




# 2024 Annual Report





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## WHAT IS VLAWMO?

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## Letter from the Administrator

Greetings,

2024 was very active for the Vadnais Lake Area Water Management Organization (VLAWMO). This year as in the past, collaboration with our partners remained a critical component of our work to protect and enhance the water resources in the watershed. 2024 saw the construction of several partnership-based capital projects, including:

- » Partnership with the City of White Bear Lake to install five curb cut raingardens as part of the City's 2024 street rehabilitation project, utilizing funds from BWSR's Watershed Based Implementation Funding Program (WBIF).
- » Partnership with the City of Vadnais Heights to install a curb cut raingarden at Elmwood Park in conjunction with a City street reconstruction project, with funding from BWSR's WBIF program.
- » Completion of phase 1 of the Tamarack Lake Alum project in partnership with Ramsey County and Tamarack Nature Center.
- » Completion of the spent lime demonstration project at Oak Knoll Pond in partnership with the City of White Bear Lake.
- » Partnership with the North Oaks Home Owners' Association (NOHOA) to continue the restoration of critical wetland habitats around Deep Lake's shoreline.
- » Wetland enhancement efforts at the Wilkinson Lake deep-water wetland project, which includes grant funding from the U.S. Environmental Protection Agency (EPA) administered by the Minnesota Pollution Control Agency (MPCA), as well as a local cash match shared equally between VLAWMO and the North Oaks Company (NOC).

VLAWMO's water monitoring program continues to guide our work and shape important water quality projects. In 2024, notable program highlights included completing the first year of monitoring at the Wilkinson deep-water wetland project site, as well as monitoring at Lambert Creek, the biochar filter—which continues to reduce *E. coli* levels during storm events—and Oak Knoll Pond, where monitoring investigated the impacts of spent lime on reducing total phosphorus levels.

2024 also saw several important VLAWMO programs and studies to prepare for future management actions, including collaboration with several HOAs to install smart irrigation controllers, a continuing partnership with the City of White Bear Lake and Rotary Club of White Bear Lake on restoration at Rotary Nature Preserve, and continued positive impacts on water quality protection from VLAWMO's grant programs. VLAWMO's Board approved several important technical studies in 2024, including the investigation of a possible water reuse partnership project at Polar Lake Park in White Bear Township.

Community input and involvement are crucial elements of VLAWMO's work. 2024 brought further development of our Comprehensive Watershed Management Plan, a document that will guide our organization's work from 2027-2036. Gathering community feedback has been a key piece of this process so that our work benefits those who live, work, and spend time in the watershed.

It is an honor to work with VLAWMO's array of outstanding municipal and local partners, our Board of Directors, Technical Commission, and the outstanding staff team of Brian, Lauren, Angela and Dawn. As we look to the future of our watershed, collaboration will remain invaluable to VLAWMO's work.

We look forward to another exciting year in 2025!



**Phil Belfiori**



## Background

The Vadnais Lake Area Water Management Organization (VLAWMO) was formed in 1983 to protect the Vadnais Lake watershed area in northern Ramsey County and a small portion of Anoka County. Our organization was formed through a Joint Powers Agreement (JPA) ratified by the 5 cities and 1 township within VLAWMO boundaries to comply with the State of Minnesota Metropolitan Surface Water Management Act (Minnesota statute Chapters 103A – 103H). We are governed by a 6-member Board of Directors comprised of one elected official from each of the communities.

VLAWMO covers approximately 25 square miles and includes portions of Vadnais Heights, White Bear Township, White Bear Lake, Gem Lake, Lino Lakes, and all of North Oaks.

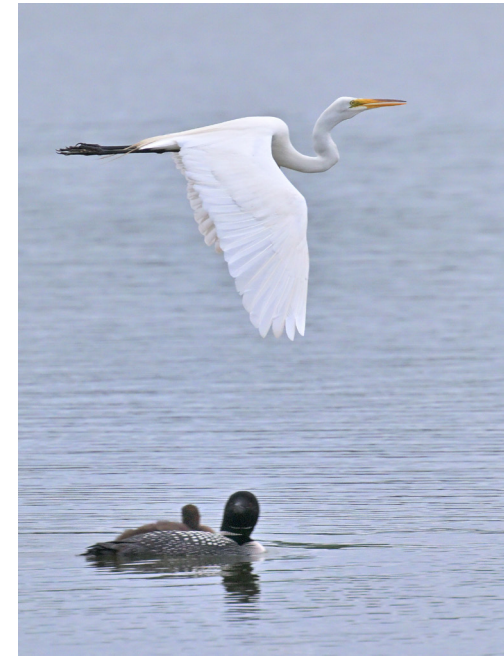
### OUR APPROACH

Managing a watershed area to protect our vital water resources has become the primary approach across the country. Since water flows across political boundaries, partnerships among local governments, regional, state and federal agencies are vital. Because Vadnais Lake is used as the drinking water reservoir for approximately 450,000 customers in the St. Paul area, VLAWMO frequently partners with the St. Paul Regional Water Services (SPRWS) on a variety of water quality monitoring and improvement projects.

### OUR CORE PRINCIPLES

To guide our efforts towards achieving our mission, VLAWMO shares responsibility with its member communities to:

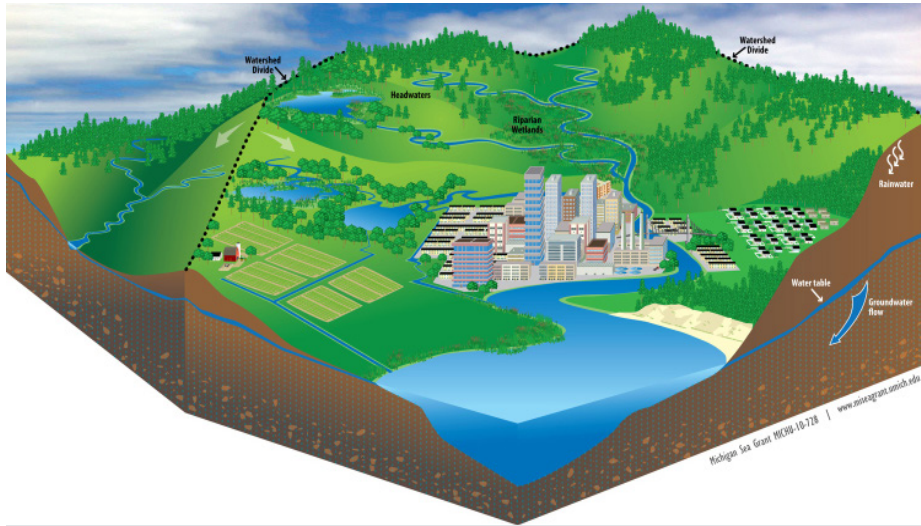
- » Protect surface water quality
- » Protect groundwater quality and recharge areas
- » Provide public education to promote good stewardship of water resources
- » Protect and manage wetlands through the Wetland Conservation Act
- » Collaborate with other public and private organizations
- » Manage stormwater and control flooding through the use of best management practices (BMPs)



## Mission Statement

Our mission at the Vadnais Lake Area Water Management Organization is to protect and enhance the water resources within the watershed.

Our work includes water quality monitoring, education and outreach projects, wetland protection, and water quality enhancement projects.



“How Watersheds Work” courtesy of Michigan Sea Grant (MICHU-10-728)

## What is a Watershed?

A watershed is all the land area that drains to a specific water resource, such as a lake or stream. Watersheds range in size from a few square miles to an entire continent. As rain and melting snow run downhill, they carry sediment and other materials into streams, lakes, and groundwater.

The land use activities within a watershed have a direct impact on the quality of the water. 96% of the land use within VLAWMO is urban, with a small area of agricultural land in the northern end.

Watersheds provide water for drinking, irrigation, streams, and activities such as fishing, swimming, and boating. Watersheds also provide food and shelter for wildlife.

## OUR GOALS

Accomplishing VLAWMO’s mission requires a focus on common goals. The following goals help VLAWMO stride toward its mission.

- » Protect and improve surface water quality
- » Protect and enhance wetland resources
- » Protect and improve waters for wildlife habitat and recreation
- » Enhance public participation and stewardship
- » Make and enable informed decisions
- » Optimize public resources
- » Protect and improve groundwater quality and quantity
- » Analyze and use alternative funding sources
- » Improve communications
- » Prevent flooding

## WHAT IS A WMO?

A watershed management organization (WMO) is a local government agency charged with protecting water resources within its boundaries. All land within the metropolitan area must be within an organized watershed (State Statutes Chapters 103B & 103D). Watershed Districts are governed by managers appointed by County Commissioners while Water Management Organizations are governed on the municipal level.

## WHO PAYS FOR IT?

The Vadnais Lake Area Water Management Organization is funded by a storm sewer utility fee. Property owners within the watershed are charged a fee to manage the stormwater that runs off their property. This public utility fee is determined by land use (such as residential or commercial), and it is included on Ramsey County property tax statements. The authority to charge and collect a stormwater utility fee is governed by Minnesota State Law.

## Water Resources in the Watershed

### LAKES

VLAWMO is comprised of 17 lakes. These are dispersed throughout our member communities.

- » East Goose Lake, West Goose Lake and Birch Lake are located in White Bear Lake.
- » Tamarack Lake, Fish Lake and Ox Lake are located in White Bear Township.
- » Gem Lake is located in Gem Lake.
- » Amelia Lake is located in Lino Lakes.
- » Pleasant Lake, Charley Lake, Deep Lake, Black Lake, Wilkinson Lake and Gilfillan Lake are located in North Oaks.
- » Sucker Lake, East Vadnais Lake and West Vadnais Lake are located in Vadnais Heights.

East Vadnais Lake is the drinking water reservoir for the City of Saint Paul. East Vadnais Lake is supplied with water pumped from the Mississippi River in Fridley that flows via an underground aqueduct into Lake Charley in North Oaks. The water then flows east to Pleasant Lake, south into Sucker Lake, then into East Vadnais Lake.

### LAMBERT CREEK

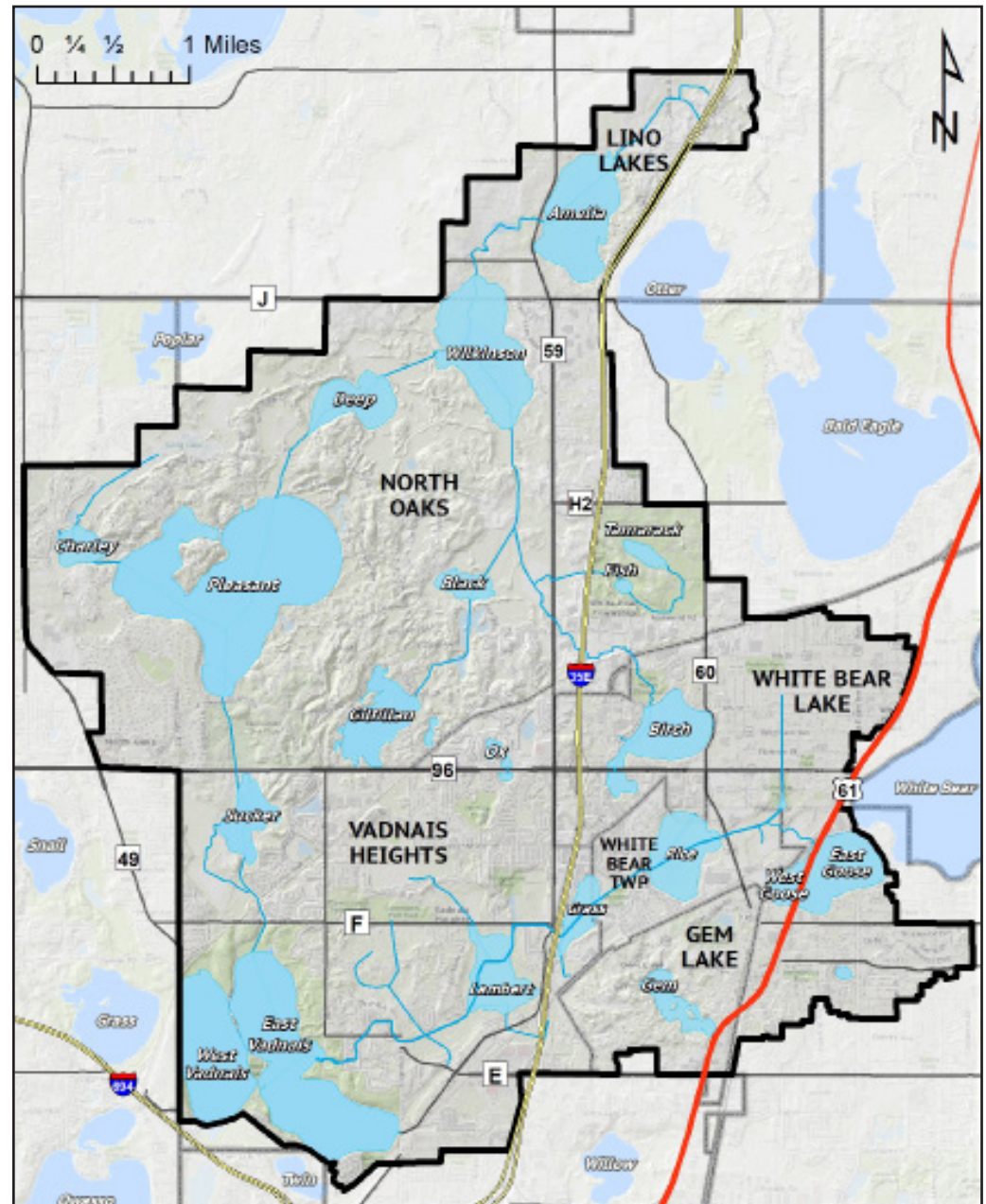
VLAWMO has jurisdiction over Lambert Creek, 4.5 miles of creek and wetland that runs from West Goose Lake and Whitaker Pond and eventually empties into East Vadnais Lake.

### WETLANDS

There are over 500 wetlands within VLAWMO. Tamarack, Grass, Wilkinson, Rice, Lambert, and Sobota Slough are a few of the largest wetland complexes in the watershed.

### GROUNDWATER

Groundwater beneath the land surface of the watershed flows to local lakes, the Mississippi River, and aquifers including the Prairie du Chien aquifer.



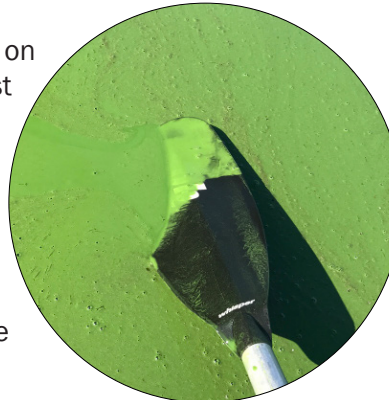
**THE YEAR IN REVIEW:**  
Activities, projects, and highlights

## What issues does the watershed face?

### IMPAIRED WATERS

Several lakes in the watershed are on Minnesota’s impaired waters list for high nutrients. These include Wilkinson, Goose, West Vadnais, Tamarack, Pleasant, and Gilfillan Lakes. Lambert Creek has an impairment of high *E. coli* bacteria levels. Studies show that the *E. coli* is coming from canine and avian sources.

Improving these waterbodies requires cooperation between cities, land owners, businesses, and the watershed organization. Each home, park, and property connects to a waterbody through stormwater runoff.



### SEDIMENTATION

Small amounts of sediment accumulate in stormwater runoff to create a big issue for lakes and streams. Sediment clogs wetlands, culverts, and drainage ditches, suffocates aquatic plants that stabilize lake beds, and carries excess nutrients with it.

Bare soil, degraded slopes, and poorly protected drainage routes are common sources of excess sediment. The natural process of sedimentation can be accelerated by human activity.



### PRESSURES ON GROUNDWATER

Groundwater has many “deposits” that work out of sight. Groundwater can be stored for days, years, or decades, can be deep or shallow, and it can move up, down, or side to side. Drought conditions can put stress on groundwater supply, so it is important to take steps to conserve our precious groundwater resources.

Examples of regional groundwater challenges include:

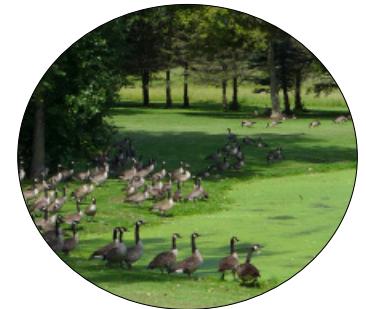
- » Changes on the landscape that shift how and where groundwater recharges.
- » When groundwater is used heavily, changes in aquifer pressures can contaminate wells with increased sediment or metals. This creates a need to dig deeper wells and can be a source of conflict.



### DEGRADED WETLANDS

Many shorelines on lakes and ponds contain turfgrass up to the water’s edge. This causes problems for water quality and degrades nature’s ability to protect water resources.

Sometimes wetlands are altered or filled in illegally. Even small infringements on wetland boundaries contribute to a state-wide struggle to prevent the gradual loss and degradation of wetlands. Preventing this loss supports clean and secure surface and groundwater for the future.





## Be part of the solution: take small steps to help improve the watershed

### WINTER

#### Practice Smart Salting:

- » Shovel and scrape early after a snowfall.
- » Select your de-icing product according to ground temperature.
- » Spread salt with 2-3" between crystals.
- » Don't over-salt: 1/2 - 2/3 of a coffee mug holds enough salt for one parking space.
- » Apply salt, sand or grit in cold temps and as a salt alternative.
- » Sweep up extra salt and sand when pavement is dry.



### SPRING & SUMMER

- » Adopt a stormdrain to promote local water quality.
- » Plant a raingarden or help maintain a public or community raingarden.

#### Water with care:

- » Use sprinklers that keep water low to the ground.
- » Direct sprinklers away from pavement.
- » Water lawn in the morning and evening to reduce evaporation.
- » Install smart irrigation controllers.



#### Mow with care:

- » Mow grass at 3" to hold moisture on the lawn and reduce runoff.
- » Keep grass clippings out of the street.
- » Leave grass clippings on the lawn for free fertilizer or fertilize sparingly.

### FALL

- » Core aerate the lawn to increase root depth, durability, and water absorption.
- » Keep stormdrains and curbs free from leaf debris.
- » Mulch leaves into the lawn with a mower for free fertilizer.
- » Dispose of leaves and grass clippings responsibly, either at a compost site or through a hauling service. Never dump these in a ditch or wetland.
- » If you must use weed killer, do so now to make a bigger impact and use less product compared to spring or summer.



### THROUGHOUT THE YEAR

- » Install a native planting, raingarden, or bee lawn. Plan with VLAWMO to make planting and installation easy and effective.
- » Restore shorelines with deep-rooted native vegetation.
- » Respect wetland boundaries. Each wetland plays a role in the watershed, no matter how small.
- » Pick up pet waste promptly and dispose of it in the trash.
- » Prevent illegal dumping into ditches and stormdrains. Remember the phrase, "only rain down the drain."
- » If you're involved with contractors, seek contractors certified in Smart Salting or turf maintenance best practices.



Visit [vlawmo.org/residents/water-stewardship](http://vlawmo.org/residents/water-stewardship) to learn more.

# In the Community

## COMMUNITY INPUT ON WATERSHED MANAGEMENT PLAN

VLAWMO is currently developing its third Comprehensive Watershed Management Plan (Plan), a document that will guide projects and programs for the benefit of the watershed community from 2027-2036.

In 2024, VLAWMO launched a robust public engagement campaign to seek input from stakeholders who live in, work in, and visit the watershed. VLAWMO developed online and hard copy surveys to gather feedback on water topics and distributed these widely. Virtual coffee chats, in-person workshops, and presentations at TEC and Board of Directors meetings allowed further opportunities for public input and learning about VLAWMO.

From February to March of 2024, 146 surveys were completed. These results informed priority issues and actions that will be included in the final Plan.

## WORKSHOPS AND WEBINARS

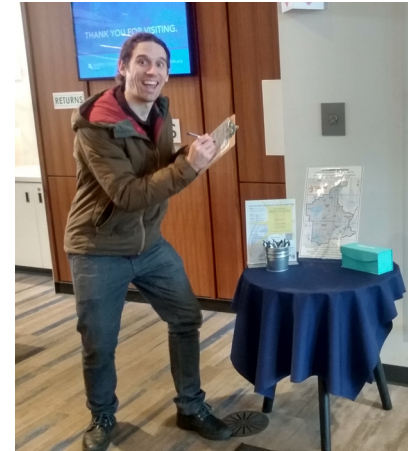
In 2024, VLAWMO hosted a variety of workshops, including:

- Vadnais Heights illicit discharge MS4 training: January 30
- VLAWMO Grant Programs 101: March 7
- AIS training in partnership with RCSWCD: March 12
- Raingardens 101: March 14
- Blue Thumb Resilient Shorelines, hosted in partnership with RCWD: April 9

## PUBLIC EVENT EDUCATION BOOTHS

VLAWMO staff and volunteers helped maintain a public presence to educate folks about the local watershed, ways to support local water, and ways to stay in the know of VLAWMO's work. 2024's events included:

- Landscape Revival: May 1
- Vadnais Heights Ice Cream Social: June 12
- Welcome the Goats: June 27
- White Bear Lake Marketfest: July 25
- Pollinator Festival: August 11
- Blue Thumb, Adopt-a-Drain booths at the MN State Fair: August 22
- Vadnais Heights Heritage Days: August 17
- Metro Children's Water Festival: September 25



**Right:** VLAWMO staff check on the Shoreview Library survey station for the Watershed Management Plan. 146 surveys were completed from watershed stakeholders between February and March of 2024.



**Left:** Watershed stakeholders were invited to a series of Virtual Coffee Chats to share input on the development of the 2027-2036 Comprehensive Watershed Management Plan.



**Right:** VLAWMO staff tabling at White Bear Lake's Marketfest. Community members learned about VLAWMO's work, everyday actions they can take to protect water, and the importance of native plants to clean water.

## Watershed Action Volunteers

Volunteers bring VLAWMO's work into the community. In addition to the volunteer programs outlined on this page, volunteers help present booths at public events, conduct wetland surveys, and photograph wildlife in the watershed.



### ADOPT-A-RAINGARDEN & ADOPT-A-DRAIN

Volunteers help maintain public raingardens throughout the watershed. VLAWMO would like to thank all those who make raingarden maintenance a regular part of their community routine.

The VLAWMO watershed boasts over 268 stormdrains adopted by everyday residents! Visit [adopt-a-drain.org](http://adopt-a-drain.org) to join local efforts to make a positive impact.



### CITIZEN SCIENCE: MACROINVERTEBRATES

Citizen science can allow nature enthusiasts of all kinds to participate in valuable watershed monitoring at their own pace. Using the Leaf Pack Method, VLAWMO volunteers help monitor six locations along Lambert Creek as well as Sucker, Pleasant, and Deep Lakes for aquatic



### CITIZEN ADVISORY COMMITTEE (CAC)

The CAC is a venue for residents to help advise and guide VLAWMO education and outreach efforts, help plan and gather public feedback, and convey public interests, concerns, and opportunities for networking to staff and the VLAWMO Board of Directors. VLAWMO's CAC is a subset of the primary volunteer group, the Watershed Action Volunteers (WAV).

### AQUATIC INVASIVE SPECIES (AIS)

Partnering with Ramsey County Soil and Water Conservation Division (RCSWCD), VLAWMO gathers volunteers to serve as citizen AIS detectors. RCSWCD provides training and records of aquatic invasives across the county. These collaborative efforts allow for quick detection and response in the event of new infestations.

### MINNESOTA WATER STEWARDS

This program, coordinated by the nonprofit Freshwater, equips volunteers to be champions of watershed projects and outreach. VLAWMO provides community-specific support and local resources.



**Above:** MN Water Stewards Ceci and Ed Shapland coordinated four neighborhood tour events in July and August of 2024. These tours featured residents who have completed VLAWMO landscape grants, offering curious community members the chance to see clean water planting practices up close. This year's featured tour stops ranged from bee lawns to raingardens to alternative turfs and varying scales of native plantings.

**MINNESOTA WATER STEWARDS**  
Community Leadership for Clean Water

## Grant Programs

VLAWMO’s grant programs assist public and private landowners in installing stormwater reduction and water quality improvement projects. VLAWMO has four programs available:

- » Rain Barrel Grants
- » Soil Health Grants
- » Landscape Level 1 Grants
- » Landscape Level 2 Grants

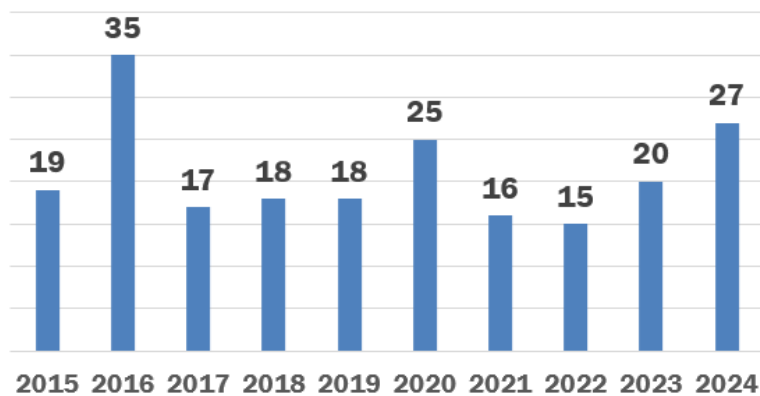
Projects completed through these programs support:

- » Water quality improvement and reduction of nutrient loading
- » Prevention of flooding and increased flood storage capacity
- » Reduction of stormwater rate and volume
- » Preservation, protection, and restoration of native plant communities, especially along lakes, streams, and wetlands
- » Protection and preservation of groundwater quality and quantity

VLAWMO’s 2024 program allocations were \$500 for Rain Barrel Grants, \$10,000 for Soil Health Grants, \$40,000 for Landscape Level 1 Grants, and \$80,000 for Landscape Level 2 Grants. Funds are granted on a first come, first served basis.

In 2024, VLAWMO awarded **23 grants totaling \$136,436.05**. These funds powered **27 projects** within the watershed.

### Grant-Funded Projects By Year



## GRANT PROGRAM DESCRIPTIONS

The **Rain Barrel Grant Program** reimburses residents 50% of the cost for the purchase of up to 2 rain barrels. Applicants are limited to \$100 for each rain barrel, no more than \$200 total.

The **Soil Health Grant Program** reimburses small-scale projects that protect and improve water quality and native plant communities. These projects can include native plantings and pollinator gardens, downspout raingardens, turf replacement and bee lawns, and buffer strips. VLAWMO reimburses 75% of the cost of these projects up to \$1000 or up to \$1,250 if located in a priority area.

The **Landscape Level 1 Grant Program** reimburses water quality improvement projects like raingardens, curb cut raingardens, shoreline and streambank restorations, critical erosion control or stabilization, and permeable pavement. VLAWMO reimburses 25-75% of the cost of these projects up to \$5,000 or up to \$7,500 if a curb cut raingarden.

The **Landscape Level 2 Grant Program** supports partnership projects with communities and municipalities to install larger-scale water quality improvement projects such as raingardens or infiltration basins, smart irrigation controllers, and reconstruction projects that reduce stormwater rate and volume. VLAWMO reimburses 25-90% of the cost of projects based on projected water quality benefits.

## 2024 IMPACT

VLAWMO’s 2024 landscape improvement projects are estimated to improve water quality by:

- » Reducing total phosphorus by **5 lbs** per year.
- » Reducing total suspended solids by **1,254 lbs** per year.
- » Infiltrating **471,683 gallons** of water into the ground annually.
- » Converting **177** acres from conventional to smart irrigation systems
- » Adding about **4,498** square feet of native plants

## SOIL HEALTH SUMMARY

VLAWMO awarded **9** soil health grants totaling **\$9891.63**.

These grant funds were utilized for:

- » 7 native plant restorations/pollinator gardens
- » 2 no-mow/low-mow turf replacements



Above: A turf replacement to a native pollinator garden in White Bear Lake.

## LANDSCAPE LEVEL 1 SUMMARY

VLAWMO awarded **1** Landscape Level 1 grant totaling **\$5075.04**.

This grant funded 1 vegetated swale.



Above: Before (left) and after (right) installation of a shoreline restoration project in North Oaks. Grant funding was awarded in 2023 and the project was completed in 2024.

**\$35,921**

**White Bear Lake**

**19%**

**\$7,393.50**

**White Bear  
Township**

**7%**

*2024  
Grants  
Awarded*

**Total:  
\$136,436.05**

**44%**

**30%**

**\$39,181**

**North Oaks**

**\$53,940.93**

**Vadnais Heights**

## LANDSCAPE LEVEL 2 SUMMARY

VLAWMO awarded **8** Landscape Level 2 grants totaling **\$121,151.79**.

These grant funds were utilized for:

- » 6 curb cut raingardens
- » 6 smart irrigation controllers



Above: A completed curb cut raingarden in the City of White Bear Lake awaiting spring 2025 native plantings.

## RAIN BARREL SUMMARY

In 2024, VLAWMO awarded grants for **5** rain barrels, totaling **\$317.59**.

# Water Monitoring

## OVERVIEW

VLAWMO’s regular water quality monitoring program includes **sampling** on 6 Lambert Creek sites and 14 of the Vadnais Lake Area Watershed lakes. VLAWMO staff samples the following nutrients and pollutants for data:

- » Total phosphorus
- » Chlorophyll-A
- » Soluble-reactive phosphorus
- » Iron
- » Total nitrogen
- » Nitrate
- » Total suspended solids
- » Chloride

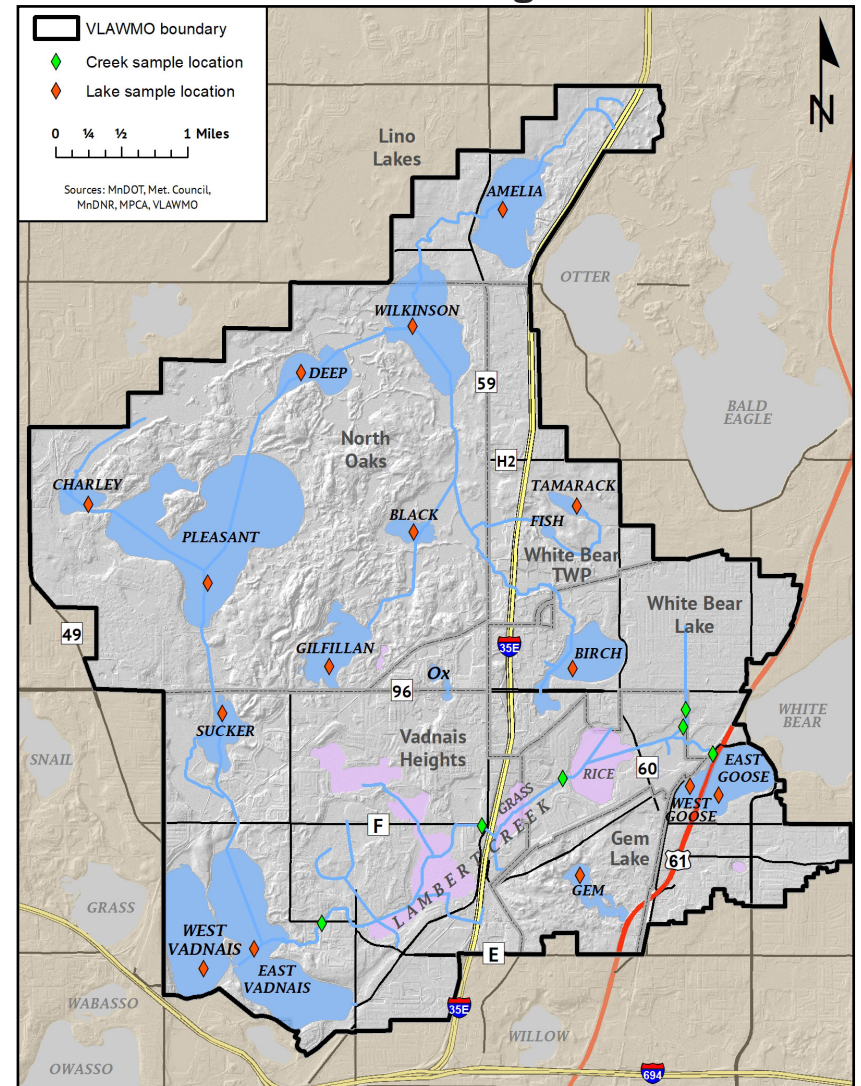
VLAWMO also monitors **rainfall**, as both rainfall quantity and timing influence water quality. More precipitation often leads to more water runoff, which picks up contaminants as it journeys across land surfaces into water bodies, ultimately harming water quality. VLAWMO has multiple **specialty monitoring** programs that include project BMPs and storm sampling. These efforts continued in 2024.



VLAWMO staff collecting monitoring data on Oak Knoll Pond.

Water monitoring results guide local water policies and management. Monitoring data shapes water quality projects such as raingardens, underground retention basins, and shoreline restorations. In 2024, VLAWMO’s monitoring data informed multiple sub-watershed studies and grant applications that will aid in potential water quality projects for coming years.

## VLAWMO Monitoring Locations



VLAWMO’s regular water quality monitoring program conducts sampling on 6 Lambert Creek sites and 14 VLAWMO lakes.

## WATER MONITORING HIGHLIGHTS

**Pleasant Lake:** Roughly 12,000 pounds of carp were removed from Pleasant Lake in 2024. Monitoring in 2025 will show whether this year's efforts impacted water quality.

**Remote Monitoring Devices:** 2024 was the fifth full year of automated creek flow monitoring. Live information for the 4 sites monitored on Lambert Creek can be found through Monitor My Watershed. To view the information, scan the QR code or visit [www.monitormywatershed.org](http://www.monitormywatershed.org) and enter "VLAWMO" in the search bar.



**Wilkinson Deep-Water Wetland:** 2024 marked the first completed year of monitoring this project site. VLAWMO staff monitored the site after a storm event, 3-5 days following a storm event, and during dry periods.

**Lambert Creek:** Creek flow was consistent throughout 2024. The season's rainfall was 3.26 inches above average.

**Oak Knoll Spent Lime Study:** A spent lime study was done on White Bear Lake's Oak Knoll Pond to investigate the feasibility of spent lime as a potential tool for reducing total phosphorus levels. A total of 22 applications were applied from 2023 through 2024. VLAWMO staff conducted monitoring throughout the season, and these efforts will continue in 2025.

**Chloride:** VLAWMO has been sampling for chloride for 15 years. While slight concentration increases have been documented, there have been no major changes to chloride concentrations in VLAWMO's lakes. Black Lake has the lowest levels of chloride in the watershed. Birch Lake and Goose Lake have the highest chloride levels, coinciding with their proximity to major roadways and storm drainage. All of the watershed lakes are below the current State standard of 230 mg/L.

**Biochar Filter:** The biochar filter was monitored in 2024. It continues to reduce *E. coli* levels during storm events.



Left: VLAWMO staff taking a monitoring sample on Lambert Creek at County Road F and Centerville.

Center: An aerial view of the Spent Lime study conducted on Oak Knoll Pond.

Right: Carp removal in Pleasant Lake.

Find this year's complete Monitoring Report and summary at [VLAWMO.org/resources/reports/](http://VLAWMO.org/resources/reports/) or by scanning the QR code to the right.



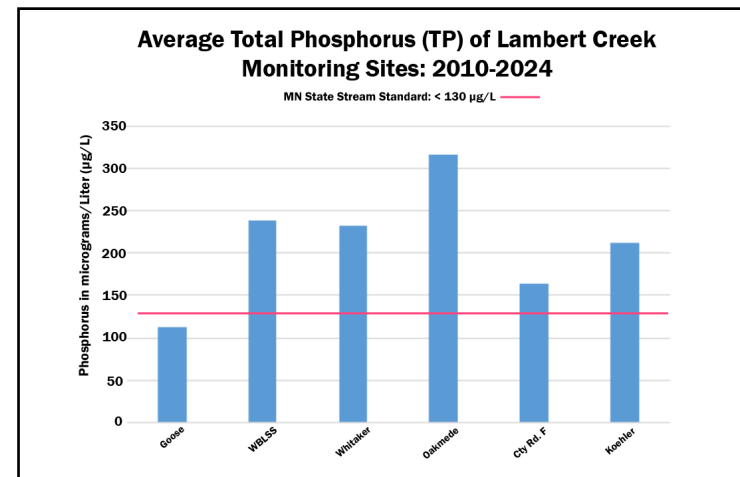
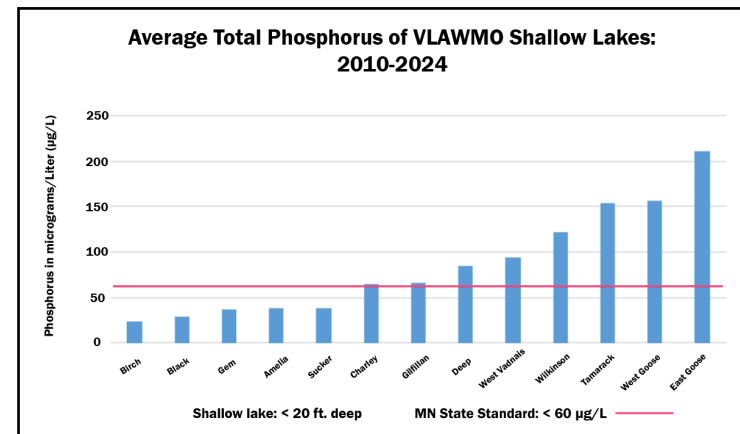
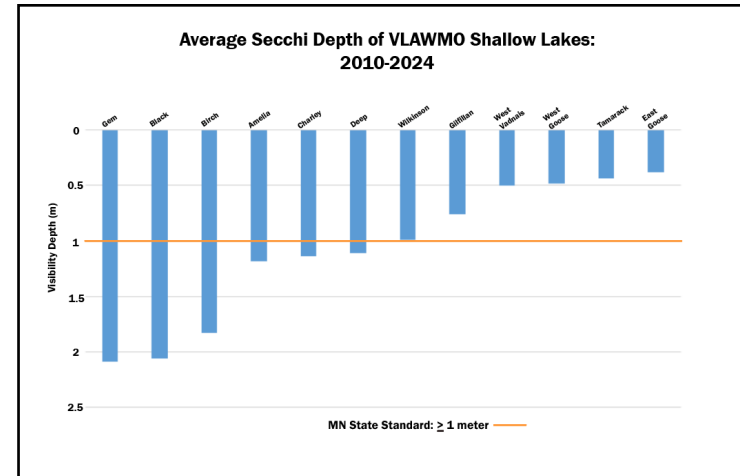
## WATER MONITORING SUMMARY

VLAWMO uses the Carlson Trophic Status Indicator (TSI) to summarize lake health. TSI is calculated from annual monitoring data by combining total phosphorus, chlorophyll-a, and transparency (Secchi disk) readings.

**Trophic State Indexes (TSI) of VLAWMO Lakes: 2024**

Lake Name	Clear Oligotrophic		Moderately Clear Mesotrophic		Green Eutrophic	Very Green Hypereutrophic	
	20	30	40	50	60	70	80
East Vadnais			▲				
Birch			▲				
Sucker			▲				
Amelia			▲				
Pleasant			▲				
Gem			▲				
Deep			▲				
Gilfillan			▲				
Charley			▲				
West Vadnais			▲				
Wilkinson			▲				
Tamarack			▲				
West Goose			▲				
East Goose			▲				
Black			▲				

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## Project Highlights

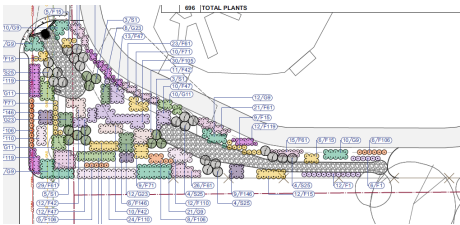
### ELMWOOD PARK CURB CUT RAINGARDEN

In 2024, VLAWMO partnered with the City of Vadnais Heights for the third consecutive year on the installation of water quality and stormwater treatment projects in City parks. A 1200-square foot curb cut raingarden was installed at Elmwood Park in conjunction with a City street reconstruction project that added a new path and parking spaces at the park.

Aligning the City's 2023 street project with the raingarden design phase allowed for maximum redirection of stormwater runoff from the City's project and surrounding areas into the raingarden. Following the design phase, raingarden construction began in 2024 and was completed in the fall.



**Unexpected unearthing.** Summer 2024's raingarden excavation was interrupted when the contractor found an old burn pit, likely used by residents for trash in the 1950's. Glass bottles, metal cans, and burned debris were among the findings. Soil collection and sampling showed some of the soils were contaminated. These needed to be removed and disposed of offsite before the raingarden could be planted. Clean soil and sand were added after this removal, allowing for a return to raingarden construction.



View of Elmwood Park raingarden plan.



Completed Elmwood Park raingarden in October 2024. Planting will take place in spring of 2025.

The raingarden captures and treats runoff from the park, Elmwood Street, and adjacent homes before draining to Lambert Creek, which is impaired for *E. coli*. Its pretreatment Rain Guardian Turret structure captures sediment and debris before they enter the raingarden. Mixed rock reduces erosion as water flows into the raingarden, and a berm keeps water in the raingarden. Beyond reducing area stormwater volume, the raingarden will advance bioretention recommendations from VLAWMO's TMDL Implementation Plan. After spring 2025's planting, the raingarden will contain over 1000 plants that will bloom throughout the season, creating significant pollinator habitat.

### WHITE BEAR LAKE STREET REHABILITATION



Plan view of one of the raingarden sites.



One of five curb cut raingardens completed in November 2024. Native plants will be added in spring of 2025.

Street reconstruction and retrofit projects are a prime opportunity to coordinate installation of a stormwater treatment project with existing project needs. In 2024, VLAWMO and the City of White Bear Lake had this opportunity as the City's 2024 Street Rehabilitation project was planned in a residential area across six streets. VLAWMO, the City, and Ramsey County Soil and Water Conservation District (RCSWCD) collaborated during the planning process to determine which properties within the City's rehabilitation area could feasibly add a stormwater treatment practices, specifically curb cut raingardens, to capture stormwater runoff.

Five curb cut raingardens were constructed with the street project. These will treat stormwater runoff from about 1.86 acres before it reaches Lambert Creek. Each raingarden has a concrete splash block and sump pretreatment structure to collect sediment and debris. Curb cuts were also installed to direct street runoff into the raingardens. Over 400 native plants will be added to the raingardens in spring of 2025, creating pollinator habitat and filtering pollutants.

### FUNDING

Both of these raingarden projects were made possible through VLAWMO's Landscape Level 2 grant program and BWSR's WBIF grant program.

## Project Highlights

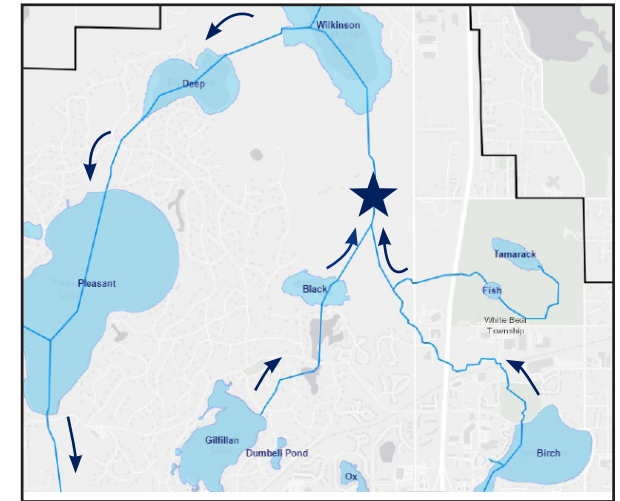
### WILKINSON DEEP-WATER WETLAND RESTORATION

Wilkinson Lake is listed as impaired by the Minnesota Pollution Control Agency (MPCA) due to its high nutrient levels. Large amounts of algae, especially present in warm temperatures, lower lake oxygen levels and can threaten fish and wildlife. These factors led to the implementation of the Wilkinson deep-water wetland at a key location for excess nutrients entering Wilkinson Lake.

Project construction was completed in 2023. In 2024, focal efforts included controlling invasive plant species, enhancing the shoreline and buckthorn removal area with native plants, and using an approved permit to transplant native aquatic plants into the wetland from Gem Lake. Onsite eagle nest monitoring revealed successful fledging of two chicks.

Late summer and fall of 2024 involved wetland enhancement, a process of adding emergent and shoreline plants around the wetland's edges. These plants stabilize shallow water areas, protect shorelines, prevent erosion, and offer resources for pollinators.

Grant funds for this project are through US Environmental Protection Agency (EPA) 319 funds administered by the MPCA, with a local cash match shared equally between VLAWMO and the North Oaks Company (NOC). Enhancement work at this site will continue into spring of 2025 as staff and partners evaluate how various plants are faring in their new homes. Improving water quality in Wilkinson Lake remains a priority for VLAWMO and its local and state partners.



Above: Project area marked by a star within the City of North Oaks. Water flow marked by blue arrows.



Shoreline plantings lining the wetland restoration site.



Transplanting efforts were done in partnership with RCSWCD.



A view of the completed Wilkinson Deep-Water Wetland Restoration from summer 2024.

# Project Highlights

## GROUNDWATER CONSERVATION PROJECTS

Groundwater conservation was a continued priority for VLAWMO in 2024 through the Landscape Level 2 Grant Program. VLAWMO worked with four Homeowner Associations (HOAs) and two communities to install smart irrigation controllers. These projects covered a total area of over 170 acres on three public properties and 197 homes located within the DNR North and East Metro Groundwater Management Area.

The installed smart irrigation controllers contain sensors - one based on flow, one based on weather - that provide real-time information on water usage and controls. This information allows users to adapt watering schedules as weather conditions evolve. In 2024, several HOAs saw significant water and cost savings from past years, as past controllers would activate even during rain events. Moving forward, monitoring of water conservation information will allow for deeper understanding of the benefits of smart irrigation controllers.

VLAWMO also partnered with the City of Vadnais Heights to combine outreach efforts promoting a Large Irrigator Water Efficiency Program. This program paired the City's water efficiency rebate program with VLAWMO's grant programs, sharing the opportunities with HOAs and commercial campuses. A water conservation map was created to outline various strategies for conserving water. More information will follow as the program continues into 2025.

Visit [vlawmo.org/residents](http://vlawmo.org/residents) for more on water conservation in and around the home.

## DEEP LAKE SHORELINE RESTORATION

Invasive buckthorn chokes out native plants that improve water quality and provide aquatic habitat. 2024 marked the second consecutive year of an ongoing partnership project eliminating buckthorn along the shores of Deep Lake. The year brought significant progress, including the addition of work in the area owned by the North Oaks Company (NOC).

Throughout 2023 and 2024, the North Oaks Homeowners' Association (NOHOA) and VLAWMO partnered to fund the restoration work completed by Natural Shore Technologies. VLAWMO's partnership funding focused primarily on wetland shoreline areas.

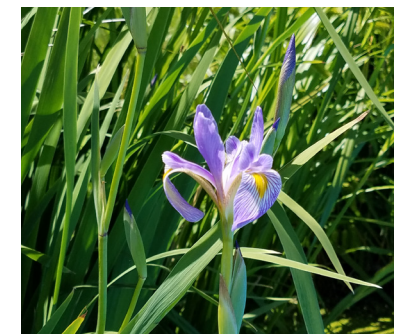
The project began in 2022, when NOHOA contracted NST to complete a study providing a roadmap for this shoreline restoration. NST divided the Deep Lake shoreline into 27 segments, then created a color coding system to characterize each segment according to the extent of its invasive buckthorn cover.

In addition to supporting water quality in Deep Lake, this shoreline restoration serves as a demonstration space. Walking along the trails during the growing season, one can see native plants in bloom and pollinators flitting about, sure-fire signs of successful restoration efforts.



Left: Piles from buckthorn removal efforts at Deep Lake.

Below: Starflower (left) and Blue Flag Iris (right) are both native plants that can be outcompeted by invasive species.



## CHARTING IT OUT:

Review of this year’s goals and next year’s projections

### IN THIS SECTION

- » Review of 2024 work plan
- » 2025 work plan

### VLAWMO CORE ACTIVITIES

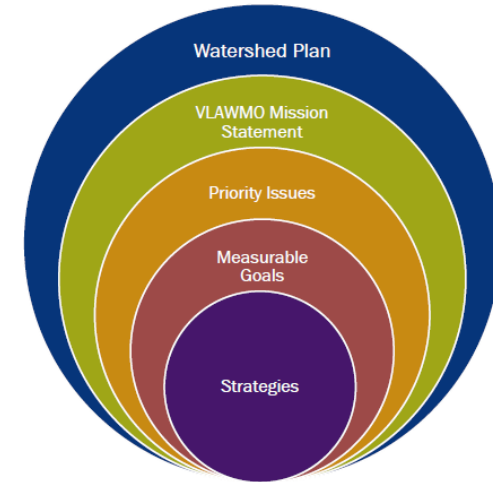


### 2025 WORK PLAN PROJECTION

VLAWMO continues to put the 2017-2026 comprehensive watershed management plan into action. A minor plan amendment was made in 2022 which focused on drainage policy updates. The watershed management plan structure (above) informs issues that will be addressed, goals that VLAWMO will set, and the strategies employed to reach those goals. See the 2017-2026 comprehensive watershed management plan on our website under “About” for a more in-depth look at these plan components.

The tables for the previous year’s review and the upcoming year work plan are color coded according to the VLAWMO core activities diagram (above). Each core activity also has a number, conveyed in the 2017-2026 comprehensive watershed management plan.

### WATER PLAN STRUCTURE



### ACRONYMS

- WLA: Waste Load Allocation
- DNR: Department of Natural Resources
- MS4: Municipal Separate Storm Sewer System
- SWPPP: Storm Water Pollution Prevention Program
- STEM: Science, Technology, Engineering, Mathematics
- BMP: Best Management Practice
- CIP: Capital Improvement Project
- LGU: Local Government Unit
- LCCMR: Legislative Citizen Commission on Minnesota Resources
- AIS: Aquatic Invasive Species
- TMDL: Total Maximum Daily Load
- TEP: Technical Evaluation Panel
- BOD: Board of Directors
- RFP: Request for Proposal
- TEC: Technical Commission



## CAPITAL PROJECTS & PROGRAMS

## Review of 2024 Work Plan

Project Name	Description	Goal: Going into 2024	2024 Result
Wilkinson Deep-Water Wetland BMP	Constructed in 2023, this deep-water wetland restoration helps improve water quality in impaired Wilkinson Lake. Project partners include the North Oaks Company, Minnesota Land Trust, and Houston Engineering Inc. Funded by EPA 319 administered by MPCA with shared match between VLAWMO and the North Oaks Company.	Monitor vegetation establishment, conduct monitoring with HEI, consider enhancement of the site, and conduct ongoing maintenance.	Monitoring and report completed with HEI, enhancement conducted with NST in partnership with NOC, transplant trials with aquatic plants completed with RCSWCD.
Vadnais/Sucker Regional Park Habitat Restoration	28 acres of restoration in Vadnais-Sucker Lakes Regional Park. Removal and treatment of invasive buckthorn and reseeded/planting with natives with ongoing maintenance. Project partners include Great River Greening, Ramsey County Parks, and St. Paul Regional Water Services. Funds provided by the Outdoor Heritage grant program administered by the MN DNR.	Restoration project complete including woody invasive removal and native plant seeding.	Invasive removal complete in woodland and wetland areas. Native plant seeding to occur in 2025.
Oak Knoll Pond Spent Lime Study	Financial and social feasibility study with Barr Engineering to determine potential for scaling up small pond treatments to a large pond.	Complete demonstration project and report initial monitoring results. Extension time frame November 2025.	Demonstration project completed, initial monitoring results memo from Barr received and reported to TEC/BOD and City of White Bear Lake. Monitoring ongoing in 2025.
Groundwater Conservation Pilot Project	Pilot program in partnership with member communities to install smart irrigation controllers on public properties with high groundwater usage. Evaluate effectiveness for providing groundwater conservation benefits.	Complete 2 pilot projects.	Completed on private and public properties. 6 projects awarded funding.
Tamarack Lake Alum Treatment	Alum treatment project in Tamarack Lake.	Improve water quality toward meeting nutrient standards.	Phase 1 completed with LRI. Phase 2 planned for spring 2025.
Birch Lake AIS Removal	Eurasian watermilfoil (EWM) and curly-leaf pondweed (CLP) hand pulling in Birch Lake. Partnership with Birch Lake Improvement District (BLID).	Continue to reduce EWM in Birch Lake. Eradicate new CLP infestation.	Completed pre/post survey with RCSWCD. BLID-funded AIS removal by Dive Guys. Partnership planned to continue in 2025.



## CAPITAL PROJECTS & PROGRAMS

## Review of 2024 Work Plan

Project Name	Description	Goal: Going into 2024	2024 Result
Pleasant Lake Carp Removal	Remove invasive common carp from the Pleasant Lake system. Partnership with Carp Solutions to target spring removals during migration.	Reduce biomass to 100 kg/ha and maintain biomass below this threshold.	New barrier and monitoring completed at Deep Lake with 12,000 pounds of carp removed. Program will continue in 2025 with current barrier, trap netting at a culvert location on Pleasant, and antenna at Charley.
East Vadnais Lake Subwatershed Resiliency Study	Feasibility study to evaluate opportunities to improve resiliency in the East Vadnais Lake subwatershed. Includes Best Management Practices (BMPs) such as flood mitigation, water quality improvement, and drinking water source protection opportunities.	Study complete with BMP opportunities and potential grant funding sources identified.	Complete.



## GRANT PROGRAMS

Project Name	Description	Goal: Going into 2024	2024 results
Rain Barrel Grant	Reimburse 50% of a rain barrel purchase (up to \$200) with proof of purchase.	Fund 3 rain barrel reimbursements.	Complete. 5 projects awarded funding.
Landscape Level 1	Establish relationships and provide grants to property owners within the watershed to install water quality enhancement projects.	Fund at least 1 LL1 infiltration project.	Complete.
Landscape Level 2	Assist landowners with implementing larger BMP projects focused on stormwater capture and treatment within the watershed.	Fund 2 LL2 projects.	Complete. 8 projects awarded funding.
Soil Health Grant	A grant program that reimburses landowners for installing small-scale practices that improve water quality and soil health with a focus on native plant restorations.	Fund 5 SHG projects.	Complete. 9 projects awarded funding.
Community Blue Grant	A communication and outreach grant program for projects that relate to water quality. Available to MN Water Stewards, volunteers, and community partners.	1 public education initiative. 1 raingarden renovation or service project.	Complete.



## EDUCATION AND OUTREACH

## Review of 2024 Work Plan

Project Name	Description	Goal: Going into 2024	2024 Result
Watershed Action Volunteers (WAV)	The WAV consists of Minnesota Water Stewards (Freshwater), Citizen Advisory Commission (CAC), and volunteers with individual role descriptions.	Launch Local Leaders Stormwater BMP consult initiative.	Complete.
		Hold spring and fall WAV/CAC meetings.	Spring meeting complete.
		Facilitate public booths (3+).	Complete.
Community Engaged Learners (CEL)	The Community Engaged Learning (CEL) Partnership with the University of Minnesota includes habitat improvement projects such as buckthorn removal, prairie and native woodland establishment, wooded wetland restoration, and various forms of wildlife monitoring.	Complete 4 field work days in habitat management and site maintenance.	Paused due to WMP planning.
Workshops	Educate residents on watershed processes, raingarden and native plant function, smart salting, and VLAWMO grant programs.	4 residential workshops (raingardens, etc.).	Complete.
		1 municipal staff workshop (Smart Salting, etc.).	Complete.
Community Events	Staff a VLAWMO booth, develop watershed information and resources for community events.	5 community events. 1 watershed/BMP tour.	Complete. Complete.
Communications	Create and update material and publications for social media, website, seasonal e-news, and local publications. Create and maintain communications on VLAWMO projects and to promote responsible use of water resources.	10+ e-newsletters	Complete.
		Website renovation	Underway.
		3 communications items provided to member communities	Complete.
K-12	Provide watershed activities and resources for schools. Assist schools in establishing and maintaining stormwater best management practices (BMP's).	1 school collaboration/yr.  2 school raingarden maintenance activities.	Complete.  1 maintenance activity completed.


**MONITORING PROGRAM**
*Review of 2024 Work Plan*

Project Name	Description	Goals: Going into 2024	2024 Result
Lambert Creek monitoring program	Monitor basic phosphorus, nitrogen, Chlorophyll-A, chloride, and sediment levels at 6 sites along with pH, conductivity and DO at the 3 flumes. Maintain automated flow meter and precipitation gauge at Whitaker. Four remote sensors installed along creek, live updated volume and water levels displayed on line.	Document and evaluate creek water quality.	Complete.
Lake Level program	Gilfillan, Birch, Gem & Goose Lake gauges are calibrated in the spring and read up to 11 times during the summer.	Monitor lake levels on 4 targeted lakes in the watershed to track short & long term trends.	Complete.
Chloride measurements	Sample lakes and Lambert Creek during spring snow melt and ice out.	Check spring measurements.	Complete.
Lake monitoring program	Monitor chemistry of 15 of VLAWMO's lakes for nutrients, turbidity, pH, conductivity, and dissolved oxygen (DO).	Keep water quality record of watershed's lakes. Utilize water quality data for future projects and CIPs.	Complete. Complete.



## Review of 2024 Work Plan



### ADMINISTRATION & REGULATION

Project Name	Description	Goals: Going into 2024	2024 Results
Budget & Stormwater Utility	Storm sewer utility rates are based on the adopted budget and certified to the counties for collection.	Continued county participation and budgeting for future years.	Complete.
Wetland Conservation Act (WCA)	Complete boundary and type & other determinations in consultation with the TEP. Respond to WCA questions.	Continued administration of WCA.	WCA administered in 2024.



### SUSTAINABLE LAKE MANAGEMENT REPORTS (SLMRs) AND STUDIES

Project Name	Description	Goals: Going into 2024	2024 Results
SLMRs watershed-wide	Maintain SLMRs with updates as new data and information becomes available.	Update SLMRs, convey on website.	SLMRs transitioned to Lake Reviews.  Lake Reviews completed on all VLAWMO lakes, ready to add to new VLAWMO website.



Left: Members of the Dive Guys pictured with Eurasian Watermilfoil harvested from Birch Lake.

Middle: A crew working on Tamarack Lake.

Right: Goats at work removing invasive buckthorn from the woodland behind the Vadnais Heights City Hall.

## CAPITAL IMPROVEMENT AND MAINTENANCE PROJECTS

## 2025 Work Plan

Project Name	Description	Goals	Timeline
Wilkinson Deep-Water Wetland BMP	This deep-water wetland restoration helps improve water quality in impaired Wilkinson Lake. Project partners include the North Oaks Company (NOC), Minnesota Land Trust, and Houston Engineering Inc. Funded by EPA 319 with shared match between VLAWMO and NOC.	<ul style="list-style-type: none"> <li>» Enhancement with NST in partnership with NOC.</li> <li>» Aquatic plant survey to assess 2024 work results and trial additional transplant sessions with RCSWCD.</li> <li>» Project closed out with MPCA.</li> </ul>	<ul style="list-style-type: none"> <li>»2025 implementation</li> <li>»2025</li> <li>»August 2025</li> </ul>
Vadnais/Sucker Regional Park Habitat Restoration	28 acres of restoration consisting of removal and treatment of invasive buckthorn and reseeding/planting with natives with ongoing maintenance. Project partners include Great River Greening, Ramsey County Parks, and St. Paul Regional Water Services. Funds provided by the Outdoor Heritage grant program administered by the MN DNR.	Complete project and begin maintenance phase.	December 2025
Oak Knoll Pond Spent Lime Study	Financial and social feasibility study with Barr Engineering to determine potential for scaling up small pond treatments to a large pond.	Monitoring by VLAWMO staff and analysis/reporting by Barr. Monitoring will continue into 2026, depending upon 2025 results.	Ongoing
Groundwater Conservation Pilot Project	Pilot program in partnership with communities to install smart irrigation controllers and other groundwater conservation projects on properties with high groundwater usage. Evaluate effectiveness for providing groundwater conservation benefits.	Complete 4 projects.	December 2025
Tamarack Lake Alum Treatment	Alum treatment project in Tamarack Lake.	Phase 2 planned for spring 2025. Additional phases may be implemented, depending upon monitoring results and pH levels.	Ongoing
Birch Lake AIS Removal	Eurasian watermilfoil (EWM) and curly-leaf pondweed (CLP) hand pulling in Birch Lake. Partnership with Birch Lake Improvement District (BLID).	Pre/post survey in partnership with RCSWCD. BLID will be funding removal work with Dive Guys.	2025



## CAPITAL IMPROVEMENT AND MAINTENANCE PROJECTS

## 2025 Work Plan

Project Name	Description	Goals	Timeline
East Vadnais Lake Subwatershed Resiliency BMPs	Partner on planning and installing BMPs to improve stormwater resiliency including projects focused on flood mitigation, upgrading or replacing infrastructure, water quality improvement, and drinking water source protection.	Partner on initiation of design work for a recommended BMP in the study area.	December 2025
Pleasant Lake Carp Removal	Removal of invasive common carp from the Pleasant Lake system. Partnership with Carp Solutions to target spring removals during migration.	<ul style="list-style-type: none"> <li>» Removal at current barrier</li> <li>» Additional trap netting</li> <li>» Additional antenna placed at Charley</li> <li>» Biomass estimate done after 2025 removals</li> </ul>	Ongoing
Rotary Park Wetland Restoration	A partnership with the City of White Bear Lake, working with NST to restore native vegetation. Funded by the MN DNR's CPL grant program.	<ul style="list-style-type: none"> <li>» Begin treatment of invasive plants in key areas</li> <li>» Evaluation of progress for possible retreatment</li> <li>» Consideration of seeding and plants as recommended by contractor</li> </ul>	2025-2029
White Bear Lake Sports Center Stormwater BMP Retrofit	Partner with the City of White Bear Lake to construct a BMP that will reduce the volume of stormwater runoff from the surrounding streets, parking lot, and landscape of the White Bear Lake Sports Center to improve the water quality of Birch Lake.	Partner on completing 1 BMP project at the White Bear Lake Sports Center	December 2025
Green Streets Feasibility Study and Design Work Partnership	Partnership with the City of Vadnais Heights to complete feasibility and design work for a potential Green Streets project along Greenhaven Drive in tandem with a City street improvement project.	Partner on data collection, public engagement, and potential BMP option discussions.	December 2025

## GRANT PROGRAMS

## 2025 Work Plan

Project Name	Description	Goals	Timeline
Rain Barrel Grant	Reimburse 50% of a rain barrel purchase (up to \$200) with proof of purchase.	Fund rain barrel purchases.	December 2025
Soil Health Grant (SHG)	Reimburse landowners for installing small-scale practices that improve water quality and soil health with a focus on native plant restorations.	Fund SHG projects.	December 2025
Landscape Level 1 (LL1)	Establish relationships and provide grants to property owners within the watershed to install water quality enhancement projects.	Fund LL1 infiltration projects.	December 2025
Landscape Level 2 (LL2)	Assist landowners with implementing larger BMP projects focused on stormwater capture and treatment within the watershed.	Fund LL2 projects.	December 2025
Community Blue Grant	A communication and outreach grant program for projects that relate to water quality. Available to MN Water Stewards, volunteers, and community partners.	1 public education initiative. 1 raingarden renovation or service project.	Ongoing.



A bee lawn established in 2024 with funding from VLAWMO's Soil Health Grant program.



Watershed residents gather as part of the 2024 Neighborhood Tours, an event series highlighting projects that have been awarded VLAWMO grants.



Boy Scout Jordan Erwin, 2024 Community Blue grant recipient, at the renovated Vadnais Heights Elementary rain garden.



**EDUCATION AND OUTREACH**

*2025 Work Plan*

Project Name	Description	Goals	Timeline
Watershed Action Volunteers (WAV)	The WAV consists of Minnesota Water Stewards (Freshwater), Citizen Advisory Commission (CAC), and volunteers with individual job descriptions.	Hold spring and fall WAV/CAC meetings.	2025
		Facilitate public booths.	2025
Community Engaged Learners (CEL)	The Community Engaged Learning (CEL) Partnership with the U of M includes habitat improvement projects such as buckthorn removal, prairie and native woodland establishment, and wooded wetland restoration.	Complete field work days in habitat management and site maintenance.	Possibly resuming fall 2025
Workshops	Educate residents on watershed processes, raingarden and native plant function, smart salting, and VLAWMO grant programs.	Hold residential workshops (raingardens, etc.). Hold municipal staff workshop (Smart Salting, etc.).	Ongoing
Community Events	Staff a VLAWMO booth, develop watershed information, brochures, and resources for community events.	Attend community events. Organize 1 watershed/BMP tour.	Ongoing
Communications	Create and update material and publications for social media, website, seasonal E-news, and local publications. Create and maintain communications on VLAWMO projects and to promote responsible use of water resources.	Distribute e-newsletters.	Ongoing
		Complete website renovation. Provide communications items to member communities.	December 2025 Ongoing
K-12	Provide watershed activities and resources for schools. Assist schools in establishing and maintaining stormwater best management practices (BMP's).	At least 1 school collaboration.	Ongoing

## 2025 Work Plan


**MONITORING PROGRAM**

Project Name	Description	Goals	Timeline
Lambert Creek monitoring program	<ul style="list-style-type: none"> <li>» Monitor basic phosphorus, nitrogen, Chlorophyll-A, chloride, and sediment levels at 6 sites along with pH, conductivity and DO at the 3 flumes.</li> <li>» Maintain automated flow meter and precipitation gauge at Whitaker.</li> <li>» Four remote sensors installed along creek, live updated volume and water levels displayed on line.</li> </ul>	Document and evaluate creek water quality.	Monitoring May-Sept.
Lake Level program	Calibrate Gilfillan, Birch, and Goose Lake gauges in the spring and read up to 11 times during the summer.	Monitor lake level on three lakes.	Monitoring May-Sept.
Chloride measurements	Sample lakes and Lambert Creek during spring snow melt and ice out.	Monitor 14 lakes and 6 creek sites.	<p>Monitor lakes after iceout.</p> <p>Monitor creek sites during spring runoff.</p>
Lake monitoring program	Monitor chemistry of 14 of VLAWMO's lakes for nutrients, turbidity, pH, conductivity, and dissolved oxygen (DO).	<p>Keep water quality record of watershed's lakes.</p> <p>Utilize water quality data for future projects and CIPs.</p>	Monitoring May-Sept.



Views from East Vadnais Lake throughout the seasons. Photos courtesy of watershed residents. VLAWMO appreciates these contributions.

Left: Mallards gather.  
Center: Ice along the lakeshore.  
Right: Two common loons on the lookout.

**ADMINISTRATION & REGULATION**

*2025 Work Plan*

Project Name	Description	Goals	Timeline
Budget & Stormwater Utility	Storm sewer utility rates are based on the adopted budget and certified to the counties for collection.	Continued county participation and budgeting for future years.	Ongoing.
Wetland Conservation Act (WCA)	Complete boundary and type & other determinations in consultation with the TEP. Respond to WCA questions.	Continued administration of WCA.	Ongoing.

**LAKE REVIEWS AND STUDIES**

Project Name	Description	Goals	Timeline
Lake reviews throughout the watershed	Maintain lake reviews with updates as new data and information becomes available.	Update lake reviews, convey on website.	Ongoing.



Left: Native plants in bloom along Sucker Channel.

Right: A Great Horned Owl caught on trail camera near Wilkinson Lake.

## MS4 Summary

The Municipal Separate Storm Sewer System (MS4) Permit is a program administered by the Minnesota Pollution Control Agency. It organizes tasks and responsibilities for communities that generate stormwater runoff to protect and improve their local water resources.

The permit is organized into 6 categories (Minimum Control Measures, or MCMs) which cover topics such as public education, public participation, illegal dumping (illicit discharge), construction and development protocols, and general housekeeping such as staff training.

VLAWMO is formed through its Joint Powers Agreement (JPA) with member communities. VLAWMO offers its expertise in water resources and public communications to support its member communities' permits. In 2024, these efforts continued for the 2020-2025 General MS4 Permit. VLAWMO member communities utilized the following resources in their MS4 reporting:

- Illicit discharge training video provided to all municipal partners: Jan 5
- Vadnais Heights MS4 training on illicit discharge: Jan 30
- White Bear Lake Police and Fire illicit discharge training: March 7
- White Bear Township wellhead protection communications collaboration: March 29
- Vadnais Heights Smart Salting collaboration: April 4
- MS4 newsletter turf and pet waste to all municipal partners: April 16
- White Bear Lake illicit discharge public works training: April 23
- Vadnais Heights illicit discharge yard waste resource utilized: May 1
- Spring/summer yard care news article in North Oaks News: May 29



Chloride reduction efforts remained a critical part of VLAWMO's MS4 support in 2024.



Example of 2024 pet waste graphics shared with MS4 partners.



2024 Illicit discharge training video provided to MS4 partners.



**LOGISTICS:**

Administration, finances, standards, partnerships & thanks

## Wetland Conservation Act (WCA)

VLAWMO administers the Wetland Conservation Act as the LGU for its member communities. There were 19 landowner contacts in which wetland-related technical assistance was provided this year. There were 5 potential WCA violation sites investigated, with 5 of 5 resolved.

### WCA SUMMARY

Type of Application	Approved	Denied	Withdrawn
Boundary and Type	8	0	0
No-Loss	3	0	0
Exemption	1	0	0
Sequencing	2	1	1
Replacement Plan	1	0	1

## Local Water Plan Adoption

Adoption of Local Water Plans: Gem Lake, Lino Lakes, North Oaks, White Bear Lake, White Bear Township and Vadnais Heights are all complete and have been adopted.

Member Community	Last Local Water Plan Update Year
Gem Lake	2018
Lino Lakes	2018
North Oaks	2008
Vadnais Heights	2018
White Bear Lake	2021
White Bear Township	2019

## Partnerships

One of VLAWMO’s greatest successes is working together with partners to use resources wisely and maximize effectiveness. Workshops, meetings, and webinars allow VLAWMO to be on the cutting edge of water resources practices in the Northeast Metro.

- » Metro Watershed Partners and Blue Thumb provide regular meetings to keep updated with other watersheds, utilize education resources, and learn from guest speaker specialists on up and coming topics.
- » Ramsey County GIS User Group focuses on sharing, developing, and promoting GIS data and technology. As a member agency, VLAWMO contributes and receives data and has a voting hand in the content the Group funds and develops. Regular RCGISUG membership fees go to producing aerial images of Ramsey County and other GIS data.
- » Ramsey County Soil and Water Conservation Division (RCSWCD) leads the Cooperative Weed Management Area (CWMA) and holds informative forums on topics of general concern (e.g., invasive species, AIS Detectors, groundwater). They also provide financial partnership, grant funding, technical assistance, lake surveys, and BMP design.
- » Many other organizations and groups help carry out VLAWMO’s mission through events, outreach strategies, and project planning.

## Biennial Solicitation for Proposals

Auditing was solicited in 2023 for the years 2024 and 2025. Legal and Engineering were solicited in 2024 for the years 2025 and 2026.

## 2024 Partners

Each year our partners provide leadership, guidance, and resources to support our goals. VLAWMO would like to thank the following groups for their continued support in 2024.

### Municipal partners:

- » Communities of Gem Lake, Lino Lakes, North Oaks, Vadnais Heights, White Bear Lake, and White Bear Township

### Other partners:

- » Birch Lake Improvement District (BLID)
- » City of Vadnais Heights Parks Commission
- » Freshwater
- » Great River Greening
- » Minnesota Land Trust
- » The North Oaks Company, North Oaks Home Owners' Association (NOHOA), Natural Environment Stewardship Team
- » Ramsey County, Ramsey County Soil and Water Conservation Division, Ramsey County Parks & Recreation
- » Ramsey County GIS User Group
- » Saint Paul Regional Water Services (SPRWS)
- » Tamarack Nature Center
- » UMN Community-Engaged Learning Program
- » Vadnais Heights Economic Development Corporation/Partners for Good
- » Vadnais Heights Green Team
- » Vadnais Heights and Birch Lake Elementary Schools
- » White Bear Lake Area Historical Society



Above: Carp Removal efforts at Pleasant Lake. Approximately 12,000 pounds of carp were removed from the lake in 2024.



Above: The City of Vadnais Heights welcomed a herd of goats to the woodland behind City Hall to continue buckthorn removal efforts and prepare the site for native seeding.

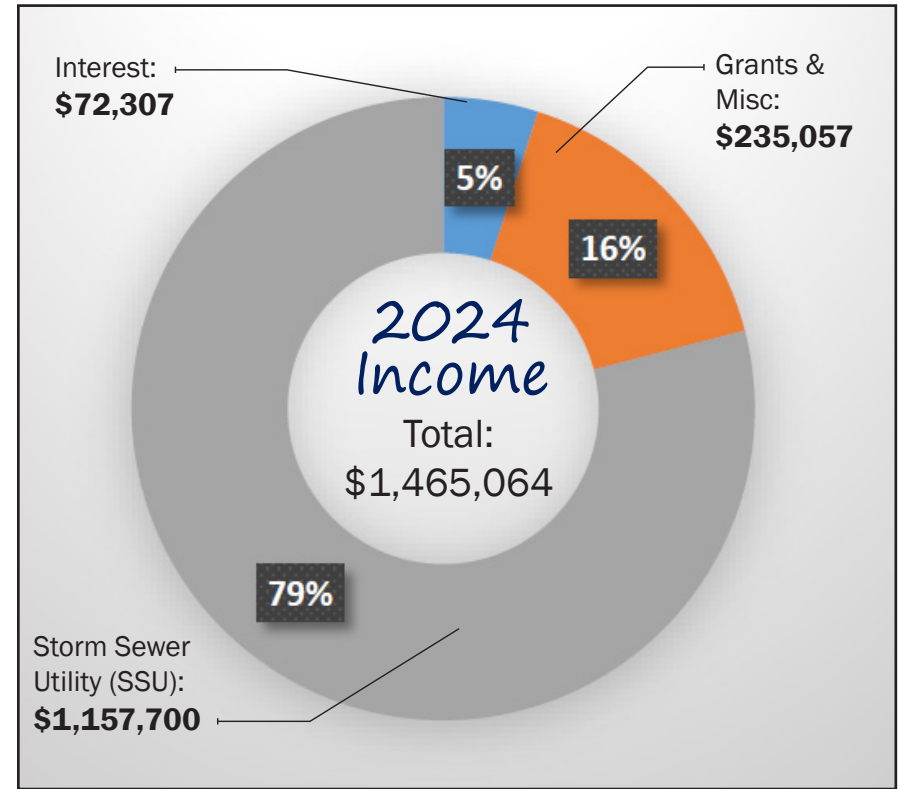
## Finance and Budget

The 2024 budget was established by the Board of Directors in June 2023 with designated project and program funds carried over in December 2023. The Finance and Policy Subcommittee, with a representative from the Technical Commission and the Board, reviewed and made recommendations on the 2024 budget to the Board in June 2023.

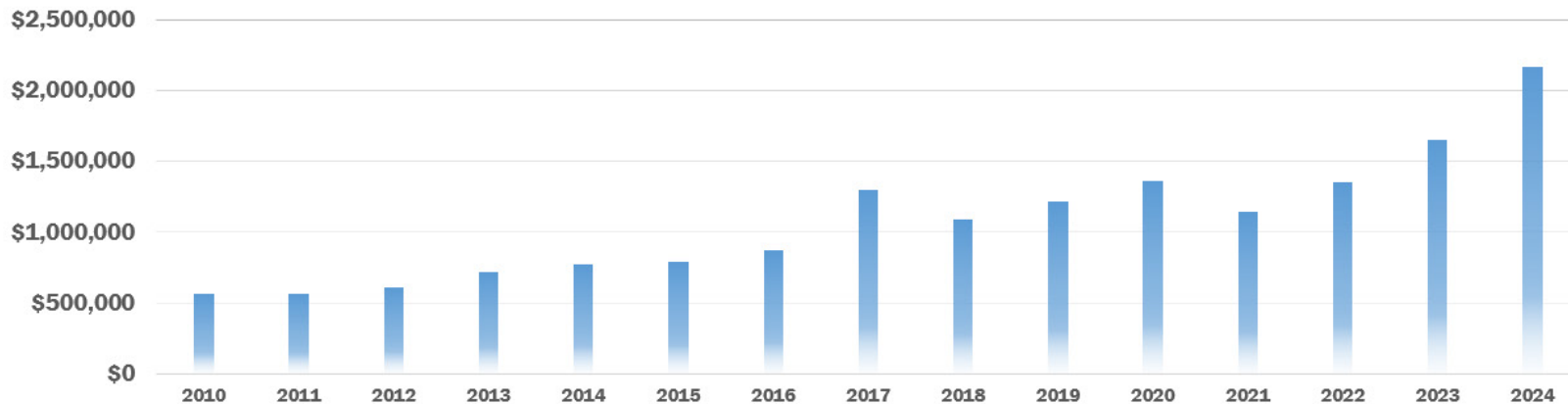
The Board-approved budget included funds to address multiple capital improvement projects, including the Tamarack Lake TMDL implementation alum project, implementation of a resiliency study in the East Vadnais Lake subwatershed, a grant program partnership with the City of White Bear Lake on street reconstruction projects, and the carp harvest project at Pleasant and Deep Lakes. These projects focused on addressing water quality protection for high priority waterbodies in the watershed.

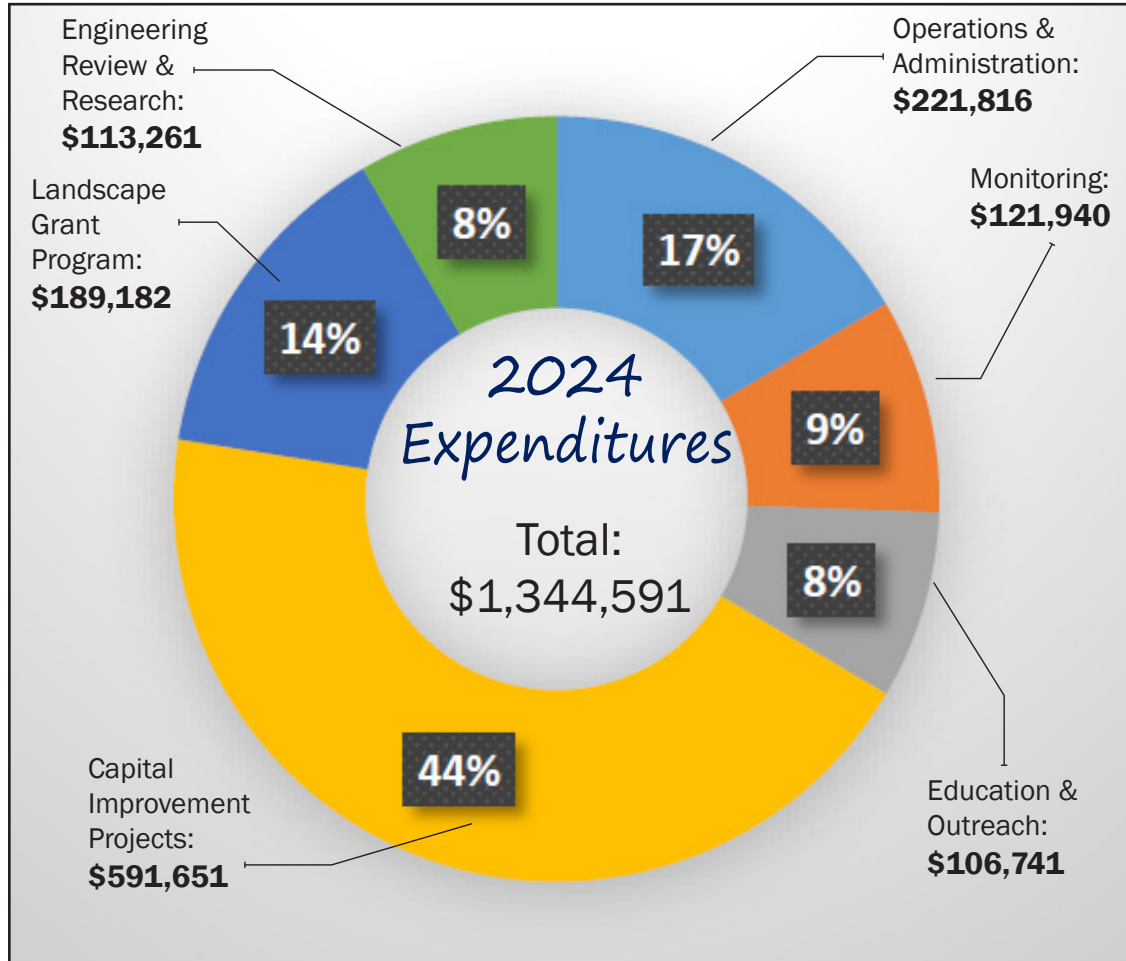
Other programmatic focuses for 2024 included VLAWMO's grant programs and the early development of VLAWMO's 10-year watershed management plan.

<p><b>Approved budget for 2024:</b>  <b>\$2,163,873</b></p>
<p><b>Actual income from 2024:</b>  <b>\$1,465,064</b></p>
<p><b>Money spent in 2024:</b>  <b>\$1,344,591</b></p>



## Annual Budget by Year





## INCOME

The mainstay of support for VLAWMO's work comes from its Storm Sewer Utility (SSU) fees. These fees are based on an estimate of impervious surface for each parcel of land with reference to land use classification. \$1,157,700 in SSU was collected in Ramsey and Anoka Counties in 2024 for approximately 11,546 parcels. The average single-family homeowner paid \$64.89 per year, about \$5.41 per month to support projects and programs conducted by the watershed. The 5% increase in SSU fees supported sustainable coverage of key priority programs and projects outlined in the VLAWMO Watershed Management Plan. Some grant/loan income was utilized to cover project implementation costs.

## EXPENSES

The total cash expenses for 2024 was \$1,344,591. Engineering and planning efforts initiated in 2024 in the Lambert Creek and Wilkinson/Gilfillan/Black/Tamarack subwatersheds will be carried over into 2025 for project implementation.

## GRANTS AND PARTNERSHIPS

Grant funds and related miscellaneous and partnership income received in 2024 totaled \$235,057. This included US Environmental Protection Agency (EPA) 319 funds administered by the Minnesota Pollution Control Agency (MPCA) and funding from the Board of Water and Soil Resources Watershed Based Implementation Funding Program through the Clean Water, Land and Legacy Amendment.



Canada Geese at Sucker Lake. Photo courtesy of watershed residents. VLAWMO appreciates this contribution.

**WHO WE ARE:**

The people and partnerships behind VLAWMO

**The VLAWMO office is located at:**

800 E County Road E  
Vadnais Heights, MN  
55127

**Who we are**

The VLAWMO Board of Directors consists of one elected official from each of the five cities and one township within the watershed. Each Board member is appointed for a three-year term.

**2024 BOARD OF DIRECTORS (BOD)****Jim Lindner, Chair**

City of Gem Lake  
651-492-5083

**Andrea West, Vice Chair**

City of White Bear Lake  
612-245-3133

**Katherine Doll Kanne, Treasurer**

City of Vadnais Heights  
320-905-3606

**John Shuman**

City of North Oaks  
612-212-9575

*In role through June 2024*

**Grover Sayre**

City of North Oaks  
612-202-5768

*Began role in July 2024*

**Ed Prudhon**

White Bear Township  
651-426-2311

**Rob Rafferty**

City of Lino Lakes  
651-429-6772

The VLAWMO Technical Commission consists of one citizen representative from each of the six communities. The Technical Commission meets to review and consider watershed business as well as make recommendations to the Board for wider scope decisions.

**2024 TECHNICAL COMMISSION (TEC)****Gloria Tessier, Chair**

Gem Lake

**Nick Ousky**

Vadnais Heights

**Susan Miller**

North Oaks

**Terry Huntrods**

White Bear Lake

**Jami Philip**

White Bear Township

**Andy Nelson**

Lino Lakes

*In role through August 2024*

**Tom Hoffman**

Lino Lakes

*Began role in November 2024*

VLAWMO employs five full-time staff for everyday operations. Consultants support VLAWMO in a variety of ways including through auditing, bookkeeping, engineering, and technical assistance.

## STAFF

### **Phil Belfiori**

Administrator  
phil.belfiori@vlawmo.org  
651-204-6073

### **Dawn Tanner, PhD**

Program Development Coordinator  
dawn.tanner@vlawmo.org  
651-204-6074

### **Brian Corcoran**

Water Resources Manager  
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651-204-6075

### **Lauren Sampedro**

Watershed Technician and Program Coordinator  
lauren.sampedro@vlawmo.org  
651-204-6071

### **Nick Voss**

Education and Outreach Coordinator  
*In role through August 2024*

### **Angela Hugunin**

Communication and Outreach Coordinator  
*Began role in December 2024*  
angela.hugunin@vlawmo.org  
651-204-6070

## CONSULTANTS

### **Barr Engineering**

4300 Market Pointe  
Minneapolis, MN 55435  
952-832-2600

### **Carp Solutions, LLC**

1380 Pike Lake Court  
New Brighton, MN 55112  
612-275-3792

### **CliftonLarsonAllen LLP**

220 South Sixth St #300  
Minneapolis, MN 55402  
612-397-3266

### **Dive Guys, LLC**

3015 W 71st Street  
Minneapolis, MN 55423  
651-528-6600

### **Ehlers & Associates**

3060 Centre Point Dr  
Roseville, MN 55113  
651-697-8500

### **HDR Engineering, Inc.**

701 Xenia Ave. S. Ste. 600  
Minneapolis, MN 55416  
763-591-5400

### **Houston Engineering, Inc.**

6901 E Fish Lake Rd  
Maple Grove, MN 55369  
763-493-4522

### **Kennedy & Graven, Chartered**

200 South Sixth St Ste. 470  
Minneapolis, MN 55402  
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### **Natural Shore Technologies, Inc.**

1480 County Rd 90  
Independence, MN 55359  
612-703-7581

### **Resilience Resources, LLC**

3235 Fernbrook Lane N  
Minneapolis, MN 55447  
612-408-7515

### **Sandstrom Land Management**

888 Burke Avenue  
Roseville, MN 55113  
651-208-1379

### **ScapeGoats**

7649 WI-128  
Spring Valley, WI 54767  
612-751-4134

### **SEH - Engineer on Retainer**

3535 Vadnais Center Dr  
Vadnais Heights, MN 55110  
800-325-2055

### **SRF Consulting Group, Inc.**

3701 Wayzata Boulevard, Ste. 100  
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