50
40
30
20
10
0
1991 1992 1993 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024
Median Chlorophyll-a (ug/L)
State Standard (Chl-a)


Fish Lake
Median Secchi Depth (feet)
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1991 1992 1993 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024
Median Secchi Depth (feet)
State Standard (Secchi)

Impairment Summary

Fish Lake

Year Listed:	2006
Impairment:	Mercury in Fish Tissue
TMDL Approved:	Yes; Southwest Region Mercury TMDL
Impaired Use(s):	Aquatic Consumption
Additional Impairments:	Previously impaired for nutrients, delisted in 2014 due to restoration efforts.

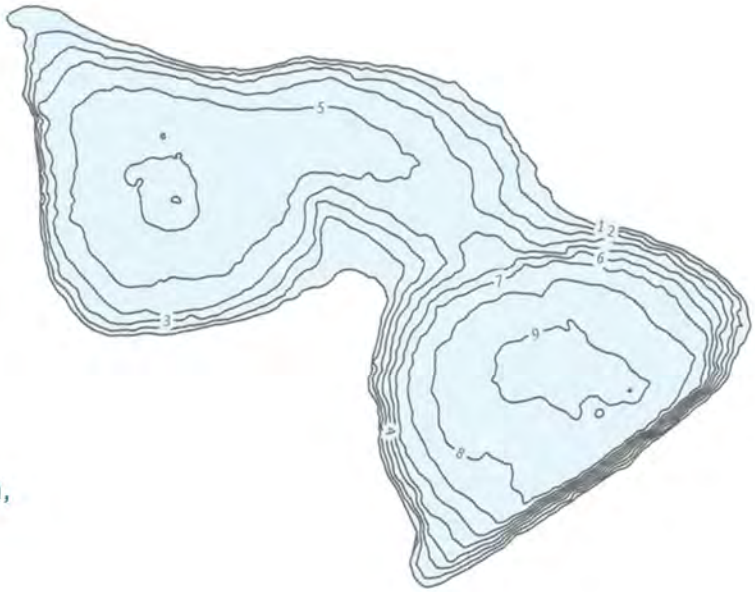
A waterbody is listed as impaired for mercury when more than 10% of a fish species fillets have a mercury concentration of at least 0.20 parts per million (ppm). Mercury accumulates in fish tissue, specifically as 'methylmercury,' which is the most hazardous form of mercury for humans. Once a waterbody is contaminated with mercury, it is very difficult to remove it.

Mercury is a naturally occurring element that is highly toxic to both humans and animals. While most people associate mercury with the liquid, silvery substance from old thermometers, it can also evaporate and become airborne - and in this form can come from a variety of sources.

In Eagan's case, the primary source is atmospheric deposition from coal-fired power plants in North Dakota. Because the source of these contaminants is not local, the state of Minnesota oversees a statewide 'total maximum daily load' or TMDL to manage the sources of mercury accumulating in our surface waters.

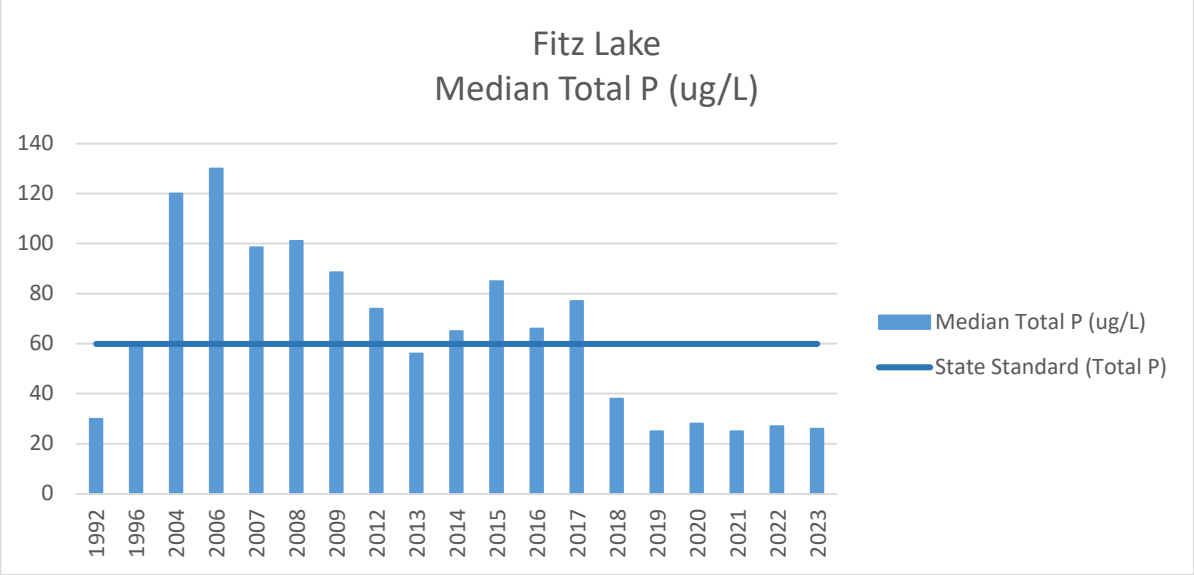
Fitz Lake

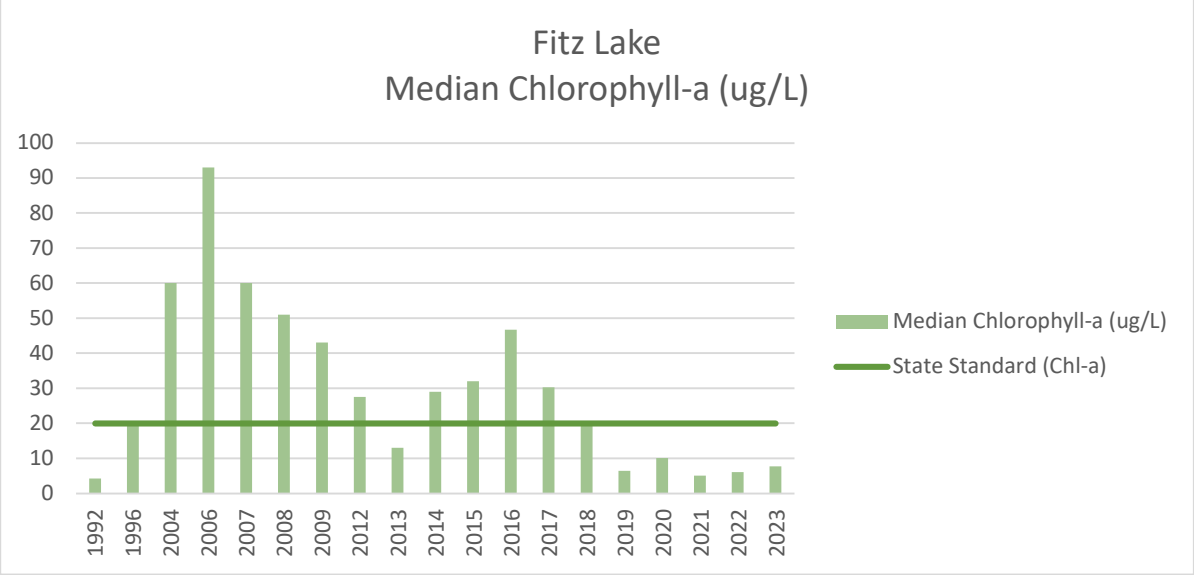
City ID:	LP-26
Waterbody type:	Shallow Lake
Surface area:	14.00 acres
Average depth:	5.10 feet
Maximum depth:	9.40 feet
Public access:	No
Supported uses:	Habitat, Education, Aesthetics

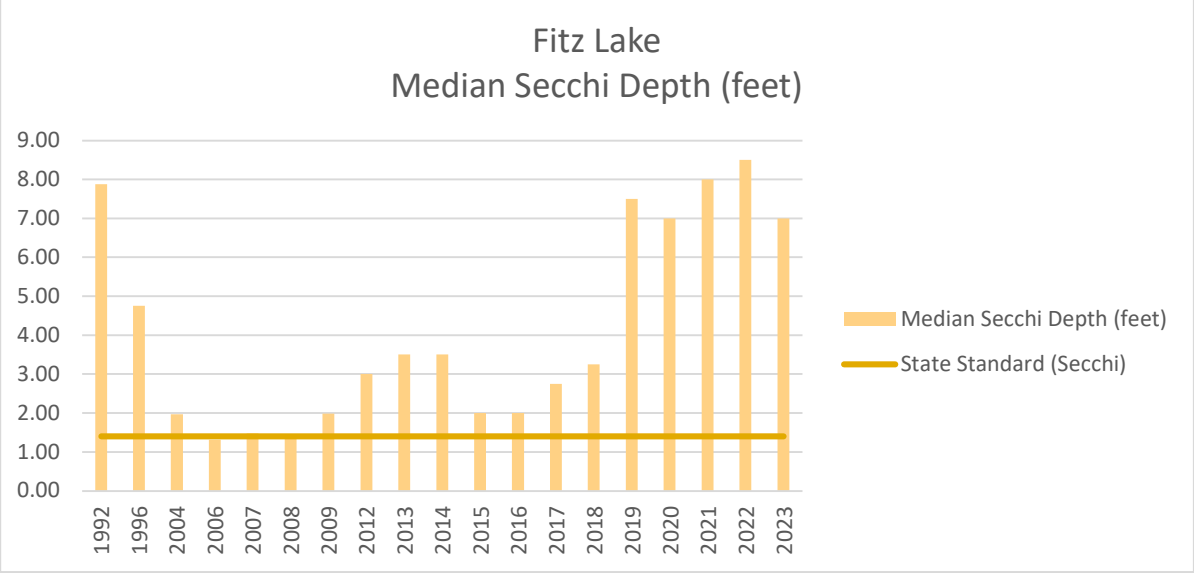


WATER QUALITY IMPROVEMENTS [2020–PRESENT]

No recent improvements. Fitz Lake was removed from the State's list of impaired waters in 2024, following installation of two iron-enhanced sand filters to manage stormwater inputs, and an in-lake alum application in 2017. The lake is known to contain bass, black bullhead, minnows, and non-native goldfish - but is not maintained for public fishing due to a lack of dedicated access.


Fitz Lake
Median Total P (ug/L)
140
120
100
80
60
40
20
0
1992
1996
2004
2006
2007
2008
2009
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Median Total P (ug/L)
State Standard (Total P)


Fitz Lake
Median Chlorophyll-a (ug/L)
100
90
80
70
60
50
40
30
20
10
0
1992
1996
2004
2006
2007
2008
2009
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Median Chlorophyll-a (ug/L)
State Standard (Chl-a)


Fitz Lake
Median Secchi Depth (feet)
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
1992
1996
2004
2006
2007
2008
2009
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Median Secchi Depth (feet)
State Standard (Secchi)

Impairment Summary

Fitz Lake

Year Listed:	2014
Year Delisted:	2022
Impairment:	Nutrients (Stormwater)
TMDL Approved:	Yes; 2015
Impaired Use(s):	Aquatic Recreation

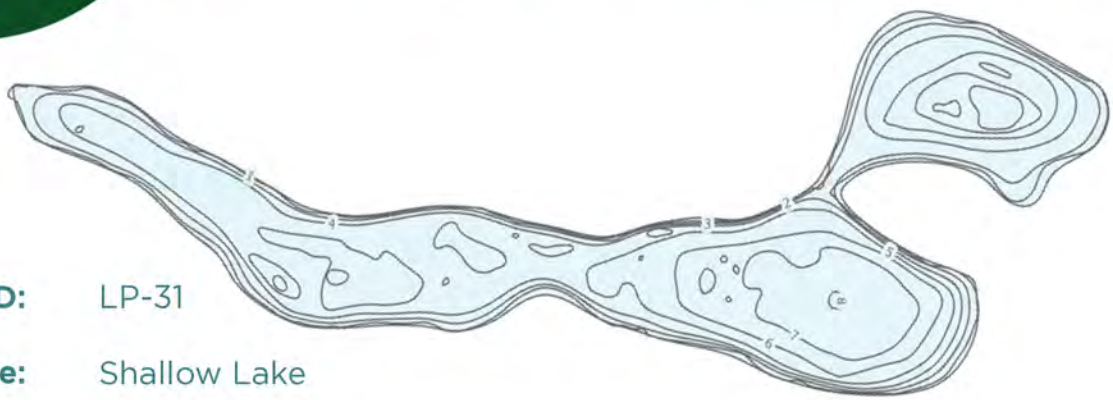
Excessive nutrient loading is one of the most common sources of impairment in surface waterbodies, especially those in urban areas like Eagan. In our landscape, nutrients mainly come from developed areas - referred to as 'impervious surfaces' - where water can't soak into the ground. Rather, it runs off the surface into nearby waterways, carrying whatever pollutants have accumulated with it.

Nutrient pollution can lead to excessive algae growth, low dissolved oxygen levels, and ultimately toxicity to aquatic life.

The City of Eagan has used several strategies to reduce nutrient levels in our lakes. Alum applications, watershed management practices, and regulating developments to require that they treat stormwater before it leaves their properties are just some of the ways we have restored these waters back to meeting standards.

As of 2026, the City will have no nutrient impaired waters listed on the State of Minnesota's 3030(d) List of Impaired Waters. This is a direct result of Eagan's restoration efforts - supported by our community each year!

Hay Lake



City ID: LP-31

Waterbody type: Shallow Lake

Surface area: 23.05 acres

Average depth: 3.40 feet

Maximum depth: 9.87 feet

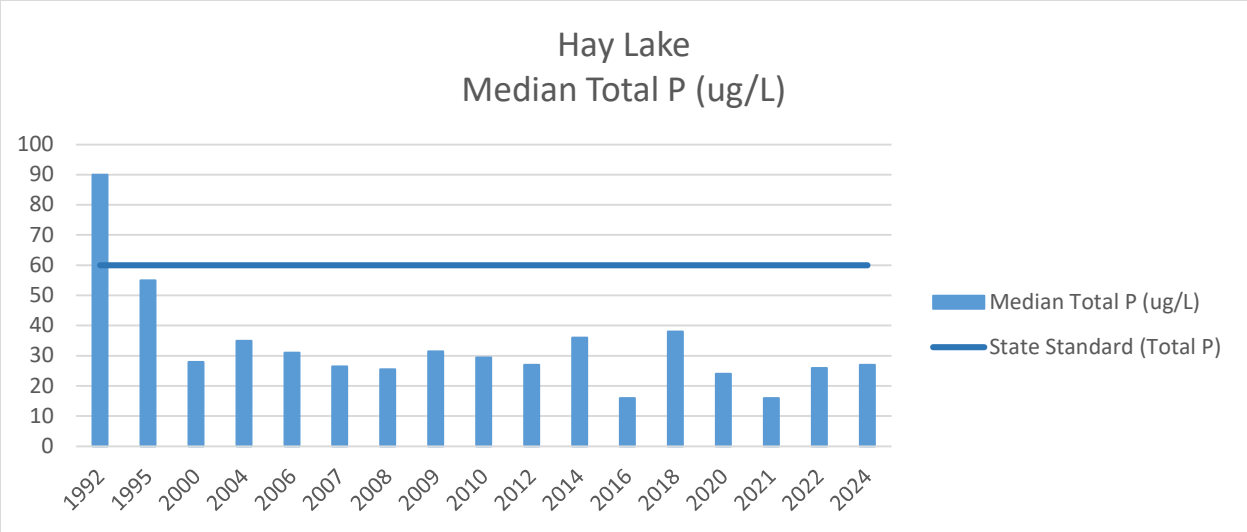
Public access: Yes

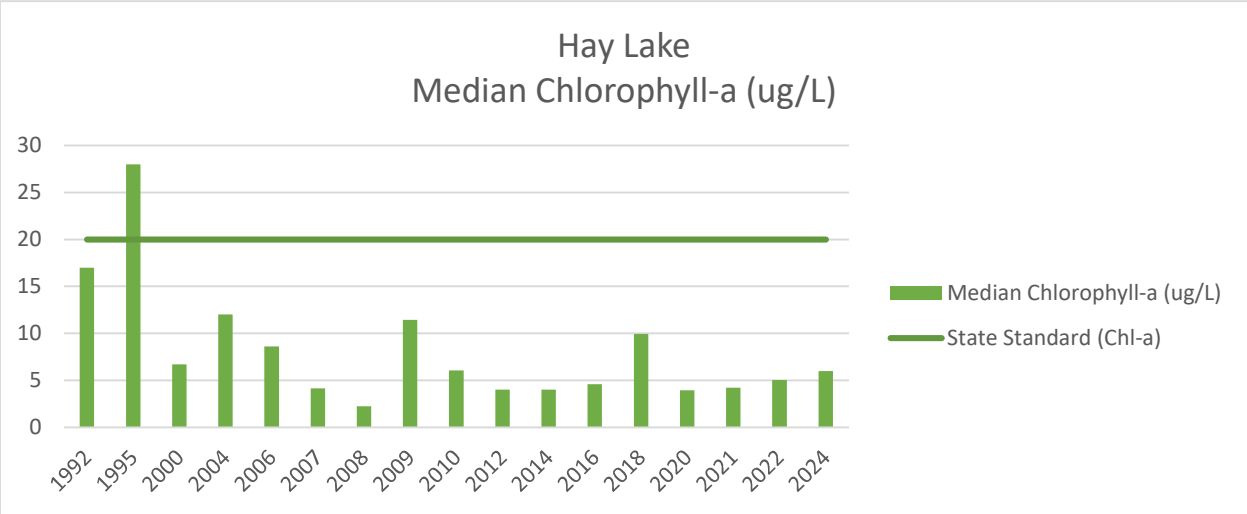
Supported uses: Fishing, Canoeing/ Kayaking

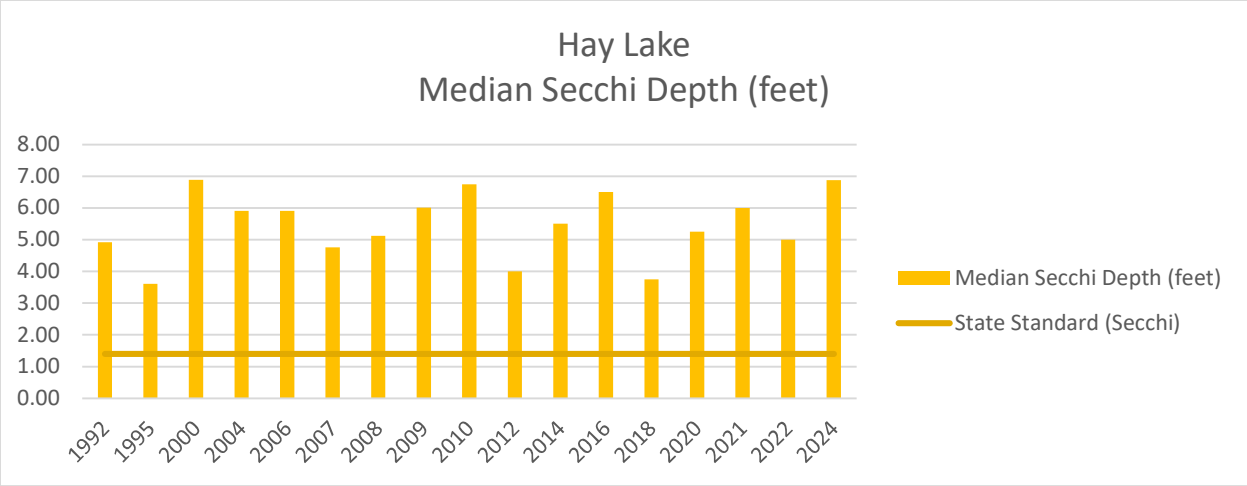
WATER QUALITY IMPROVEMENTS [2020–PRESENT]

As Needed — Aerated in winter as needed to prevent fish kills

2020 — Alum application to reduce in-lake nutrient load

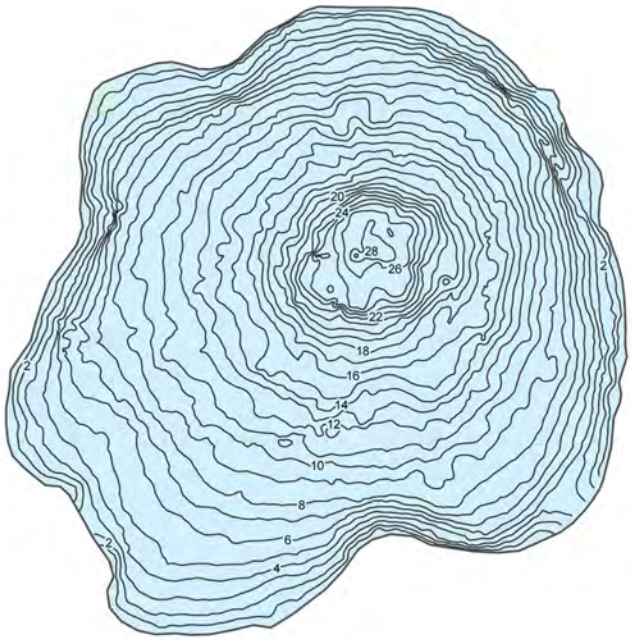

Hay Lake
Median Total P (ug/L)
100
90
80
70
60
50
40
30
20
10
0
1992
1995
2000
2004
2006
2007
2008
2009
2010
2012
2014
2016
2018
2020
2021
2022
2024
Median Total P (ug/L)
State Standard (Total P)


Hay Lake
Median Chlorophyll-a (ug/L)
30
25
20
15
10
5
0
1992
1995
2000
2004
2006
2007
2008
2009
2010
2012
2014
2016
2018
2020
2021
2022
2024
Median Chlorophyll-a (ug/L)
State Standard (Chl-a)


Hay Lake
Median Secchi Depth (feet)
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
1992
1995
2000
2004
2006
2007
2008
2009
2010
2012
2014
2016
2018
2020
2021
2022
2024
Median Secchi Depth (feet)
State Standard (Secchi)

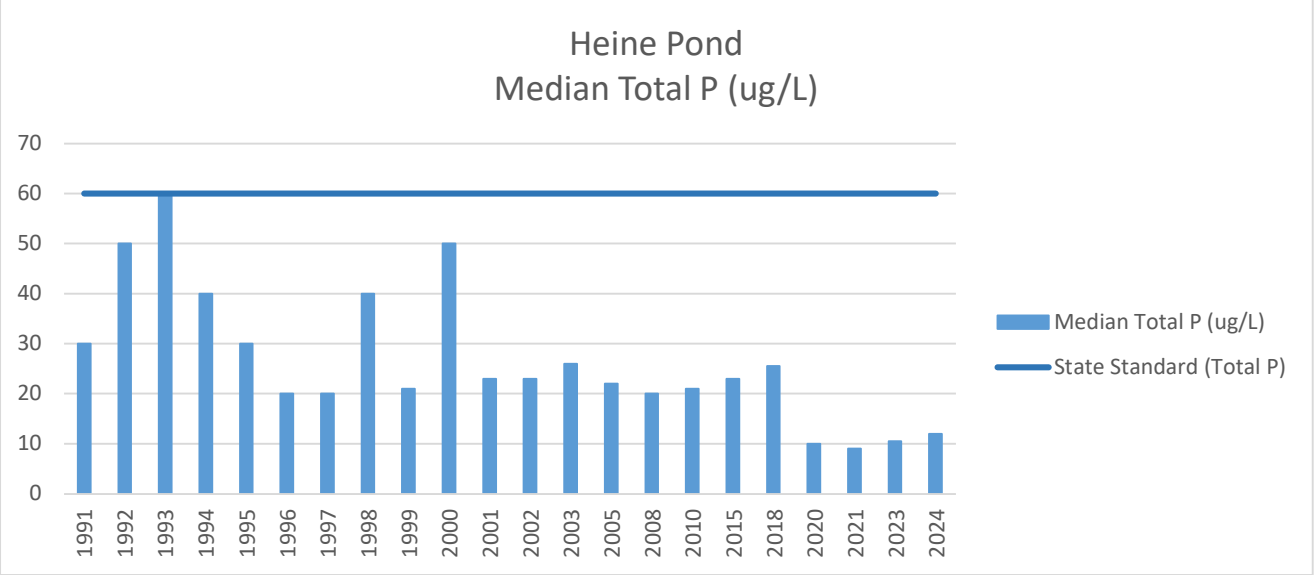
Heine Pond

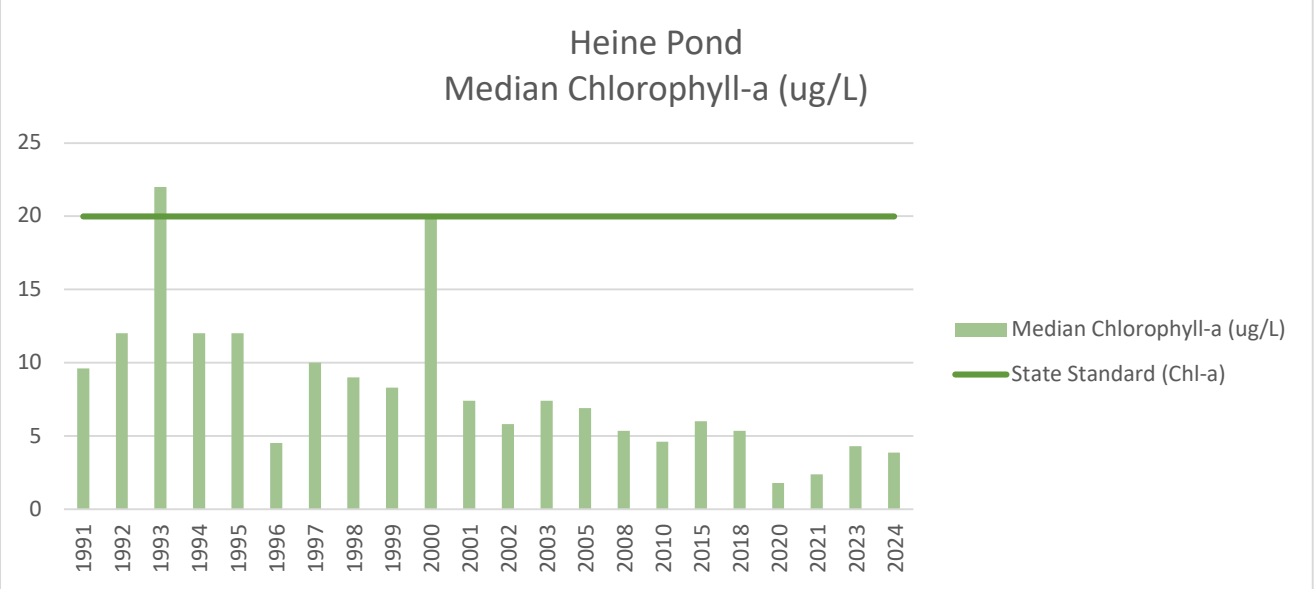
City ID:	BP-5
Waterbody type:	Shallow lake
Surface area:	7.40 acres
Maximum depth:	28.97 feet
Public access:	Yes
Supported uses:	Fishing, Canoeing/ Kayaking, Swimming

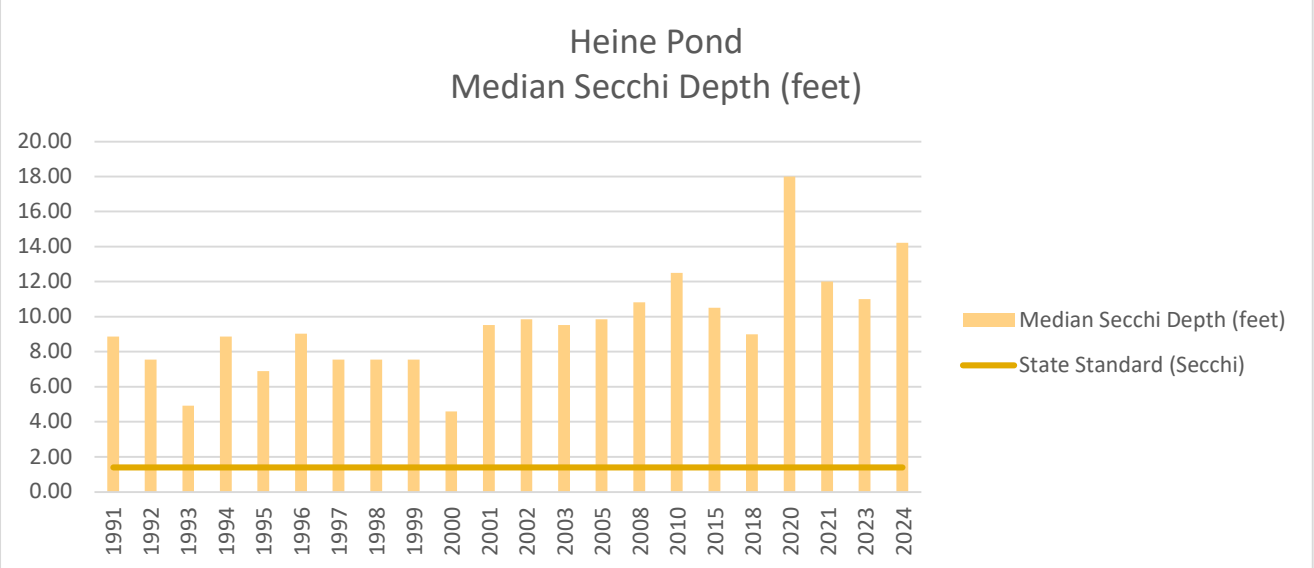


WATER QUALITY IMPROVEMENTS [2019–PRESENT]

As needed	Aerated in winter as needed to prevent fish kills
2019	Alum application to reduce in-lake nutrient load
2022	Stocked: 425 Walleye (6–8 inches)


Heine Pond
Median Total P (ug/L)
70
60
50
40
30
20
10
0
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2005
2008
2010
2015
2018
2020
2021
2023
2024
Median Total P (ug/L)
State Standard (Total P)


Heine Pond
Median Chlorophyll-a (ug/L)
25
20
15
10
5
0
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2005
2008
2010
2015
2018
2020
2021
2023
2024
Median Chlorophyll-a (ug/L)
State Standard (Chl-a)


Heine Pond
Median Secchi Depth (feet)
20.00
18.00
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2005
2008
2010
2015
2018
2020
2021
2023
2024
Median Secchi Depth (feet)
State Standard (Secchi)

Holz Lake

City ID: LP-28

Waterbody type: Shallow Lake

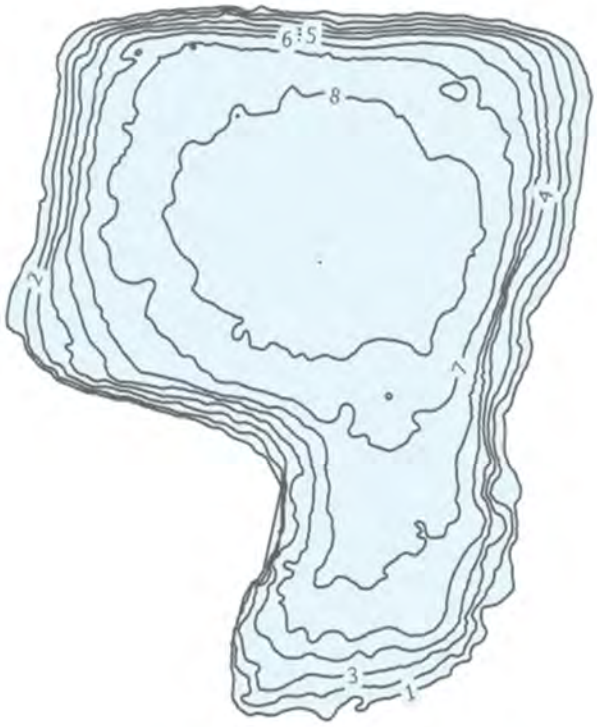
Surface area: 11.26 acres

Average depth: 5.50 feet

Maximum depth: 9.90 feet

Public access: Yes

Supported uses: Fishing, Canoeing/ Kayaking

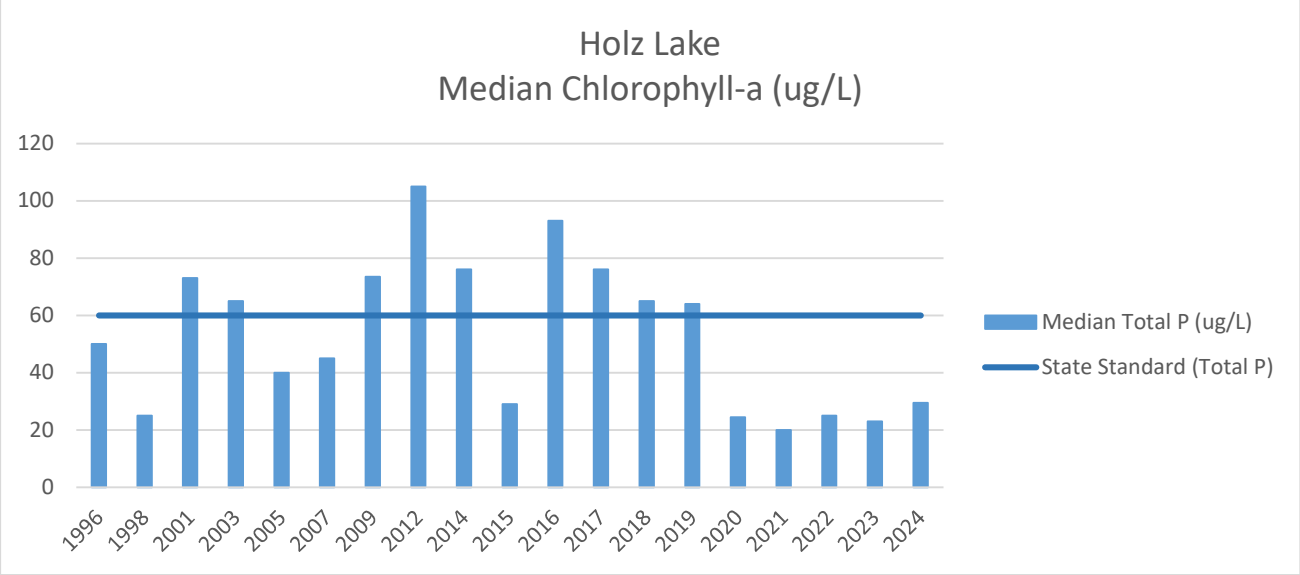


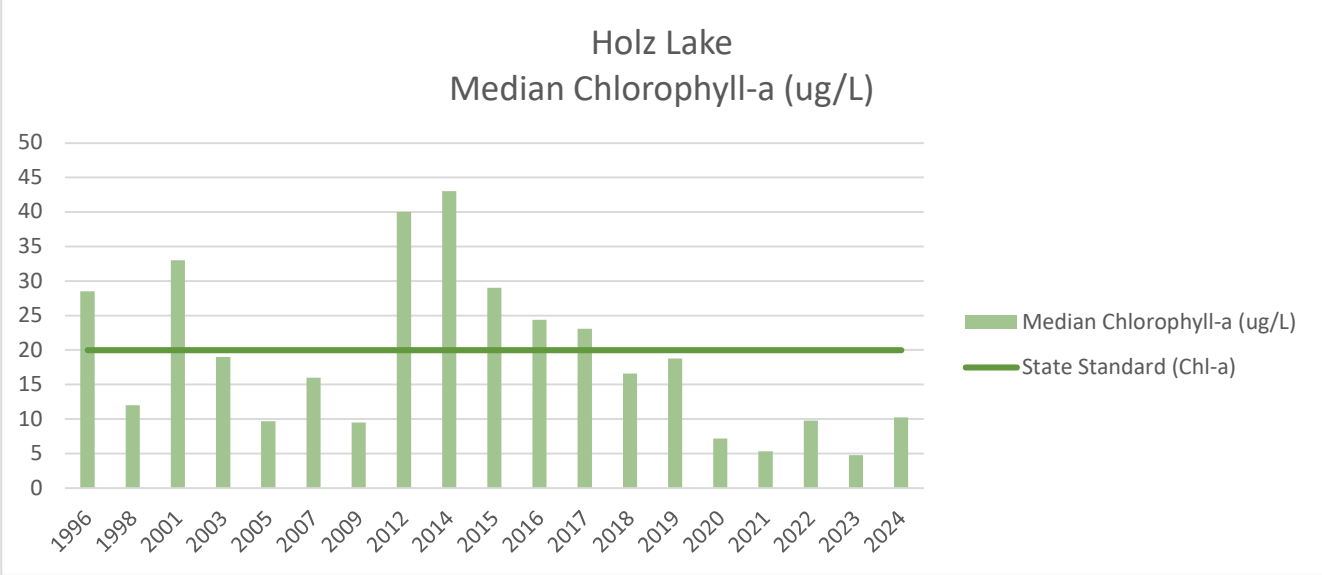
WATER QUALITY IMPROVEMENTS [2019–PRESENT]

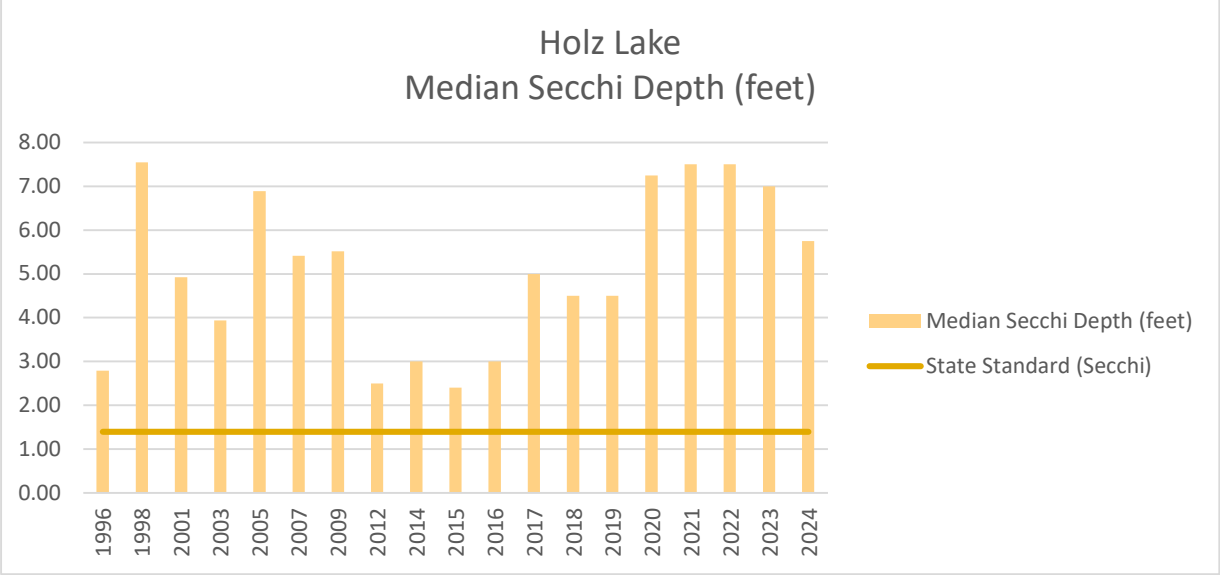
As Needed — Aerated in winter as needed to prevent fish kills

2019 — Alum application to reduce in-lake nutrient load

Stocked - 700 Green Sunfish (yearlings)


Holz Lake
Median Chlorophyll-a (ug/L)
120
100
80
60
40
20
0
1996
1998
2001
2003
2005
2007
2009
2012
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
Median Total P (ug/L)
State Standard (Total P)


Holz Lake
Median Chlorophyll-a (ug/L)
50
45
40
35
30
25
20
15
10
5
0
1996
1998
2001
2003
2005
2007
2009
2012
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
Median Chlorophyll-a (ug/L)
State Standard (Chl-a)


Holz Lake
Median Secchi Depth (feet)
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
1996
1998
2001
2003
2005
2007
2009
2012
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
Median Secchi Depth (feet)
State Standard (Secchi)

Impairment Summary

Holz Lake

Year Listed:	2014
Year Delisted:	*Pending* (2026)
Impairment:	Nutrients (Stormwater)
TMDL Approved:	Yes; 2015
Impaired Use(s):	Aquatic Recreation

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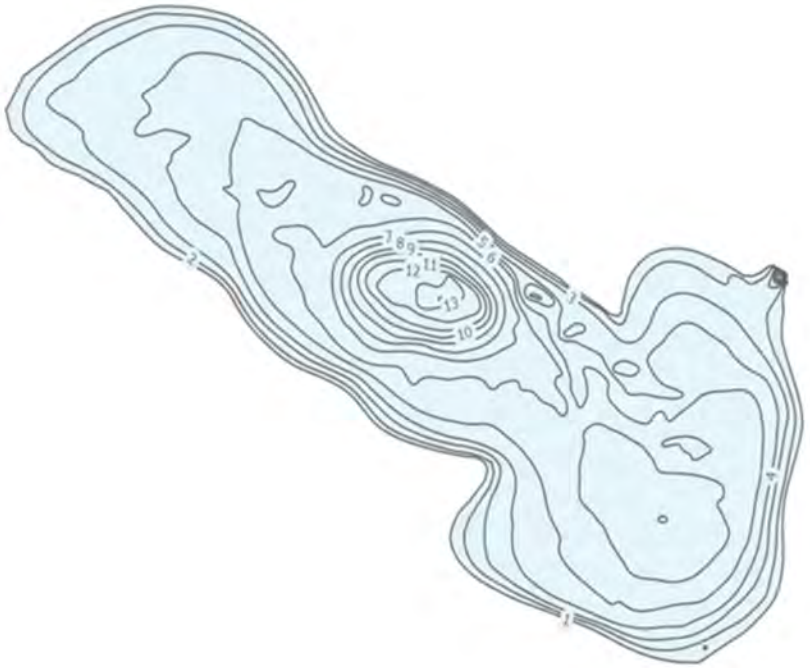
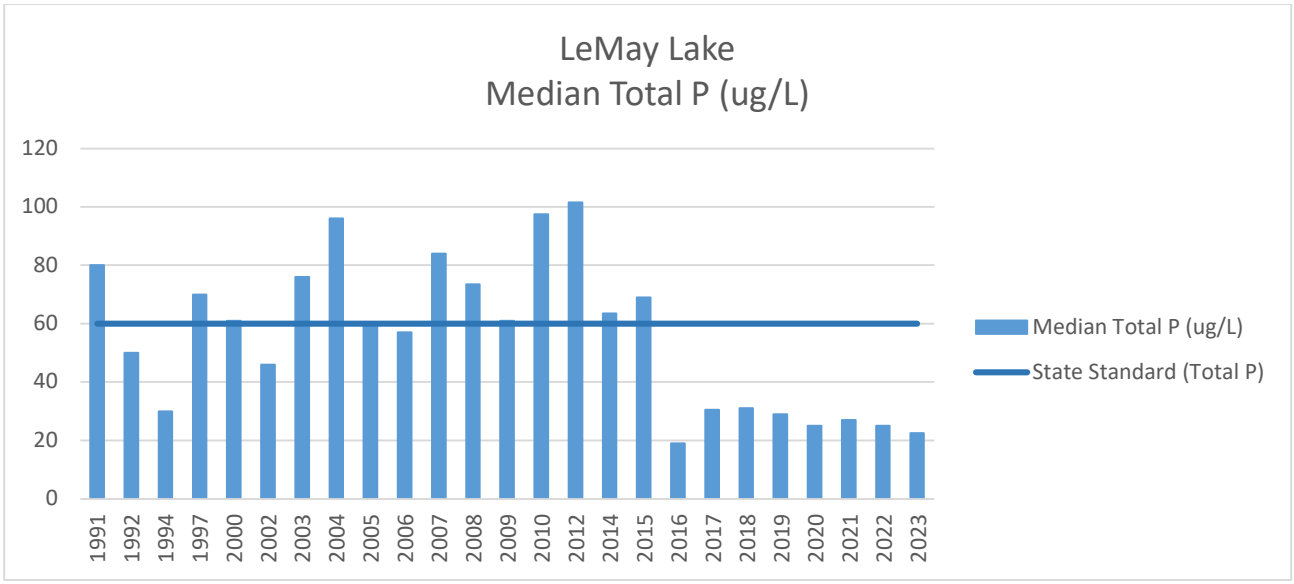
LeMay Lake

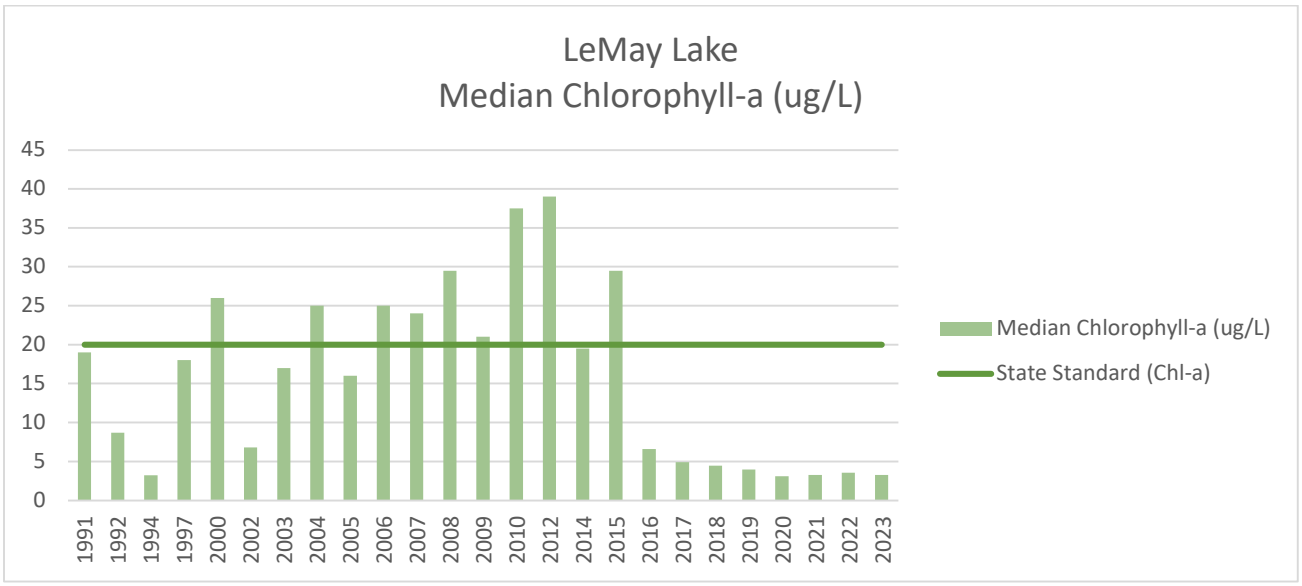
City ID:	DP-2
Waterbody type:	Shallow lake
Surface area:	36.46 acres
Average depth:	4.59 feet
Maximum depth:	14.51 feet
Public access:	Yes
Supported uses:	Fishing, Canoeing/ Kayaking

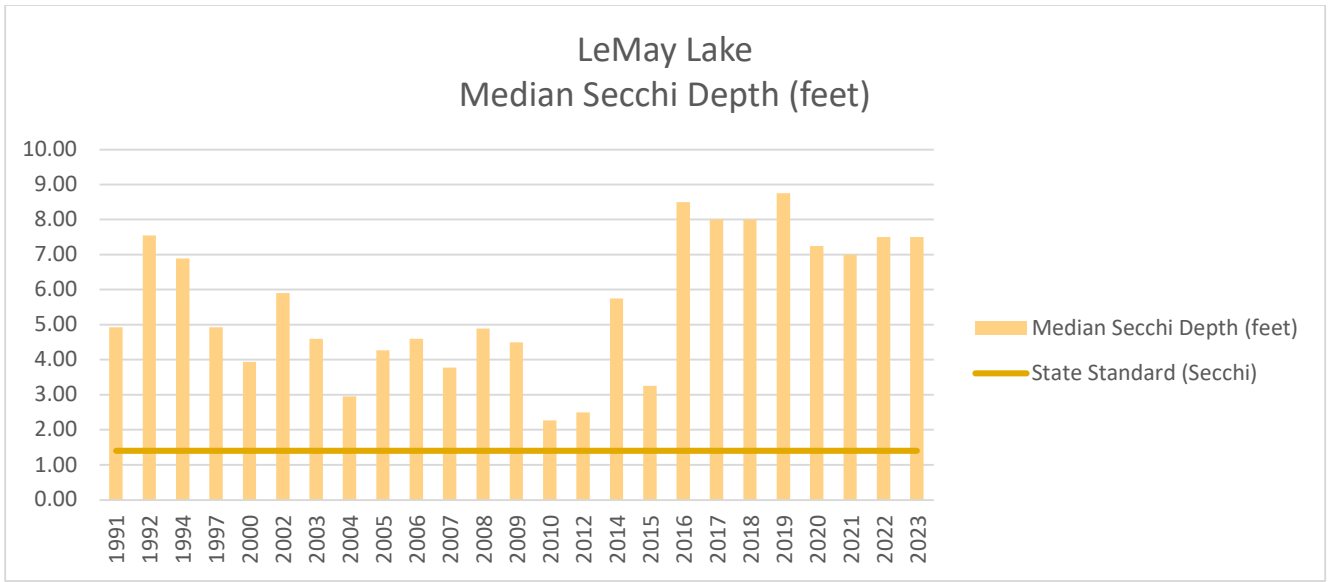


WATER QUALITY IMPROVEMENTS [2019–PRESENT]

As needed	Aerated in winter as needed to prevent fish kills
2019	Alum application to reduce in-lake nutrient load


LeMay Lake
Median Total P (ug/L)
120
100
80
60
40
20
0
1991
1992
1994
1997
2000
2002
2003
2004
2005
2006
2007
2008
2009
2010
2012
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Median Total P (ug/L)
State Standard (Total P)


LeMay Lake
Median Chlorophyll-a (ug/L)
45
40
35
30
25
20
15
10
5
0
1991
1992
1994
1997
2000
2002
2003
2004
2005
2006
2007
2008
2009
2010
2012
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Median Chlorophyll-a (ug/L)
State Standard (Chl-a)


LeMay Lake
Median Secchi Depth (feet)
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
1991
1992
1994
1997
2000
2002
2003
2004
2005
2006
2007
2008
2009
2010
2012
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Median Secchi Depth (feet)
State Standard (Secchi)

Impairment Summary

LeMay Lake

Year Listed:	2014
Year Delisted:	2022
Impairment:	Nutrients (Stormwater)
TMDL Approved:	Yes; 2015
Impaired Use(s):	Aquatic Recreation

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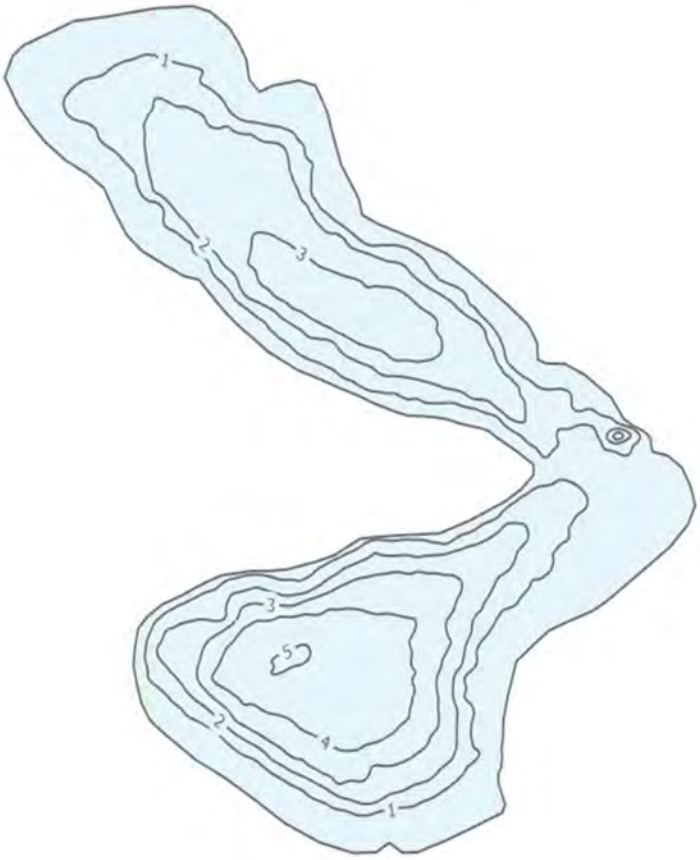
McCarthy Lake

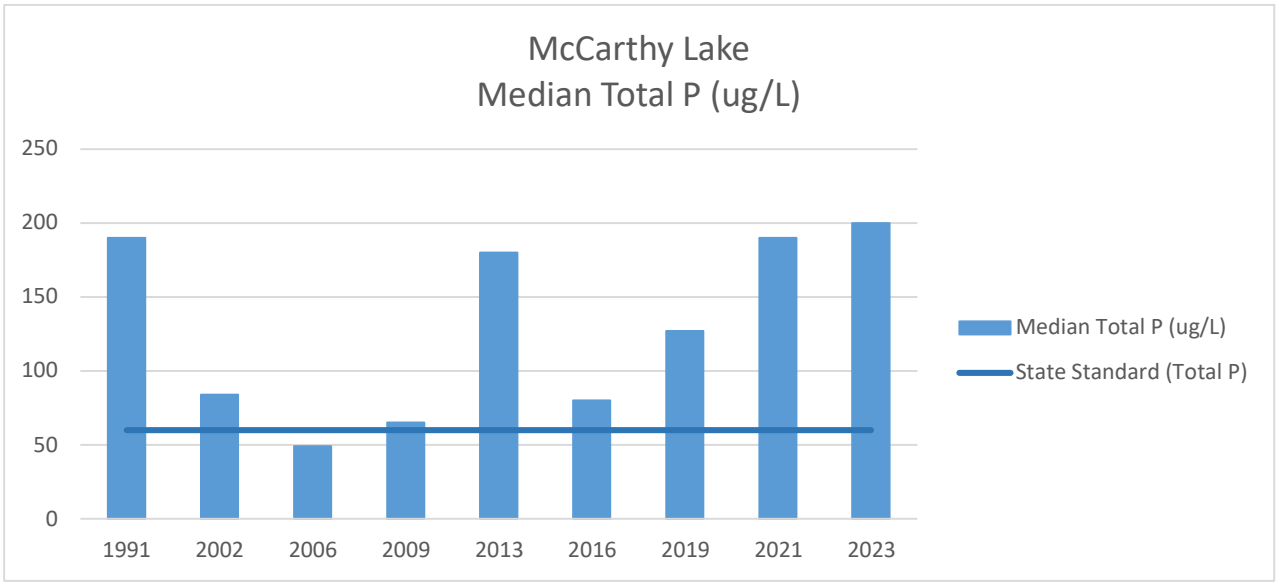
City ID:	JP-9
Waterbody Type:	Shallow Lake
Surface Area:	11.42 acres
Maximum Depth:	5.00 feet
Public Access:	Yes
Supported Uses:	Habitat, Education, Aesthetics

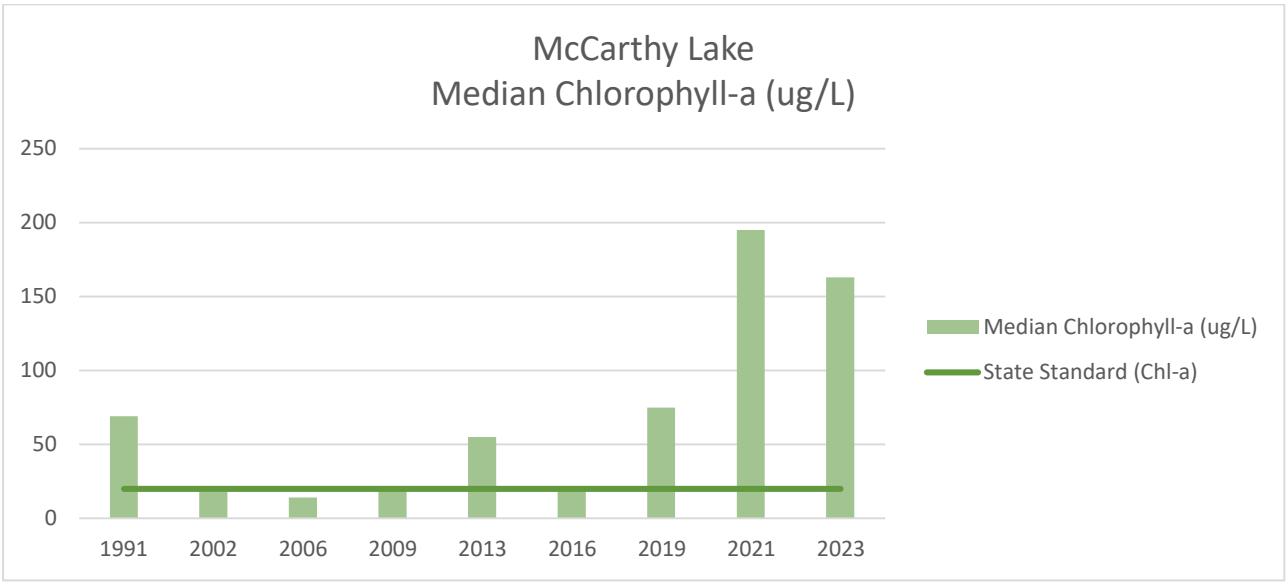


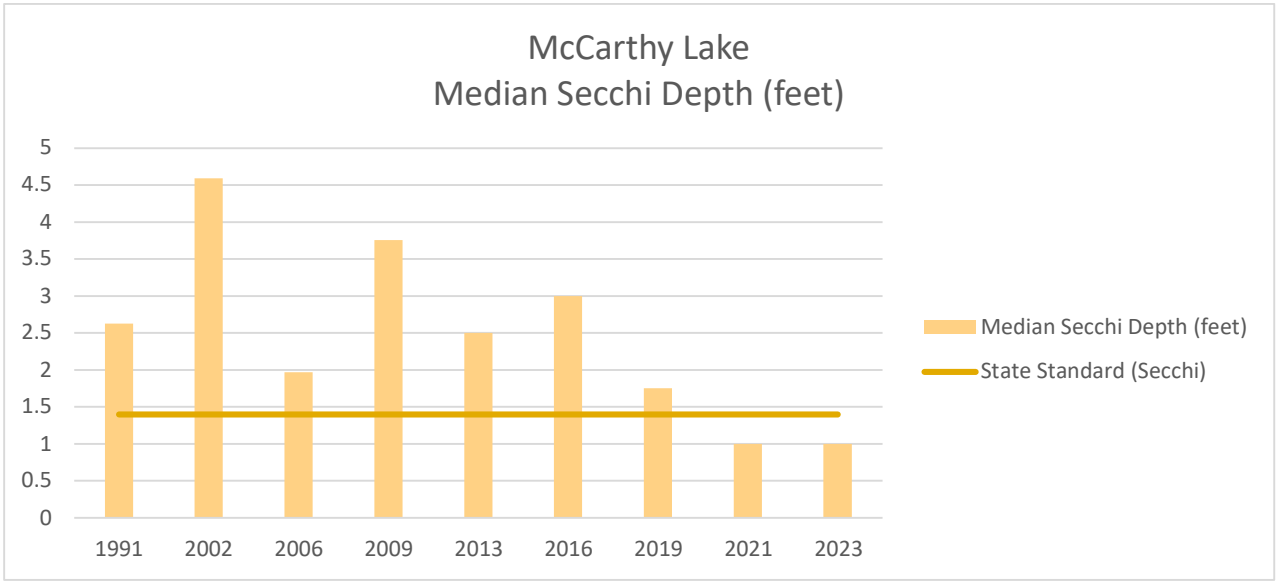
WATER QUALITY IMPROVEMENTS [2020–PRESENT]

2025

Iron-enhanced sand filter installed as part of the new Eagan Art House construction project, designed to capture and treat stormwater from existing and new impervious surfaces prior to discharge into McCarthy Lake

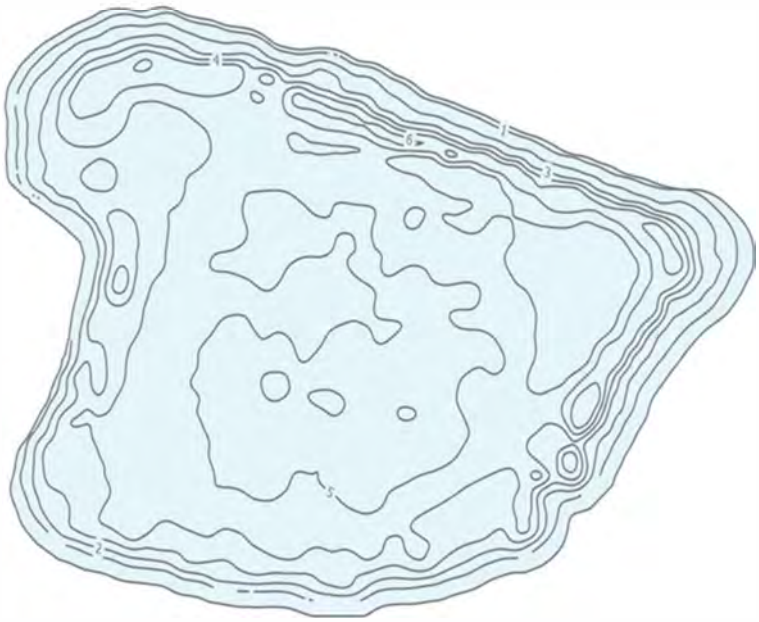

McCarthy Lake
Median Total P (ug/L)
250
200
150
100
50
0
1991
2002
2006
2009
2013
2016
2019
2021
2023
Median Total P (ug/L)
State Standard (Total P)


McCarthy Lake
Median Chlorophyll-a (ug/L)
250
200
150
100
50
0
1991
2002
2006
2009
2013
2016
2019
2021
2023
Median Chlorophyll-a (ug/L)
State Standard (Chl-a)


McCarthy Lake
Median Secchi Depth (feet)
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
1991
2002
2006
2009
2013
2016
2019
2021
2023
Median Secchi Depth (feet)
State Standard (Secchi)

Mooney Pond

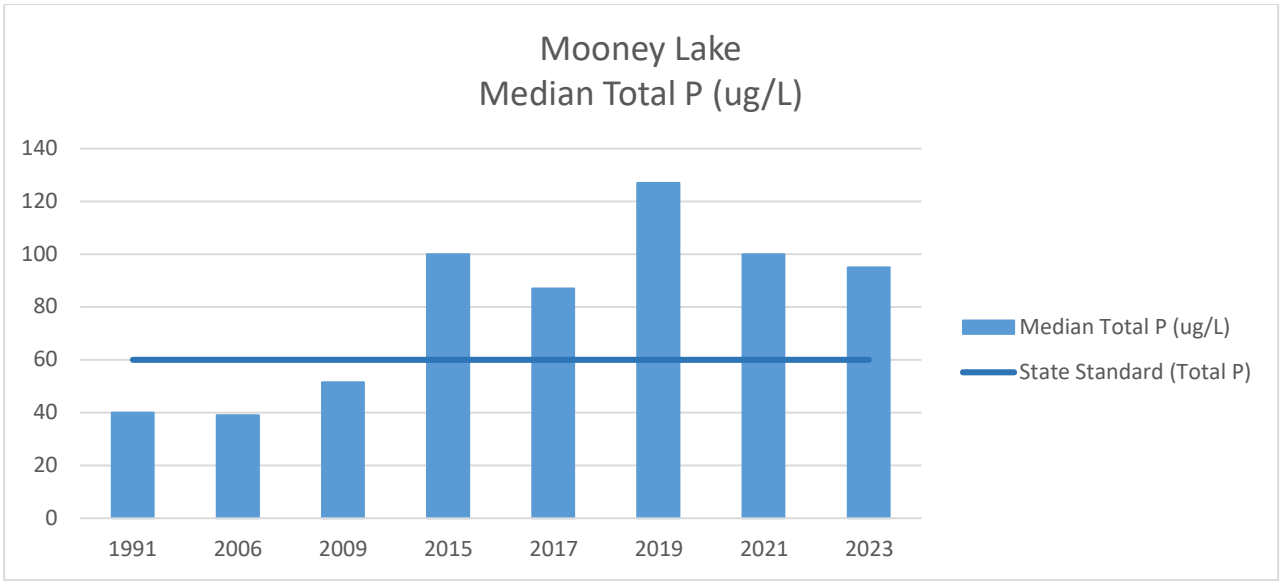
City ID:	JP-7
Waterbody Type:	Shallow Lake
Surface Area:	7.56 acres
Average Depth:	4.02 feet
Maximum Depth:	7.71 feet
Public Access:	Yes
Supported Uses:	Habitat, Education, Aesthetics

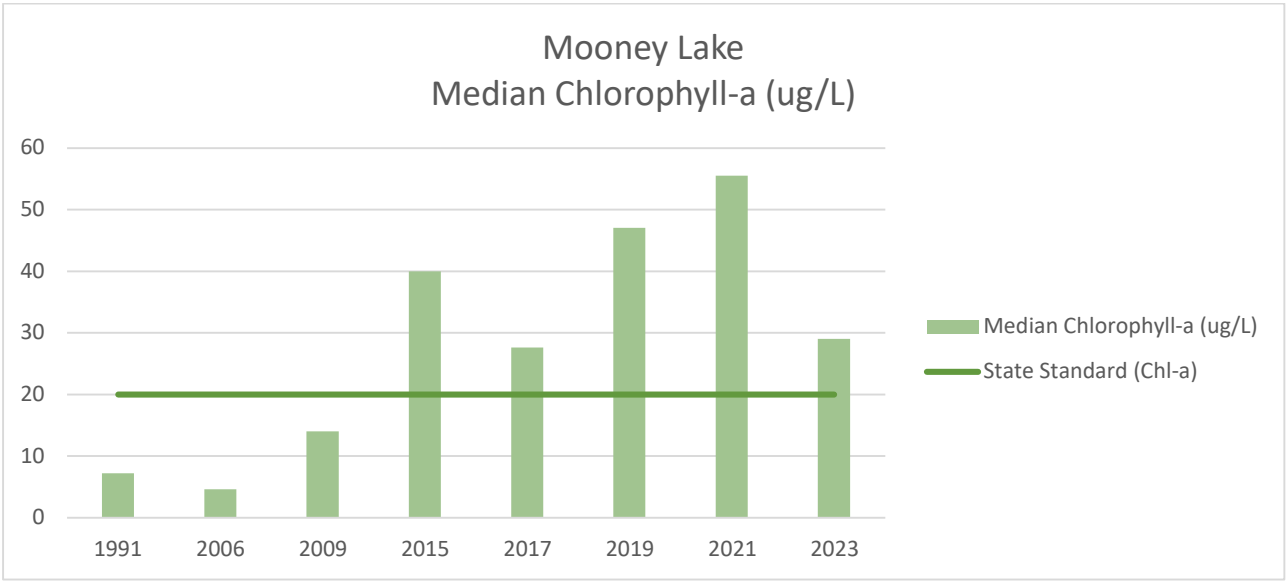


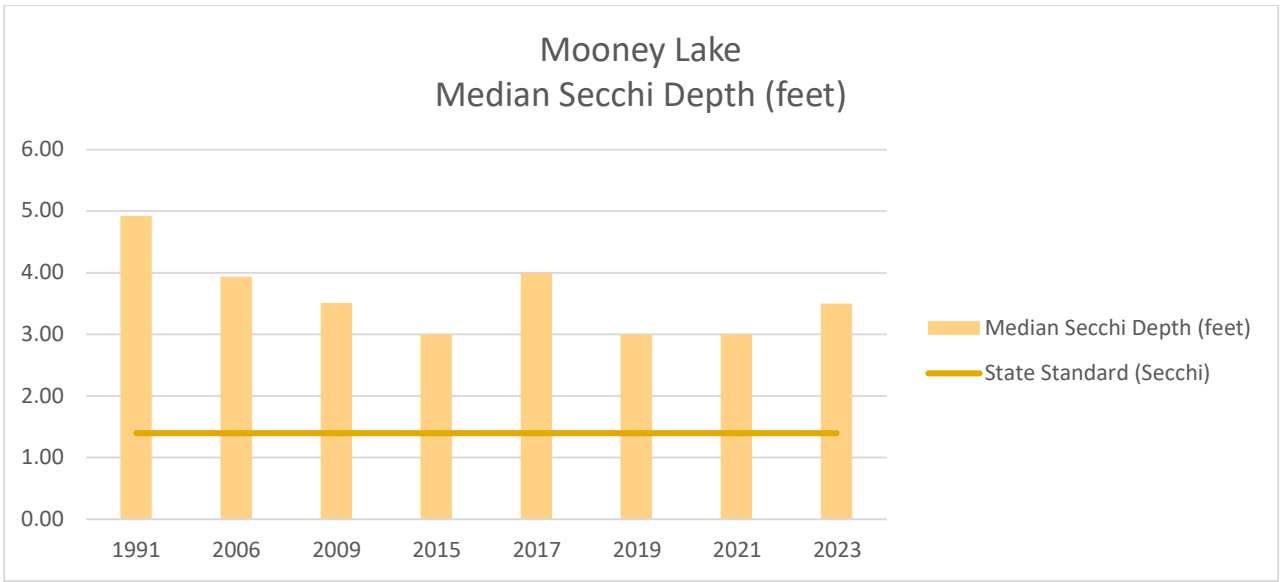
WATER QUALITY IMPROVEMENTS [2020–PRESENT]

Known to support small minnow species, frogs, insects, and native aquatic plants. The surrounding area is accessible for birdwatching and trail walking,

Not currently maintained for recreational fishing.

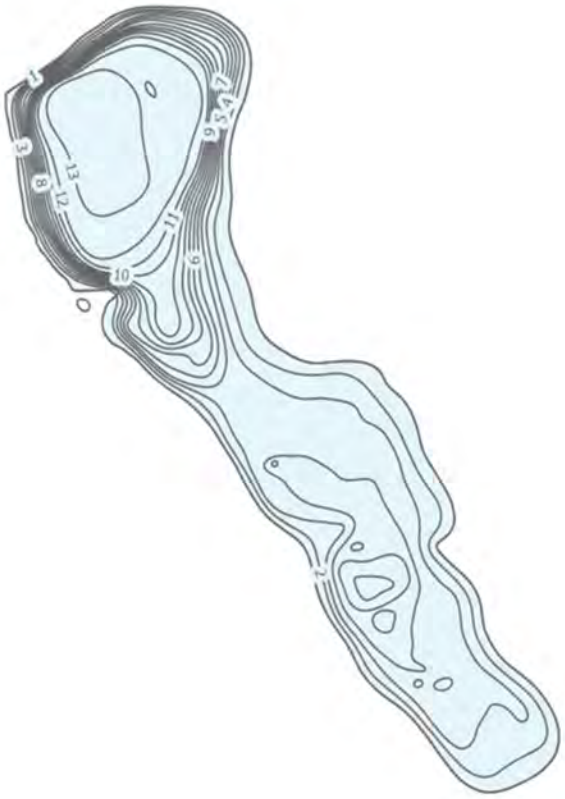

Mooney Lake
Median Total P (ug/L)
140
120
100
80
60
40
20
0
1991
2006
2009
2015
2017
2019
2021
2023
Median Total P (ug/L)
State Standard (Total P)


Mooney Lake
Median Chlorophyll-a (ug/L)
60
50
40
30
20
10
0
1991
2006
2009
2015
2017
2019
2021
2023
Median Chlorophyll-a (ug/L)
State Standard (Chl-a)


Mooney Lake
Median Secchi Depth (feet)
6.00
5.00
4.00
3.00
2.00
1.00
0.00
1991
2006
2009
2015
2017
2019
2021
2023
Median Secchi Depth (feet)
State Standard (Secchi)

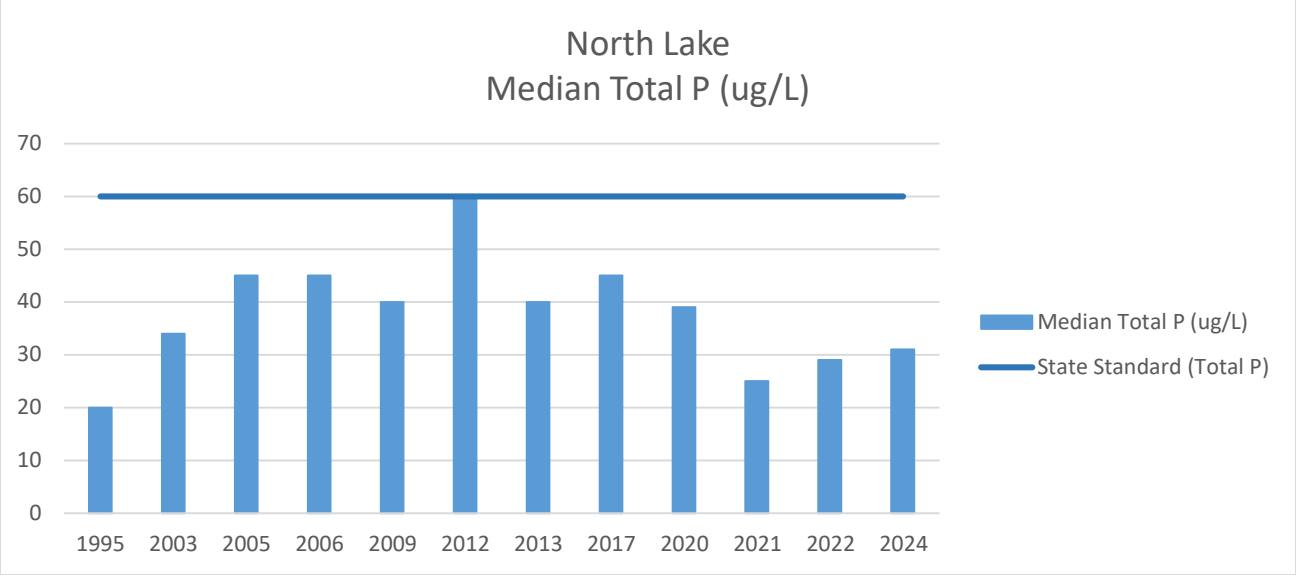
North Lake

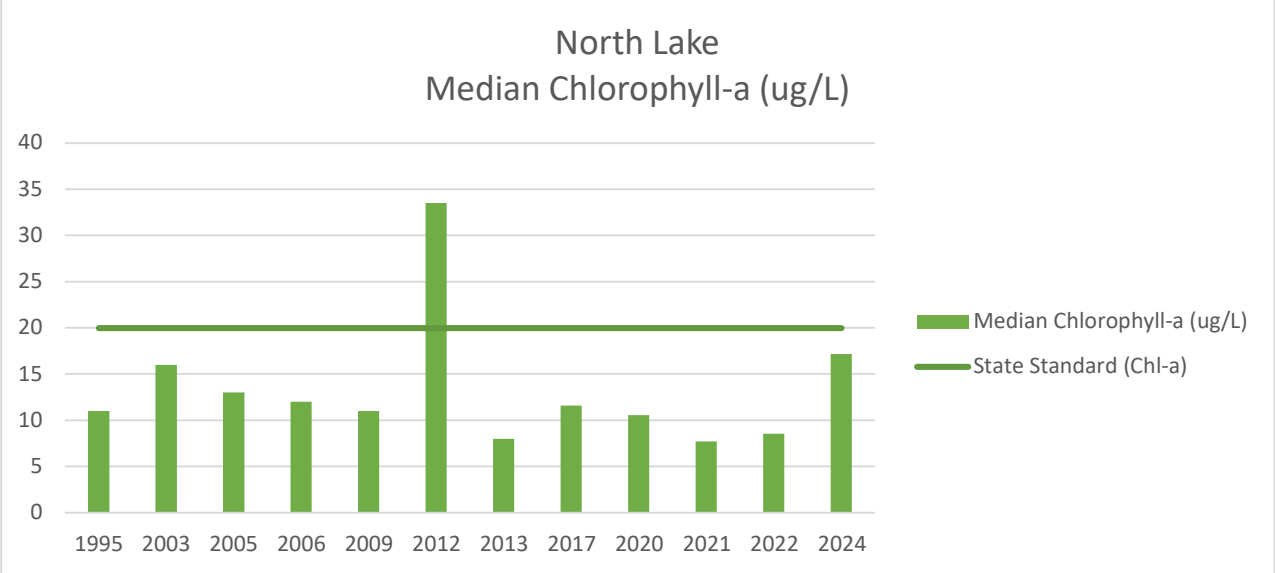
City ID:	EP-2
Waterbody Type:	Shallow Lake
Surface Area:	16.46 acres
Maximum Depth:	12.00 feet
Public Access:	Yes
Supported Uses:	Fishing, Canoeing / Kayaking

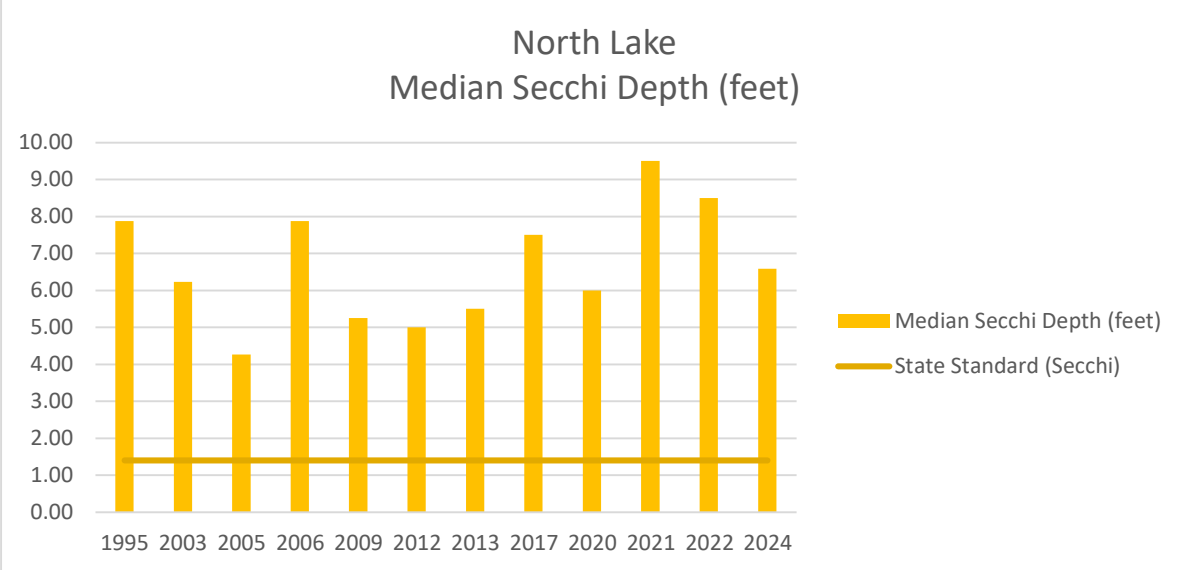


WATER QUALITY IMPROVEMENTS [2020–PRESENT]

2020 — Alum application to reduce in-lake nutrient load


North Lake
Median Total P (ug/L)
70
60
50
40
30
20
10
0
1995
2003
2005
2006
2009
2012
2013
2017
2020
2021
2022
2024
Median Total P (ug/L)
State Standard (Total P)


North Lake
Median Chlorophyll-a (ug/L)
40
35
30
25
20
15
10
5
0
1995
2003
2005
2006
2009
2012
2013
2017
2020
2021
2022
2024
Median Chlorophyll-a (ug/L)
State Standard (Chl-a)


North Lake
Median Secchi Depth (feet)
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
1995
2003
2005
2006
2009
2012
2013
2017
2020
2021
2022
2024
Median Secchi Depth (feet)
State Standard (Secchi)

Impairment Summary

North Lake

Year Listed:	2008
Impairment:	Mercury in Fish Tissue
TMDL Approved:	Yes; Southwest Region Mercury TMDL
Impaired Use(s):	Aquatic Consumption

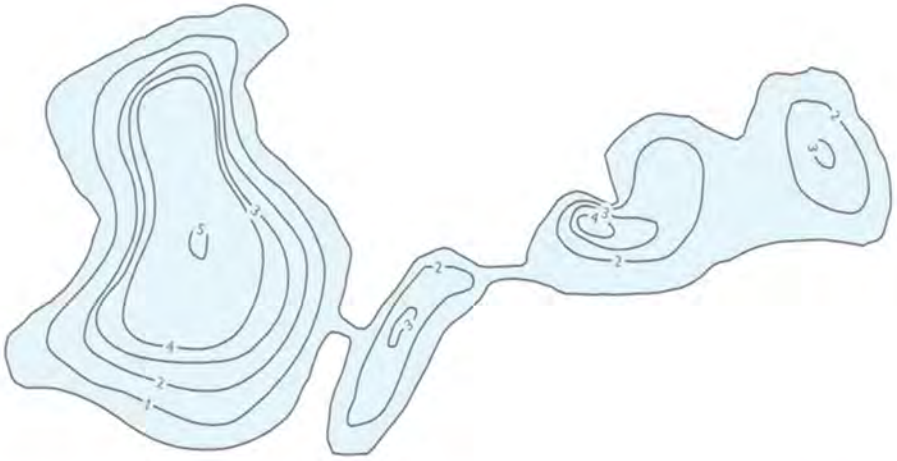
A waterbody is listed as impaired for mercury when more than 10% of a fish species fillets have a mercury concentration of at least 0.20 parts per million (ppm). Mercury accumulates in fish tissue, specifically as 'methylmercury,' which is the most hazardous form of mercury for humans. Once a waterbody is contaminated with mercury, it is very difficult to remove it.

Mercury is a naturally occurring element that is highly toxic to both humans and animals. While most people associate mercury with the liquid, silvery substance from old thermometers, it can also evaporate and become airborne - and in this form can come from a variety of sources.

In Eagan's case, the primary source is atmospheric deposition from coal-fired power plants in North Dakota. Because the source of these contaminants is not local, the state of Minnesota oversees a statewide 'total maximum daily load' or TMDL to manage the sources of mercury accumulating in our surface waters.

O'Leary Lake

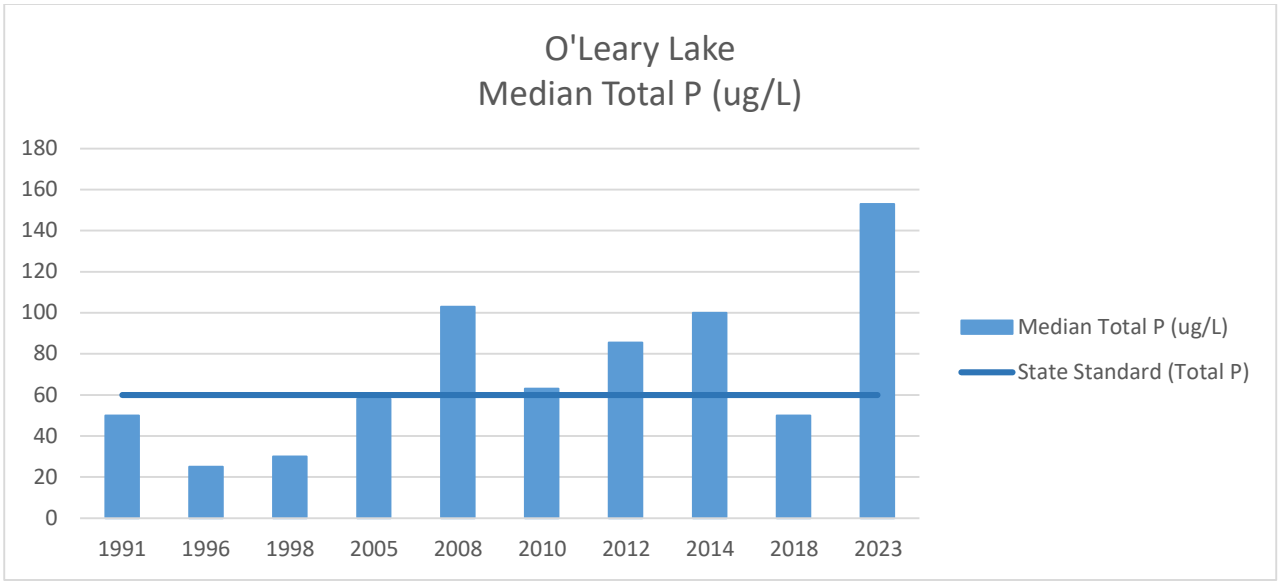
City ID:	DP-7
Waterbody Type:	Shallow Lake
Surface Area:	15.97 acres
Maximum Depth:	4.00 feet
Public Access:	Yes
Supported Uses:	Habitat, Education, Aesthetics

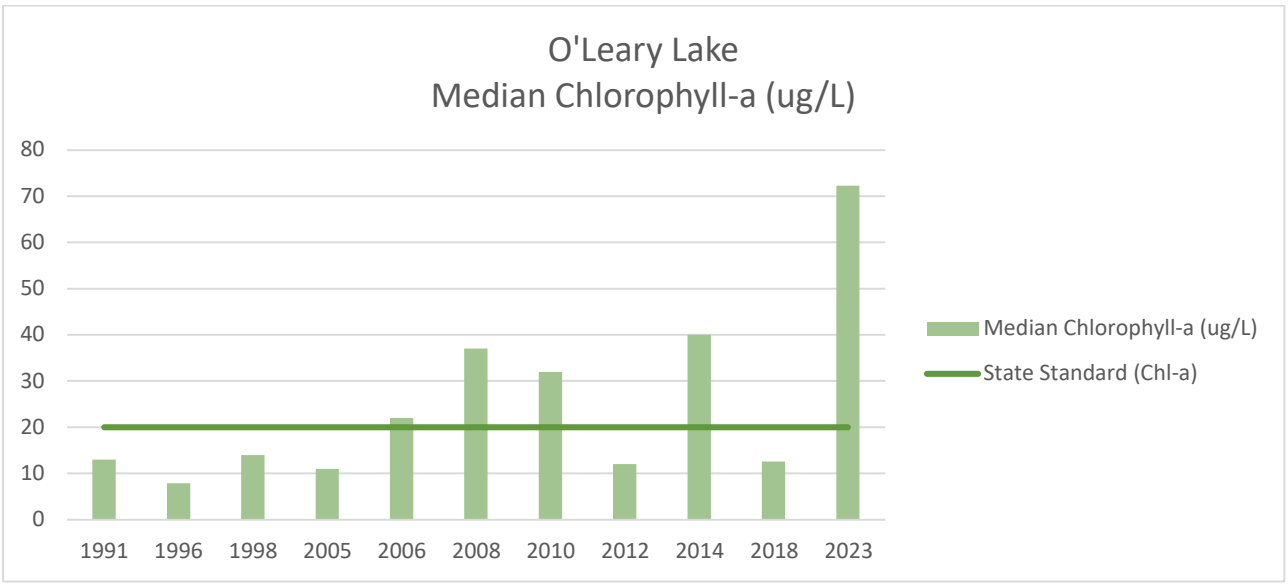


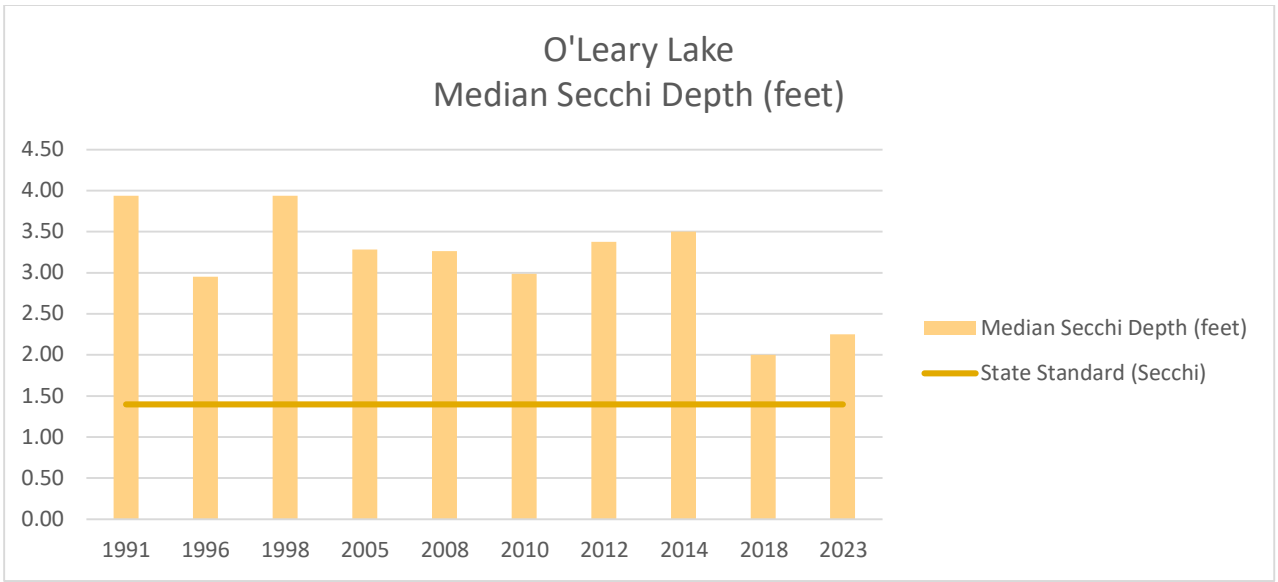
WATER QUALITY IMPROVEMENTS [2020–PRESENT]

Known to support small minnow species, frogs, insects, and native aquatic plants. The surrounding area is accessible for birdwatching and trail walking,

Not currently maintained for recreational fishing.

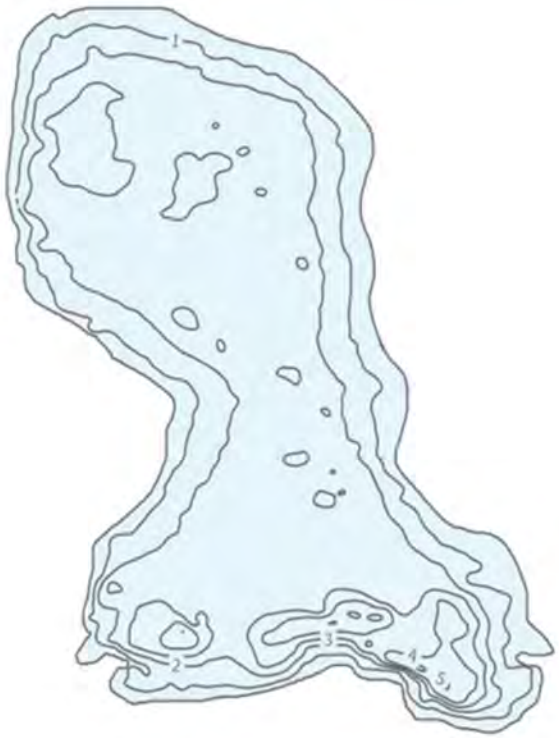

O'Leary Lake
Median Total P (ug/L)
180
160
140
120
100
80
60
40
20
0
1991
1996
1998
2005
2008
2010
2012
2014
2018
2023
Median Total P (ug/L)
State Standard (Total P)


O'Leary Lake
Median Chlorophyll-a (ug/L)
80
70
60
50
40
30
20
10
0
1991
1996
1998
2005
2006
2008
2010
2012
2014
2018
2023
Median Chlorophyll-a (ug/L)
State Standard (Chl-a)


O'Leary Lake
Median Secchi Depth (feet)
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
1991
1996
1998
2005
2008
2010
2012
2014
2018
2023
Median Secchi Depth (feet)
State Standard (Secchi)

Quigley Lake

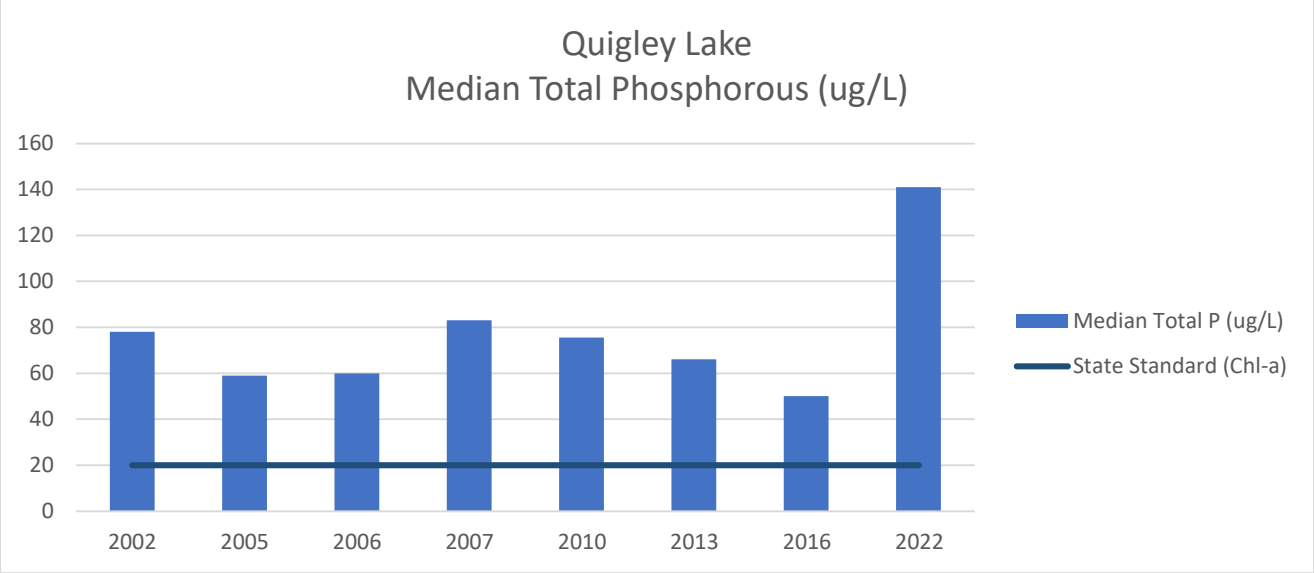
City ID:	LP-43
Waterbody Type:	Wetland
Surface Area:	17.60 acres
Average Depth:	2.00 feet
Maximum Depth:	5.90 feet
Public Access:	Yes
Supported Uses:	Habitat, Education, Aesthetics

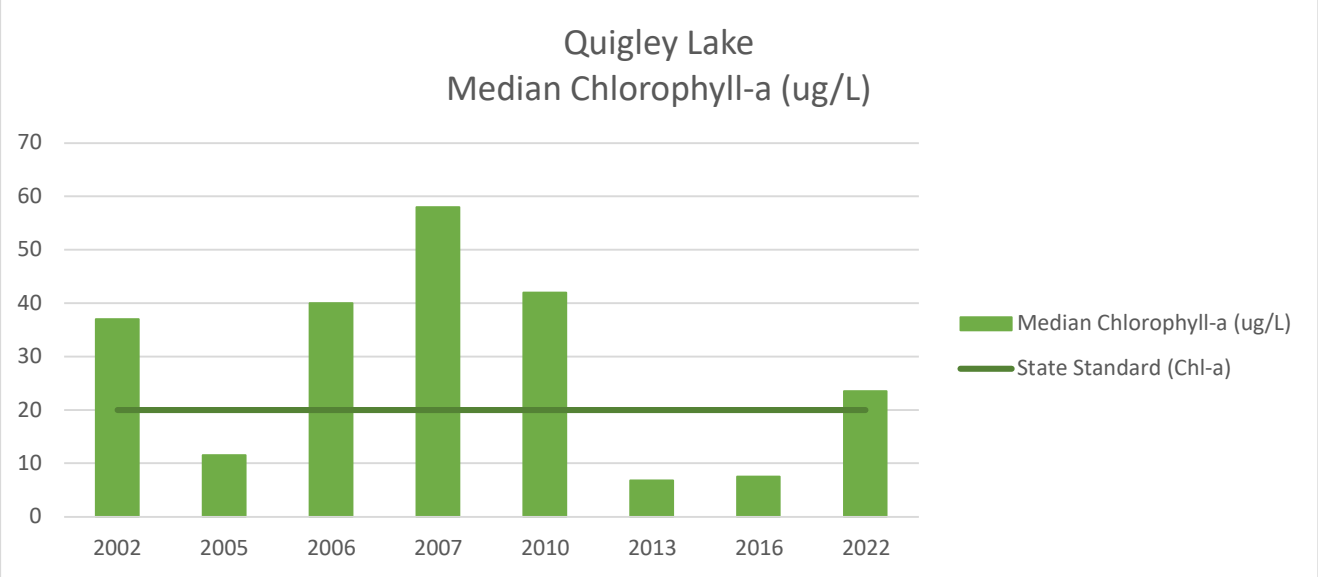


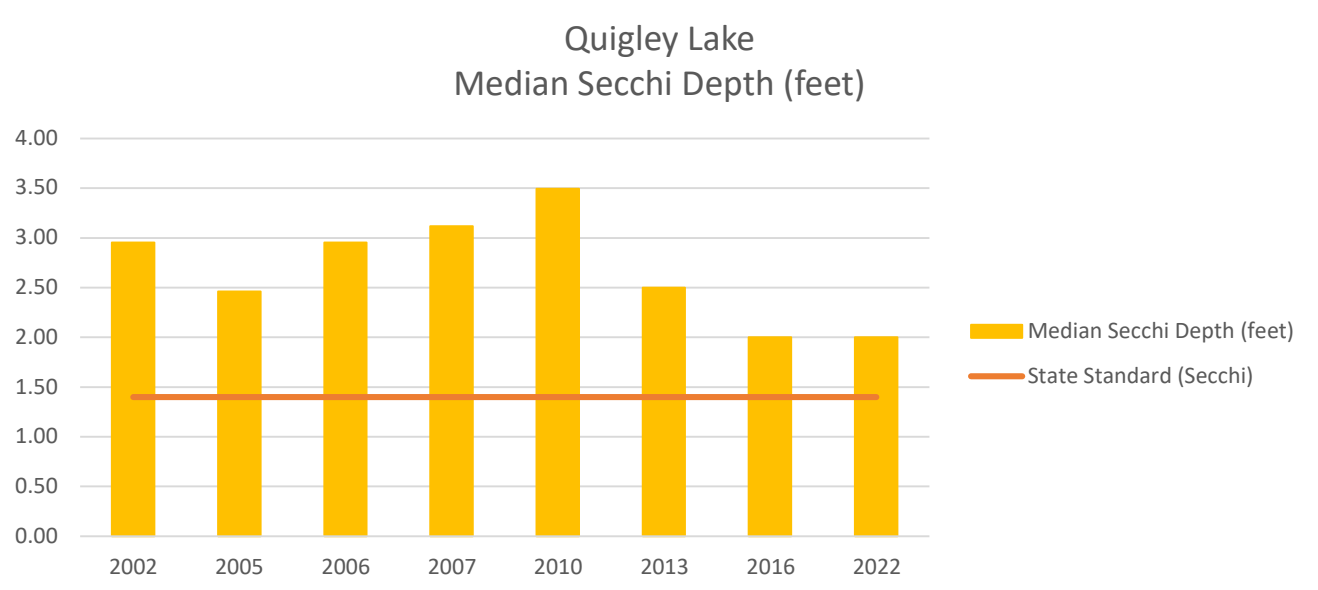
WATER QUALITY IMPROVEMENTS [2020–PRESENT]

Known to support small minnow species, frogs, insects, and native aquatic plants. The surrounding area is accessible for birdwatching and trail walking,

Not currently maintained for recreational fishing.

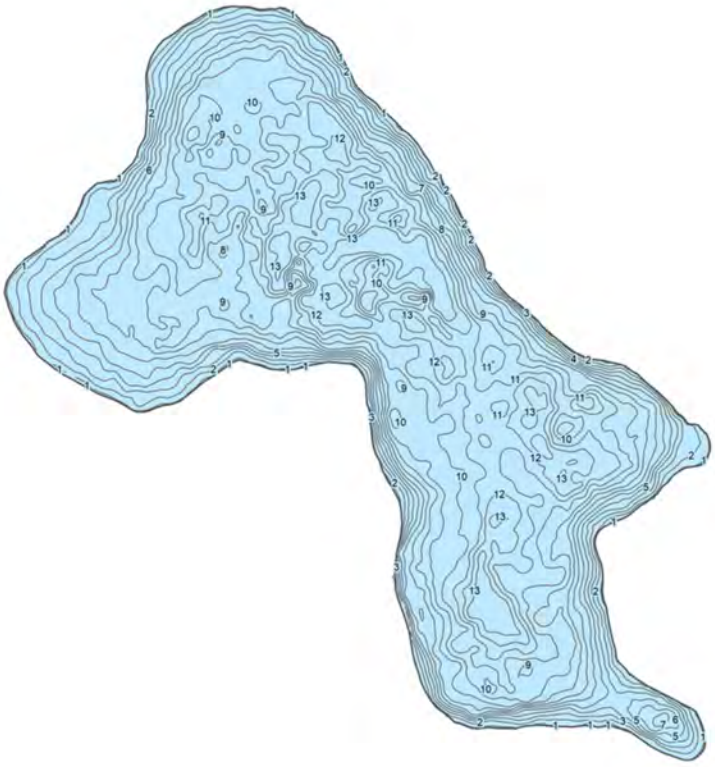

Quigley Lake
Median Total Phosphorous (ug/L)
160
140
120
100
80
60
40
20
0
2002
2005
2006
2007
2010
2013
2016
2022
Median Total P (ug/L)
State Standard (Chl-a)


Quigley Lake
Median Chlorophyll-a (ug/L)
70
60
50
40
30
20
10
0
2002
2005
2006
2007
2010
2013
2016
2022
Median Chlorophyll-a (ug/L)
State Standard (Chl-a)


Quigley Lake
Median Secchi Depth (feet)
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
2002
2005
2006
2007
2010
2013
2016
2022
Median Secchi Depth (feet)
State Standard (Secchi)

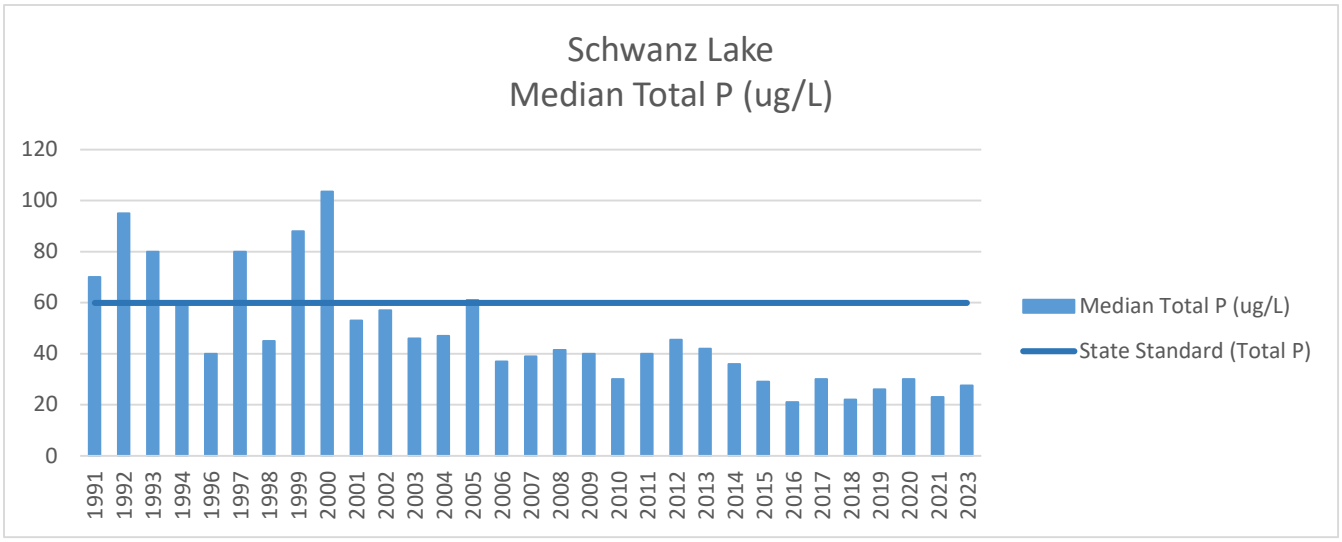
Schwanz Lake

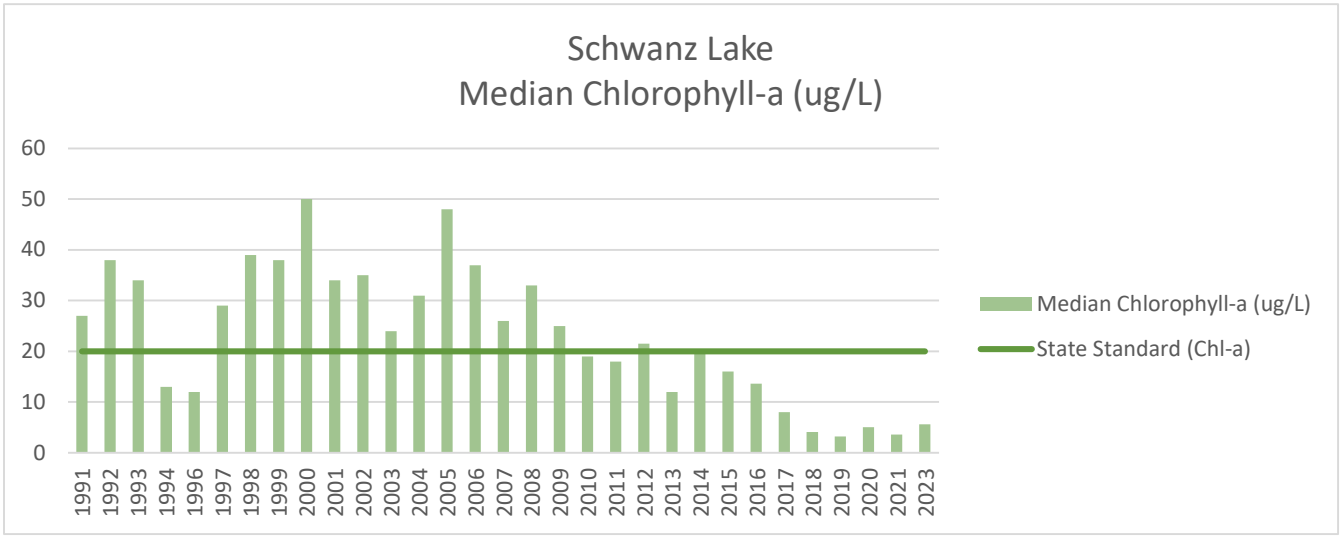
City ID:	LP-32
Waterbody Type:	Shallow Lake
Surface Area:	12.70 acres
Average Depth:	8.20 feet
Maximum Depth:	14.50 feet
Public Access:	Yes
Supported Uses:	Fishing, Canoeing / Kayaking

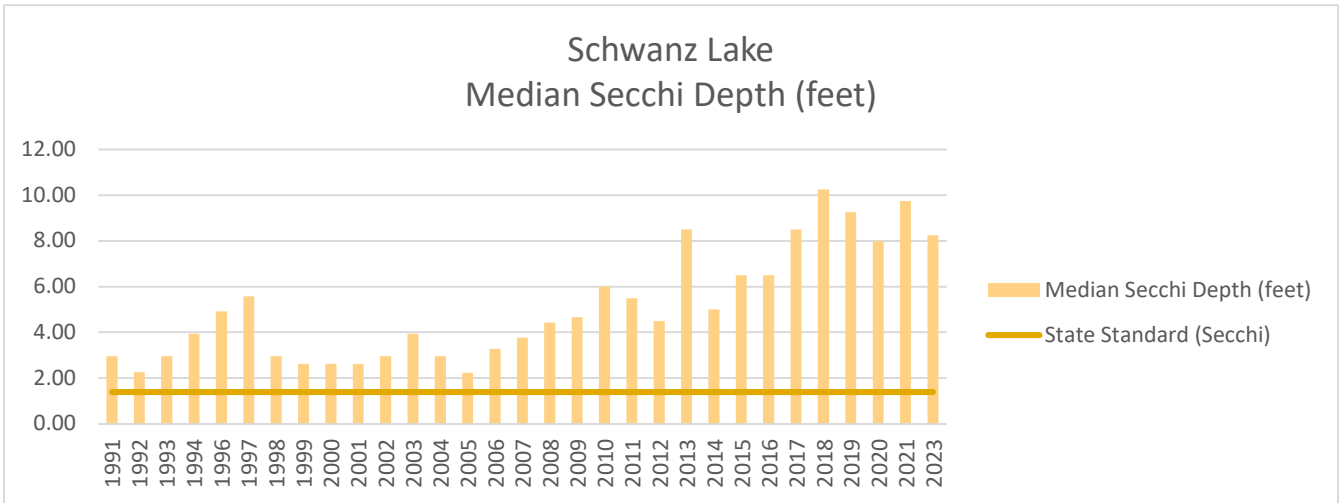


WATER QUALITY IMPROVEMENTS [2020–PRESENT]

As Needed	Aerated in winter as needed to prevent fish kills
2022	Stocked - 425 Walleye (6-8")
2023	Fish population survey completed to assess overall health of the lake's fishery


Schwanz Lake
Median Total P (ug/L)
120
100
80
60
40
20
0
1991 1992 1993 1994 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2023
Median Total P (ug/L)
State Standard (Total P)


Schwanz Lake
Median Chlorophyll-a (ug/L)
60
50
40
30
20
10
0
1991 1992 1993 1994 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2023
Median Chlorophyll-a (ug/L)
State Standard (Chl-a)


Schwanz Lake
Median Secchi Depth (feet)
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1991 1992 1993 1994 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2023
Median Secchi Depth (feet)
State Standard (Secchi)

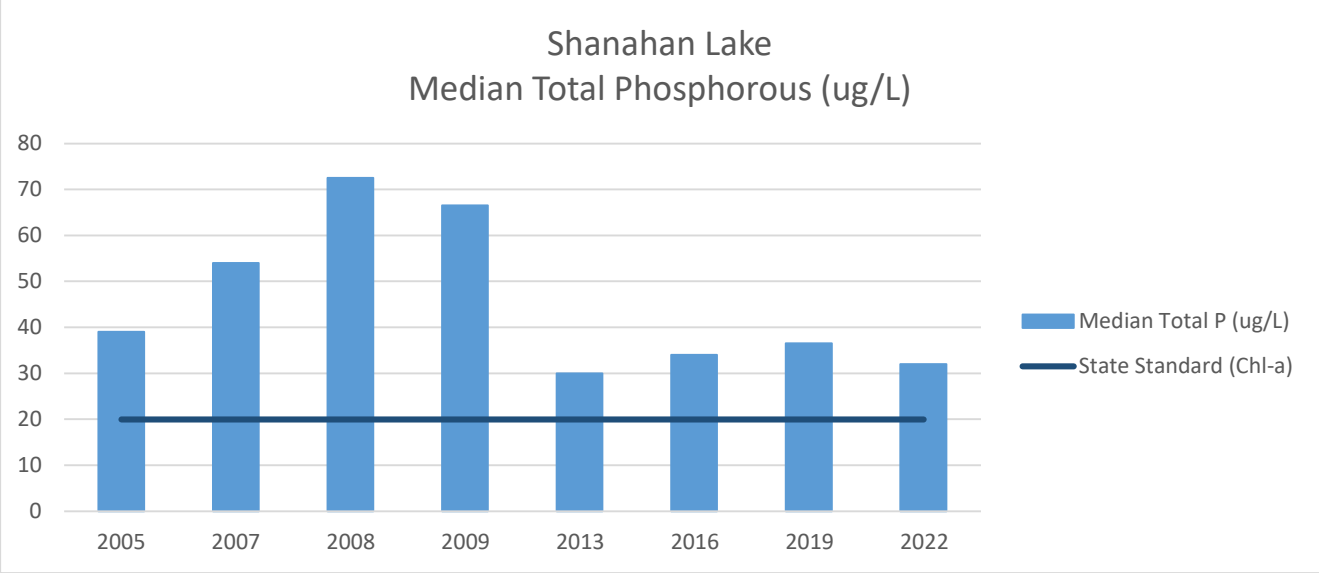
Shanahan Lake

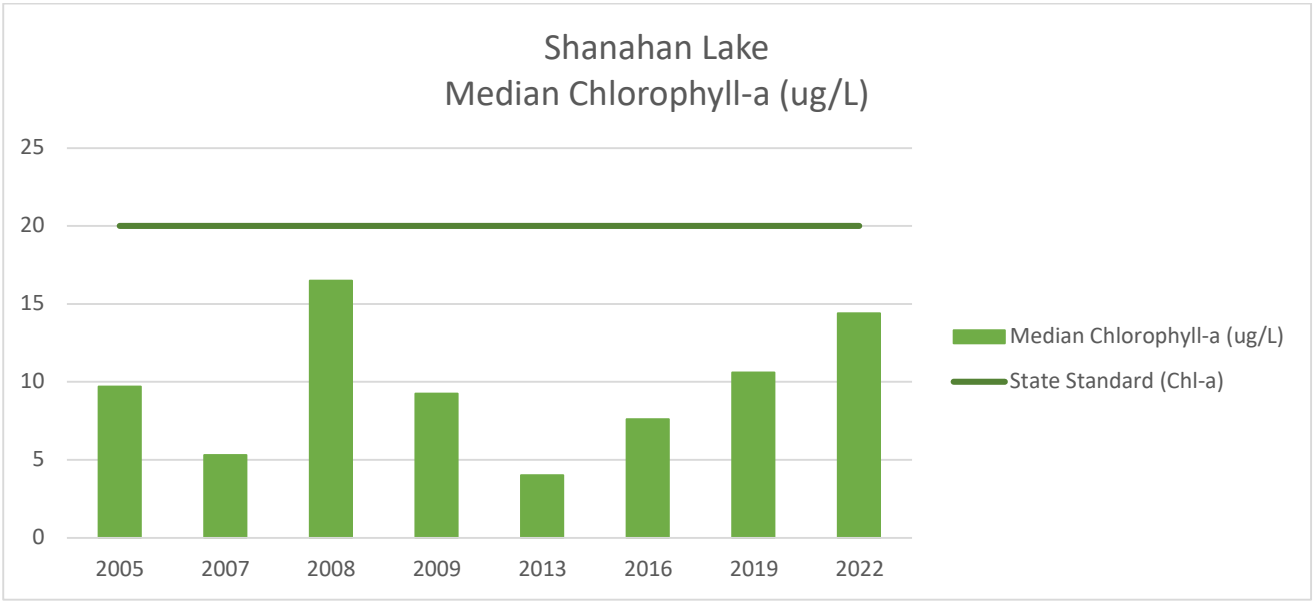
City ID:	FP-8
Waterbody Type:	Shallow Lake
Surface Area:	13.08 acres
Maximum Depth:	9.00 feet
Public Access:	Yes
Supported Uses:	Habitat, Education, Aesthetics

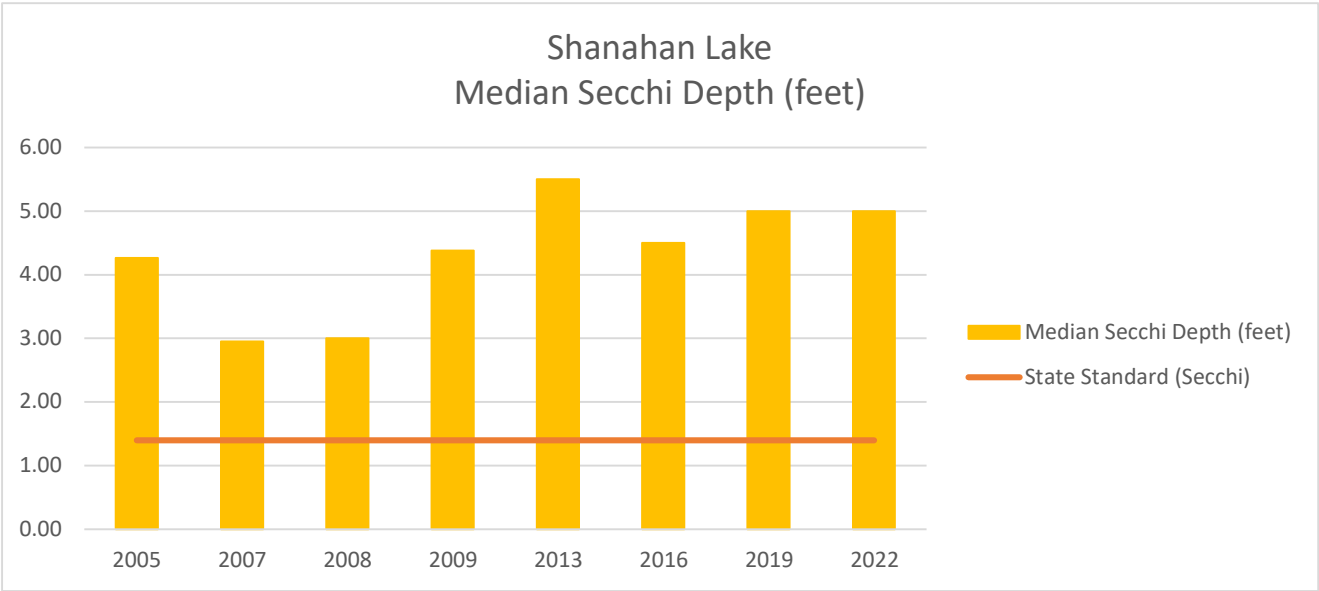
WATER QUALITY IMPROVEMENTS [2020–PRESENT]

Known to support small minnow species, frogs, insects, and native aquatic plants. The surrounding area is accessible for birdwatching and trail walking,

Not currently maintained for recreational fishing.

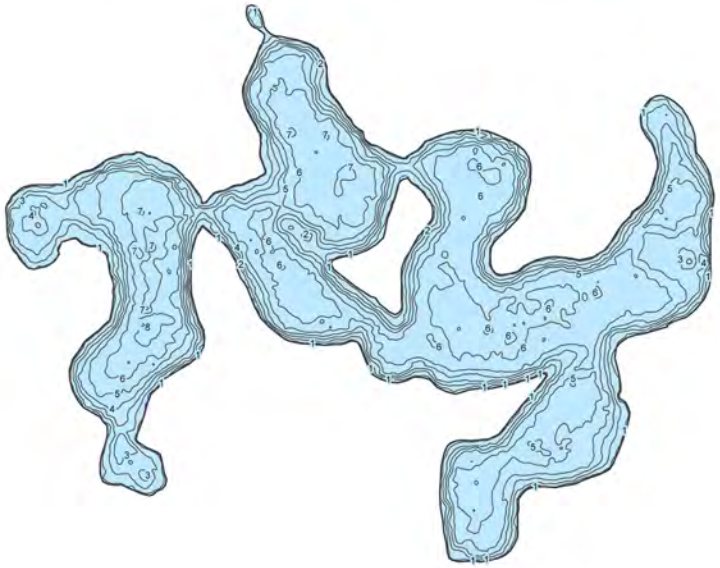

Shanahan Lake
Median Total Phosphorous (ug/L)
80
70
60
50
40
30
20
10
0
2005
2007
2008
2009
2013
2016
2019
2022
Median Total P (ug/L)
State Standard (Chl-a)


Shanahan Lake
Median Chlorophyll-a (ug/L)
25
20
15
10
5
0
2005
2007
2008
2009
2013
2016
2019
2022
Median Chlorophyll-a (ug/L)
State Standard (Chl-a)


Shanahan Lake
Median Secchi Depth (feet)
6.00
5.00
4.00
3.00
2.00
1.00
0.00
2005
2007
2008
2009
2013
2016
2019
2022
Median Secchi Depth (feet)
State Standard (Secchi)

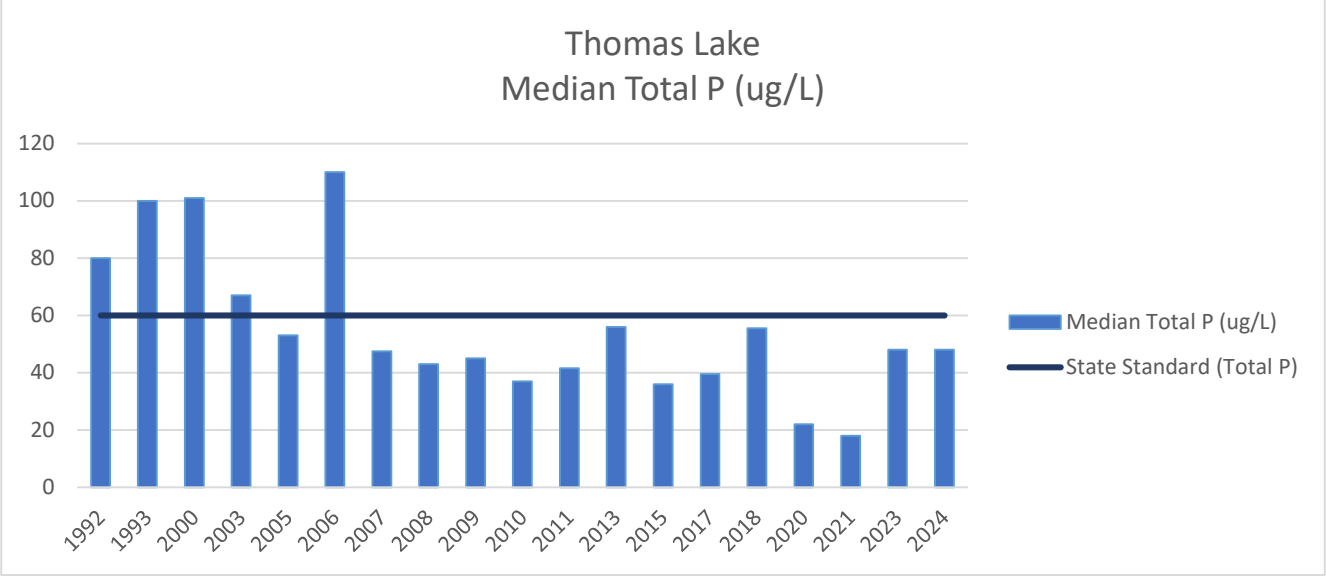
Thomas Lake

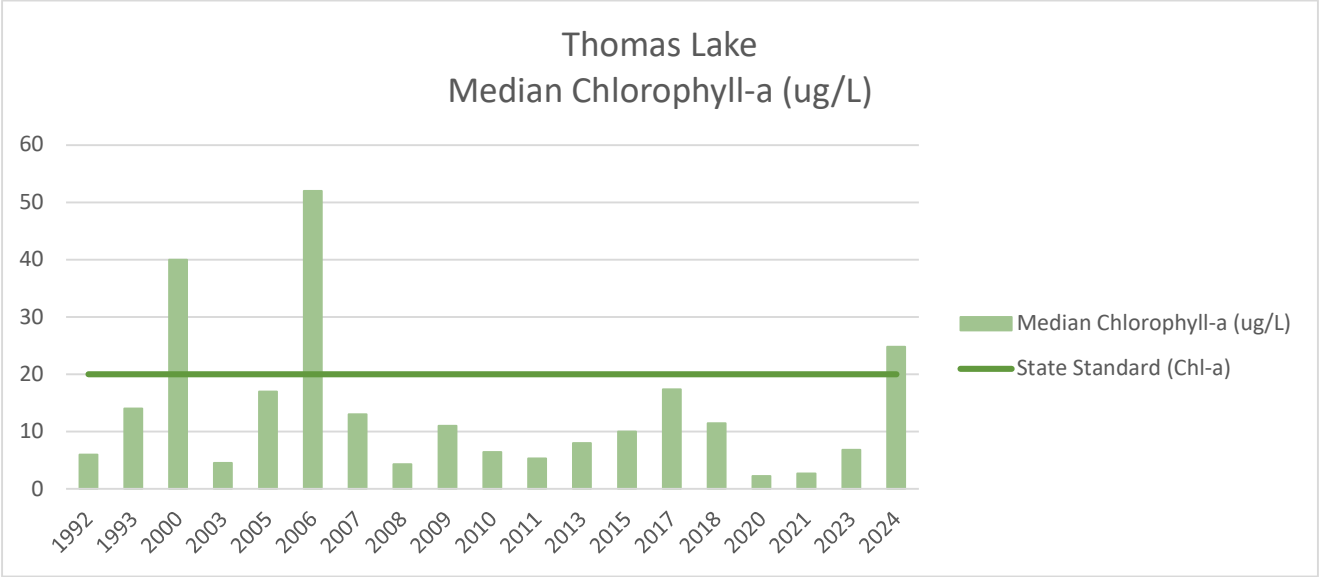
City ID:	BP-7
Waterbody Type:	Shallow Lake
Surface Area:	43.80 acres
Average Depth:	4.20 feet
Maximum Depth:	10.80 feet
Public Access:	Yes
Supported Uses:	Fishing, Canoeing / Kayaking

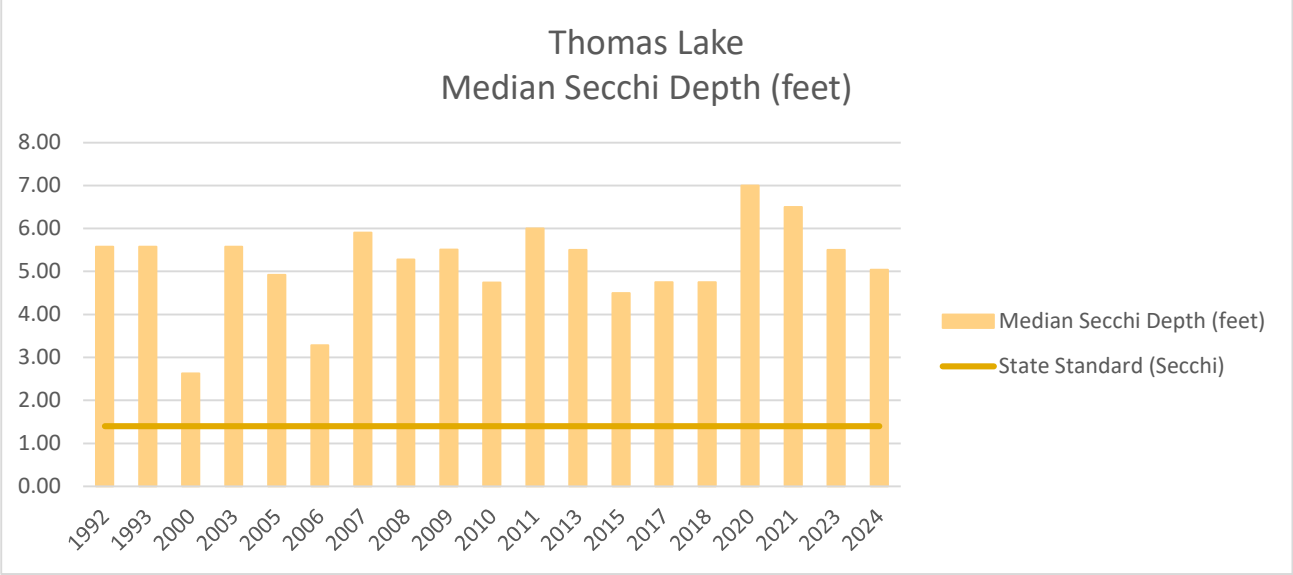


WATER QUALITY IMPROVEMENTS [2019–PRESENT]

As Needed	Aerated in winter as needed to prevent fish kills Lake plants harvested in summer months to reduce biomass
2019	Alum application to reduce in-lake nutrient load
2022	Fish population survey completed to assess overall health of the lake's fishery
2023	Stocked - 1,300 Green Sunfish (yearlings)
2024	Stocked - 465 Bluegill Sunfish (4-6")


Thomas Lake
Median Total P (ug/L)
120
100
80
60
40
20
0
1992
1993
2000
2003
2005
2006
2007
2008
2009
2010
2011
2013
2015
2017
2018
2020
2021
2023
2024
Median Total P (ug/L)
State Standard (Total P)


Thomas Lake
Median Chlorophyll-a (ug/L)
60
50
40
30
20
10
0
1992
1993
2000
2003
2005
2006
2007
2008
2009
2010
2011
2013
2015
2017
2018
2020
2021
2023
2024
Median Chlorophyll-a (ug/L)
State Standard (Chl-a)


Thomas Lake
Median Secchi Depth (feet)
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
1992
1993
2000
2003
2005
2006
2007
2008
2009
2010
2011
2013
2015
2017
2018
2020
2021
2023
2024
Median Secchi Depth (feet)
State Standard (Secchi)