The results are great! Water from Whitaker pond, in the headwaters of Lambert creek is pumped into the treatment wetlands where it interacts with various filter media. University of Minnesota students monitored the effect on select pathogens. Check the monitoring report on the VLAWMO website for more information on this project. Whitaker treatment wetland was made possible through funding from the Legislative Citizens Commission for Minnesota Resources.

Partnerships were critical to the watershed work. Work on and around Goose Lake are another example of working with state and local government, citizen volunteers, agencies and schools to improve the health of the water. City of Champlin, City of Lakeville, Lino Lakes, and metro schools are just a few partners in this work. VLAWMO applied for grant funds to treat the internal loading in Goose Lake. 2020 will see more collaborations at work.

This will be my last Annual Report letter. I am retiring in the spring of 2020. It has been 30 rewarding years with the Vadnais Lake Area Water Management Organization. With the help of many of you, we have gotten a lot done. I have been privileged to have a job that I really liked doing...almost every day. Working with so many inspiring, intelligent, hard-working people who have enriched both my life and the work of the watershed. The capacity and impact of VLAWMO has grown. Thank you all for letting me be a part of that. The staff at the watershed, Brian, Tyler, Nick and Dawn are a great team to work with, and the Board are truly dedicated to the work and mission of the watershed.

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You will be introduced to the new administrator shortly. He is bringing a wealth of experience and energy to VLAWMO. Take care folks and enjoy the work that you do.

Greetings!

Stephanie McNamara, Administrator

Mission Statement

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

Activities we work on include: water quality monitoring, education and outreach projects, wetland protection, and water quality enhancement projects.
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. In addition, watersheds also provide food and shelter for wildlife.

OUR GOALS

Accomplishing our mission requires a focus on common goals. The VLAWMO will pursue the following goals as a way of proceeding towards the 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
» 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 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 stormwater 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 (eg. residential, commercial etc), and is included on Ramsey County property tax statements. The authority to charge and collect a stormwater utility fee is governed by Minnesota State Law.

Vadnais Lake Area Water Management Organization

Water Resources in the Watershed

LAKES

There are 16 lakes within VLAWMO. 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 Lino Lakes, Pleasant Lake, Charley Lake, Deep Lake, Black Lake, Wilkinson Lake and Griffith Lake are located in North Oaks. Sucker Lake, East 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 underground aqueduct into Lake Charley in North Oaks. The water then flows east to Pleasant Lake then south into Sucker Lake, and then into East Vadnais.

LAMBERT CREEK

VLAWMO has jurisdiction over Lambert Creek, 4.5 miles of creek and wetland that runs from West Goose Lake 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 tracts of wetlands 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.

"How Watersheds Work" courtesy of Michigan Sea Grant (MICHU-10-728)
What problems does the watershed face?

**IMPAIRED LAKES**: Several of the lakes in the watershed are on the State Impaired List for high nutrients. These include Wilkinson, Goos, West Vadnais, and Giffillan Lakes, as well as Lambert Creek. Lambert Creek has the additional impairment of high E. coli bacteria levels. Our 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 and is part of the puzzle.

**SEDIMENTATION**: Erosion and sedimentation is a natural process that can be accelerated with human activity. Bare soil, degraded slopes, and poorly protected drainage routes are common sources of excess sediment. 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.

What is currently being done to address these problems?

**RISING CHLORIDE LEVELS**: Road salt has a permanent impact on fresh water, with no economical way to remove it once it’s in the water. When it washed into lakes and wetlands, the chlorides in salt interrupt the natural nutrient cycling. Fish depend on.

While some water bodies flush salt downstream to another watershed, some lakes in VLAWMO are accumulating salt. All of VLAWMO’s lakes are currently below state standards, but VLAWMO is monitoring this closely to track changes and guide management.

**DEGRADED WETLANDS**: Many shorelines on lakes and ponds contain turf grass 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 in preventing the gradual loss and degradation of wetlands. Preventing this loss supports clean and secure surface and groundwater for the future.

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See page 17 for how to be part of the solution.

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In the Community

COMMUNITY EVENTS
Staffing a booth at local events is a fun and valuable way to connect with community members. At events VLAWMO has the opportunity to share its work, provide brochures, give away prizes such as rainbarrels or tote bags, and answer questions for event goers. This year, community events served a dual purpose by also providing a place to conduct community surveys for the Education and Outreach Plan (p. 11).

VLAWMO booths were presented at the following 2019 events:
- Bearly Open - White Bear Lake
- Landscape Revival - Shoreview
- North Oaks Plant Sale - North Oaks
- Saint Paul Regional Water Service Treatment Facility Open House
- Vadnais Heights Ice Cream Social - Berwood Park, Vadnais Heights
- Marketfest Conservation and Environment Day - White Bear Lake
- Children’s Water Festival, MN State Fairgrounds
- Heritage Days - Vadnais Heights (Education materials rented by volunteers)
- Whitaker Treatment Wetlands Tour - Columbia Park, White Bear Township
- North Oaks Company Information Gathering - North Oaks
- Aquatic Invasive Species (AIS) and You: Ramsey County Public Works
- White Bear Lake Volunteer Fair, South Campus High School

EDUCATION PROGRAMS
VLAWMO staff provides water-focused activities for elementary, middle, and high schools in the watershed. If a school has a stormwater best management practice such as a raingarden on the grounds, this often becomes a living, outdoor classroom. Students learn how to maintain the raingarden, observe nature, work with topographic maps, and much more.

Below: Students at Vadnais Heights Elementary help with raingarden maintenance after a stormwater lesson on the school grounds.

Right: Raingarden workshop participants learn about the watershed, how raingardens work, and calculated runoff on their own properties.

PUBLIC WORKSHOPS
VLAWMO offers a raingarden workshop each Spring. Participants in the raingarden workshop learned about the watershed, stormwater runoff, how to build and maintain a raingarden, and got a head start with tools to select plants and get funding assistance.

The native plant workshop is the most popular workshop for the second year in a row. This workshop dug deep into plant identification, planting plans and strategies, and how perennial vegetation is a valuable asset for the watershed.

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**Cost Share Programs**

VLAWMO’s Cost Share Program provides assistance to public and private landowners for implementing stormwater improvement projects. Qualifying projects support one or more of the following:

- Prevention of flooding or mitigation of drought
- Water quality improvement or increase in watershed storage capacity
- Preservation, protection, and restoration of native plant and wildlife communities, especially along lakes, streams, and wetlands
- Protection and preservation of groundwater quality and quantity

Funds vary by year and are granted on a first come first serve basis. Once the annual amount is depleted, applicants are advised to re-apply the following year.

There are 3 cost share programs:

- Rainbarrel
- Landscape Level 1
- Landscape Level 2

### LANDSCAPE COST SHARE PROGRAMS

**Landscape Level 1**

- Reimburses property owners 75% of the costs associated with implementing approved water quality improvement projects. The maximum reimbursement is $2,000 for this program. Typical projects include raingardens, shoreline restoration, native plant restoration, or pervious paver installation.

**Landscape Level 2**

- Projects with a larger total cost (minimum total cost of $5,000) and will reimburse 75% of the costs, up to $20,000. The program was updated in 2015 to allow funding to be more available for applicants.

VLAWMO uses Minimal Impact Design Standards (MIDS) to measure the impact of landscape improvement projects. The impact of 2019’s projects are estimated to improve water quality by:

- Reducing total phosphorus by .797 lbs per year.
- Reducing suspended solids by 144.2 lbs per year.
- Infiltrating 300,141 gallons of water into the ground annually.

### Cost Share Grants by Year: Landscape & Rainbarrel

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<th>Rainbarrel</th>
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<tr>
<td>2018</td>
<td>18</td>
<td>19</td>
</tr>
</tbody>
</table>

**LANDSCAPE LEVEL 1 SUMMARY**

For Landscape level one, 10 grants were awarded funding for a total of $11,580.26. Funding for the year was not completely utilized.

Of the 10 level one grants, 6 were native plant restorations totaling 37,375 ft$^2$. 3 were raingardens totaling 922 ft$^2$. 1 was a shoreline restoration totaling 990 ft$^2$.

### LANDSCAPE LEVEL 2 SUMMARY

1. Landscape level two grant was awarded for a total of $11,928. The project was a raingarden plus native plant restoration in Vadnais Heights, covering 2,510 sq ft.

### RAINBARREL COST SHARE PROGRAM

The Rainbarrel Program reimburses residents 50% of the cost towards the purchase of up to 2 rainbarrels. Applicants are limited to $125 maximum reimbursement per rainbarrel.

**RAINBARREL SUMMARY**

In 2019 VLAWMO awarded grants for 6 rainbarrels, for a total of $198.14. A total of 98 rainbarrel grants have been awarded since the program began in 2007. Each time the barrels are filled, up to 4,900 gallons of rainwater is available for reuse. If each rainbarrel gets filled 10 times throughout the year from various storm events, up to 49,000 gallons of water is available for reuse. Four additional rainbarrels were awarded in 2019 as prizes for public events.
Community Blue

**DESCRIPTION**

Community Blue is an education focused grant program for community groups within VLAWMO. It funds educational events and resources as they relate to water resources, and provides support in making existing stormwater, wetland, or watershed improvements into educational tools with public exposure.

**2019 PROJECTS**

- **Community Blue**
  - **City Engagement: ADOPT-A-DRAIN: GOOSE LAKE**
    - In a partnership between VLAWMO, the City of White Bear Lake, and Clean Water MN, VLAWMO pioneered adopt-a-dRAIN outreach in the Goose Lake subwatershed. Using the website Adopt-a-drain.org, residents signed up to adopt a specific stormdrain near their property. Website guides users in reporting the amount of debris that’s cleaned from the drain, which is tracked across the Twin Cities metro. Yard signs were provided for residents to help spread the word and encourage others to try out this easy way to help Goose Lake. VLAWMO is excited to continue this effort in other cities in 2020.

- **Creative Landscaping**
  - **Growing Green Hearts**
    - Projects include outreach and education for smart salting, building rain gardens and native plantings, clearing and adopting stormdrains, and more. Partners include Frassati Academy, Christ the Servant Lutheran Church, and Peace United Methodist.

- **Connect the Drops**
  - **In the News: TRUMPETER SWANS AT SUCKER CHANNEL**
    - Debbie Hartmann was a concerned resident simply walking through Vadnais/Sucker Lake Park, taking photos. Upon discovering several dead swans, she alerted VLAWMO staff. Through partnerships and collaboration, tests showed that lead poisoning was the cause of their deaths. What followed was a year-long education effort to raise awareness about the harmful impacts of lead sinkers and fishing tackle on wildlife. Signage is now posted at the Sucker Channel south of Hwy 96, where the swans were originally discovered.

- **In the News: MEDIA**
  - Our collection of videos and media is a tool for residents and cities to glimpse the work of the watershed. Our YouTube channel contains education videos, recorded presentations, event summaries, and more!

Videos produced in 2019 include:
- **Climate Change in Minnesota**
- **Turf Talk: Part 1 and 2**
- **“Who Lives in the Watershed?” series**
- **Managing stormwater at home**

**Connect the Drops**

Growing Green Hearts, an organization specializing in watershed education in public schools and religious settings, has networked between several local congregations for this project. Following a multi-congregation kick-off event, Growing Green Hearts will lead youth and community members in watershed education sessions and service projects. Service project examples include outreach and education for smart salting, building rain gardens and native plantings, clearing and adopting stormdrains, and more. Partners include Frassati Academy, Christ the Servant Lutheran Church, and Peace United Methodist.

**City Engagement**

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**Community Blue**

Community Blue is also a tool to support educational signage on existing projects. In 2019, the City of Vadnais Heights used Community Blue funds to accompany a new native planting at the Vadnais Heights Commons, and the Birch Lake Improvement District (BLID) used it to build a picture post station for shoreline, algae, and ice monitoring.


**Creative Landscaping**

Serving as a capstone project in the Master Water Stewards Program (see pg 16), Ed and Ceci Shapland used Community Blue to improve stormwater runoff on their property, create a video of the project construction, and conduct a neighborhood tour of spotlight rain gardens and native plantings.

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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. Thanks to Jerome Strom, Debbie Hartmann, and Kyra Oliver for contributing to these efforts in 2019.

CITIZEN LAKE MONITORING PROGRAM (CLMP)

VLAWMO would like to thank the following volunteers for their role in the Citizen Lake Monitoring Program, collecting water samples bi-weekly from May through September. The volunteers for 2017 were: Jim Grisim (Birch Lake), Justin Rove (East Vadnais Lake) and Shannon Stewart (Tamarack Lake).

- Thank you to Jeannie Miller, Susan Miller, Ed Severson, and Gloria Tessler for participating in the AIS detection training and helping monitor VLAWMO lakes.

AQUATIC INVASIVE SPECIES (AIS)

Parching with Ramsey and Water Conservation Division (RSWCD), VLAWMO’s groups volunteers to serve as citizen AIS detectors. RSWCD provides training and records of aquatic invasives across the county. Together we’re able to have eyes-on-the-water for quick detection and response should new invasions occur.

- Thank you to Jeannie Miller, Susan Miller, Ed Severson, and Gloria Tessler for contributing to these efforts in 2019.


Volunteers help maintain public raingardens throughout the watershed. VLAWMO would like to thank Christ the Servant Lutheran Church, Mick Jost, Susan Miller, and the Vadnais Heights City Hall staff for making raingarden maintenance a regular part of everyday life.

In its first year under the new Adopt-a-Drian.org, over 60 stormdrains in the watershed have been adopted and maintained by residents - thank you!

MONITORING: MACROINVERTEBRATES & PHENOLOGY

2019 began a new effort in biological monitoring. With the Leaf Pack Method, VLAWMO volunteers are now actively monitoring four locations along Lambert Creek for aquatic macroinvertebrates. Thank you to Ceci and Ed Shapland, Debbie Hartmann, and Kyra Oliver for contributing to this effort.

Four picture posts are placed throughout the watershed to monitor shoreline and lake changes, algae blooms, and ice conditions. A special thank you to VLAWMO’s stewards, Ed Severson, and Ceci Shapland!

Masters Water Stewards

VLAWMO joined the Master Water Stewards program in 2018. This program is coordinated through the nonprofit Freshwater, who trains and prepares volunteers to be citizen champions in projects and outreach. After promoting the program and searching for two champion volunteers, VLAWMO is excited to host two Master Water Stewards in 2019, with close collaboration with stewards from neighboring watersheds. A big thank you to VLAWMO’s stewards, Ed and Ceci Shapland!

- Mentor lakes in the AIS detection training and help present booths at public events, conduct wetland surveys, and photograph wildlife in the watershed. Thanks to Jerome Strom, Debbie Hartmann, and Kyra Oliver for contributing to these efforts in 2019.

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 (surveys, etc.), and convey public interests, concerns, and opportunities for networking to staff and the VLAWMO Board of Directors. Thank you to Tom Falk, Rika Pennington, Katherine Doll, Ceci Shapland, and Ed Shapland for serving on the committee!

WINTER:

- Practice Smart Salting:
  - Shovel and scrape early after a snowfall.
  - 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.
  - Practice spot-treatment, apply salt using a grater or a scooper in cold temps and as a salt alternative.

- Sweep up extra salt and sand when pavement is dry.
- Select your product according to the temperature.

FALL:

- Core aerate the lawn to increase root depth, durability, and water absorption.
- Continue adopt-a-drain efforts, cleaning out leaves and debris from stormdrains and the curb.
- Mulch leaves with a mower for free fertilizer.
- If you must use weed killer, do so now to make a bigger impact and use less compared to Spring/Summer.

- Snow with care:
  - Mow grass at 3” to hold moisture on the lawn and reduce runoff.
  - Leave grass clippings on lawn for free fertilizer, or fertilize sparingly.

- Prevent illegal dumping into stormdrains: “only rain down the drain”.
- Build a native planting or raingarden. Plan with VLAWMO to make planting and installation easy and effective.
- Restore shorelines with deep-rooted native vegetation.
- Hire contractors certified in winter maintenance or turf maintenance best practices.
- Respect wetland boundaries. Each wetland plays a role in the watershed no matter how small.
- Always pick up pet waste.

Be a part of the solution!

How to help improve the watershed from home: Continued from page 8
Vadnais Lake Area Water Management Organization

Water Monitoring

INTRODUCTION
VLAWMO’s regular water quality monitoring program includes nutrient sampling on 6 Lambert Creek sites, and nutrient sampling on 12 of the Vadnais Lake Area Watershed lakes. Nutrients and pollutants sampled for data include: total phosphorus, chlorophyll-A, soluble-reactive phosphorus, iron, total nitrogen, nitrate, total suspended solids, and chloride. VLAWMO’s specialty monitoring programs, such as E.coli and winter chloride sampling, will continue. See the 2016 Annual Report Summary for a map of monitoring locations.

Part of VLAWMO’s water monitoring includes rainfall measurements because rainfall and the timing of rainfall are factors that influence water quality. Typically, more precipitation implies more water runoff, which carries more contaminants from the land surface into water bodies. Lakes are summarized with a grading system called the Trophic State Index (TSI). This system was developed in the 1970’s to calculate average phosphorus, chlorophyll-A, and Secchi disk readings, and generate a summarizing number. Letter grades are developed from the Metropolitan Council matrix for annual averages.

Monitoring results are used to guide local water policies and management, and to help prioritize and locate future water quality projects such as raingardens, underground retention basins, and shoreline restorations. The full 2018 monitoring report is available at: vlawmo.org/resources

WATER MONITORING HIGHLIGHTS

Gem Lake: Gem Lake’s chemistry has improved, coinciding with a 2014 Highway 61 swale reconstruction. The improved swale is likely capturing and retaining pollutants that drain into the lake from a large nearby parking lot. After 10 years on the State Impaired List and continued monitoring, the Minnesota Pollution Control Agency (MPCA) officially de-listed Gem Lake in 2018. This success story demonstrates that lake improvements are possible!

Birch Lake Storm Sampling: The automated storm sampler was installed at 4th and Otter Lake Rd for a third year. This area drains stormwater into Birch Lake. Results showed exceptionally high nutrient levels during storms. A sand and iron filter system will be installed at this location in spring, 2020.

Goose Lake (East & West): East Goose and West Goose have nutrient levels exceeding State standards. A fish survey was done in August, 2019, and indicated the bullhead population has increased substantially. Ongoing fish management may be needed to help address water quality issues.

Wilkinson Lake: Wilkinson’s phosphorus is over the State standard but Chlorophyll A is below the standard. Wilkinson acts more like a wetland than a lake, meaning what goes on in the surrounding watershed has a greater effect on the chemistry. A special study was done on the wetland complex connecting Amelia to Wilkinson and results indicate nutrient loading on the landscape. A special study was also done on the south complex to Wilkinson Lake from Black Lake. This area also showed high nutrient levels. A feasibility study is in the works for 2020 to help address the needs and outline potential projects that work to correct these loading issues.

Whitaker Treatment Wetlands: The wetland treatment system at Whitaker completed the second year of testing and 3 storm events were sampled. Results showed great reductions in E.coli and nutrients as well as pathogens. The U of M is doing the pathogen study.

- Chloride Levels: VLAWMO has been sampling chloride for 9 years with no significant changes detected. Birch Lake and East Goose have the highest chloride content and appear to be showing upward trends over the last few years. This is likely due to their close proximity to major roads. All of the lakes are below the current State standard of 250 mg/L, with Black Lake having the lowest chloride level.

Find the complete 2019 Monitoring Report and a summary at VLAWMO.org/resources/reports

Average Total Phosphorus (TP) and Chlorophyll A (CHA) 2010-2019: Comparing lakes above and below state standards

VLAWMO Monitoring Locations

Find the complete 2019 Monitoring Report and a summary at VLAWMO.org/resources/reports

Annual Average Total Phosphorus (TP) of VLAWMO Lakes: 2014-2019
VLAWMO started a volunteer-based macroinvertebrate program to coincide with the implementation of remote sensors on Lambert Creek (pg. 9). Aquatic macroinvertebrates are organisms that live in lakes and streams, such as mayflies, damselflies, dragonflies, or leaches, scuds, and aquatic worms. Monitoring these organisms through collection and ID is a common technique in the aquatic sciences to gauge the health of a waterbody. The presence of certain organisms and their diversity illustrate the conditions they live in. Some organisms only survive in clean water, while others can cope with pollution, sedimentation, or other contamination such as high nutrients and bacteria levels. While water quality monitoring focused on chemistry offers a concise numerical data point, biological monitoring such as looks at a long-term trend due to the time it takes for organisms to grow and populate an area.

Using the Leaf Pack method, a pack of leaves is placed in the creek for three weeks. After this time, the pack is retrieved and the organisms are identified indoors using tools such as petri dishes, eye-droppers, spoons, and magnifying glasses. Data is recorded and displayed according to the Monitor My Watershed Wiki website, which is where the VLAWMO remote sensor data is also displayed. In addition to the four current locations on Lambert Creek, VLAWMO hopes to build this program into other areas in the watershed with volunteer support. To provide time to build a base of data, initial findings on this effort will be available in 2021.

In December, 2019, VLAWMO staff sampled 11 sites for lead along Lambert Creek. Samples were taken by scooping sediment from the creek bottom and bringing it to a lab for testing. While lead was detected along the creek, 10/11 of the sample sites had concentrations too low to provide conclusive lab results. The conclusive reading was taken at Otter Lake road, at a level of 10 mg/kg, which is below the MPCA’s Level I Sediment Quality Target (SQT) of 36 mg/kg.

Lead detection is common in urban environments, with a variety of sources such as gas, exhaust, or paints. In soil, lead binds to soil particles and has low mobility from a contamination site. In surface water, lead can travel through physical processes. Because of the variety of possible lead sources from the urban landscape, the data is unable to trace lead in Lambert Creek to the Water Gremlin facility. The MPCA and Wenck will continue monitoring on and around the Water Gremlin facility into 2020.

To view a map of the 2019 lead sample sites and the estimated lead levels, visit our webpage here: http://www.vlawmo.org/waterbodies/lambert-creek/

For more on Water Gremlin and environmental remediation efforts, visit the MPCA website: https://www.pca.state.mn.us/air/water-gremlin

To monitor sediment levels, sediment was scooped with a shovel from the bottom of Lambert Creek and brought to a lab for testing.
## 2019 Work Plan Projection

VLAWMO will put the 2017-2026 comprehensive water plan into action. The water 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 water plan on our website under About > Why Water Matters for a more in-depth look at these plan components.

### RLAWMO Core Activities

<table>
<thead>
<tr>
<th>Core Activity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration</td>
<td>-</td>
</tr>
<tr>
<td>Regulation</td>
<td>-</td>
</tr>
<tr>
<td>Monitoring</td>
<td>-</td>
</tr>
<tr>
<td>Education &amp; Outreach</td>
<td>-</td>
</tr>
<tr>
<td>Global Projects &amp; Programs</td>
<td>-</td>
</tr>
</tbody>
</table>

### Capital Improvement Projects

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Description</th>
<th>Goal: Going into 2019</th>
<th>Goal: 2019 Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goose Lake Improvement</td>
<td>A stormwater treatment project partnering with the U of MN with funding through LCCMR grant funding. Stormwater from Whitaker Pond will be routed to underground wetland treatment cells and then infiltrated into shallow groundwater. Treatment cells contain different sorption material - the study will determine which material is most effective at filtering pollutants. VLAWMO will monitor for nutrients and bacteria, while the U of MN will monitor for pathogens.</td>
<td>Complete 2nd season of monitoring.</td>
<td>Pathogen monitoring complete.</td>
</tr>
<tr>
<td>Whitaker Treatment Wetlands</td>
<td>VLAWMO staff will assist in monitoring efforts, supported by homeowner and City coordination.</td>
<td>Second season of monitoring complete.</td>
<td></td>
</tr>
<tr>
<td>Oak Knoll Pond Spent Lime Study</td>
<td>Partner with Barr Engineering for spent lime treatment and monitoring on Oak Knoll Pond (tributary to Goose Lake). VLAWMO staff will assist in monitoring efforts, supported by homeowner and City coordination.</td>
<td>Complete spent lime treatment and seasonal storm monitoring.</td>
<td>Project delayed into 2020.</td>
</tr>
<tr>
<td>Birch Lake 4th &amp; Otter Lake Road Project Development</td>
<td>VLAWMO will work with a consultant to assess the options for BMPs at the 4th and Otter Lake Rd site. Conceptual designs of the best possible projects will be completed and VLAWMO will work with its partners to finalize design and secure funding for 2019 installation.</td>
<td>Installation of project. Complete partner agreements.</td>
<td>Project delayed into 2020 due to contractor bid process and associated costs. Installation to be complete 2020.</td>
</tr>
</tbody>
</table>
Review of 2019 Work Plan

Project Name | Description | Goal: Going into 2019 | Goal: 2019 Result
--- | --- | --- | ---
Landscape Level 1 | Establish relationships and provide grants to property owners within the watershed to install water quality enhancement projects. Install at least 10 projects Achieve: 25 lbs of phosphorus/year removed from local waters. 10 landscape grants approved 231 lbs modeled annual TP removal. | | |
Landscape Level 2 | Landscape Level 2 Cost Share Program is aimed at assisting landowners with implementing larger BMP projects within the watershed. Preference for projects that have high visibility, educational value and/or local citizen support. Install at least 1 project. Achieve: 25 lbs of phosphorus/year removed from local waters. 1 project approved, construction in 2020. 57 lbs of phosphorus annually. | | |
Community Blue | A communication and outreach grant program to provide money for projects big and small that otherwise might not qualify for other grant awards. Projects must provide education and outreach benefits that directly relate to water quality. Complete 3 active grants initiated in 2018. Secure all grants and grant measurable through collection of final reports. 3 grants complete, 2 mini-grants complete. Results and measurable secured for all but one grant, Birch Lake. | | |

PUBLIC EDUCATION AND OUTREACH

Project Name | Description | Goal: Going into 2019 | Goal: 2019 Result
--- | --- | --- | ---
Watershed Action Volunteers (WAV) The WAV consists of Master Water Stewards (Freshwater partnership), Citizen Advisory Commission (CAC), and VLAWMO specific volunteers who have their own volunteer job description. Plan, mentor, and complete job descriptions with two VLAWMO specific volunteers. Guide and complete two Master Water Steward (MWS) capstone projects. Hold three CAC meetings throughout the year, each achieving tangible insight for VLAWMO. One WAV specific volunteer complete. MWS capstone projects complete. Two CAC meetings in 2019. Three deemed unnecessary. | | |
Workshops Workshops educate residents on watershed processes, raingarden and native plant function, and installation. They also introduce VLAWMO’s cost-share program to participants and encourage them to apply. Hold a raingarden workshop, native plant workshop, and general sustainable landscaping workshop. At least 1 residents who attend a raingarden or native plant workshop will pursue a cost- share grant. All workshops complete. 2 workshop residents also pursued a cost- share. | | |
### Monitoring Program

#### Project Name: E. Coli Sourcing
- **Description:** Dry and wet weather monitoring of the Goose, Oakmede, County Road F, and Whitaker sites (wet weather = during rainfall event).
- **Goals:**
  - Going into 2019: Four-year summary is currently in the works, presentation to be completed in 2018.
  - Final report under review, presentation to stakeholders extended to 2020 for study to complete.

#### Project Name: Lambert Creek Monitoring Program
- **Description:** Monitor basic phosphorus, nitrogen, Chlorophyll A, chlorides, 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.
- **Goals:**
  - Document and evaluate the general health of the creek.
  - Final report under review, presentation to stakeholders extended to 2020 for study to complete.

#### Project Name: Lake Level Program
- **Description:** Gilfillan, Birch, Gem & Goose Lake gauges are calibrated in the spring and read up to 11 times during the summer.
- **Goals:** Monitor lake levels on 4 targeted lakes in the watershed to track short & long term trends.

#### Project Name: Stormwater Monitoring
- **Description:** Automated and manual sampling, including flow measurements on targeted streams into Birch Lake and Wilkinson Lake.
- **Goals:** Document watershed nutrient loading into Birch and Wilkinson to assist selection of implementation strategies.

#### Project Name: Lake Monitoring Program
- **Description:** Monitor chemistry of 12 of VLAWMO’s lakes through nutrient and sediment sampling, along with pH, conductivity, and dissolved oxygen (DO) measurements. Continue integration of automated sampling.
- **Goals:** Keep water quality record of watershed’s lakes.

#### Project Name: Chloride Measurements
- **Description:** Sample lakes and Lambert Creek. Partner with Birch Lake Improvement District (BLID) for summer monitoring of Birch Lake.
- **Goals:** Collect background data, share with lake stakeholders to develop a prioritized list of management strategies.

#### Project Name: Lake Monitoring Program
- **Description:** Monitor chemistry of 12 of VLAWMO’s lakes through nutrient and sediment sampling, along with pH, conductivity, and dissolved oxygen (DO) measurements. Continue integration of automated sampling.
- **Goals:** Keep water quality record of watershed’s lakes.

### Administration & Regulation

#### Project Name: Budget & Stormwater Utility
- **Description:** Storm sewer rates are based on the adopted budget and certified to the counties for collection.
- **Goals:**
  - Going into 2019: Provide necessary financing for watershed.

#### Project Name: Plan Amendment
- **Description:** Complete plan amendment and approval by VLAWMO Board.
- **Goals:**
  - Going into 2019: Complete plan amendment and approval by VLAWMO Board.

#### Project Name: Wetland Conservation Act (WCA)
- **Description:** Complete boundary and type & other determinations in consultation with the TEP. Respond to WCA questions.
- **Goals:**
  - Going into 2019: Administer WCA Rules with VLAWMO as LGU.

### SUSTAINABLE LAKE MANAGEMENT PLAN (SLMP)

#### Project Name: Pleasant Lake SLMP
- **Description:** A report covering the sub-watershed of Deep Lake on its health and trends, with lake management plans to sustain its health.
- **Goals:**
  - Going into 2019: Collect background data, share with lake stakeholders to develop a prioritized list of management strategies.

#### Project Name: Pleasant Lake SLMP
- **Goals:**
  - Going into 2019: Complete.
2020 Work Plan

CAPITAL IMPROVEMENT PROJECTS

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Description</th>
<th>Goals</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goose Lake Improvement</td>
<td>Work with contracted engineer using Watershed-funded funding to identify 3 BMPs with 60% design completion, choosing one project for 100% design and installation in 2019 Vegetation and ecosystems management. Reapply for 2020 CF grant for alum treatment.</td>
<td>Installation of BMP project. Complete partner agreements. 20 new adopt-a-drain adoptions in Goose subwatershed. Grant awarded Jan, 2020. Treatment and treatment plan ongoing. Install by end of 2021.</td>
<td></td>
</tr>
<tr>
<td>Whitaker Treatment Wetlands</td>
<td>A stormwater treatment project partnering with the U of MN with funding through LCCMR grant funding. Stormwater from Whitaker Pond will be routed to underground wetland treatment cells and then infiltrated into shallow groundwater. Treatment cells contain different sorption material - the study will determine which material is most effective at filtering pollutants. VLAWMO will monitor for nutrients and bacteria, while the U of MN will monitor for pathogens.</td>
<td>Final report and data analysis complete. Present to stakeholders via webinar.</td>
<td>June 2020</td>
</tr>
<tr>
<td>Oak Knoll Pond Spent Lime Study</td>
<td>Partner with Barr Engineering for spent lime treatment and monitoring on Oak Knoll Pond (tributary to Goose Lake). VLAWMO staff will assist in monitoring efforts, supported by homeowner and City coordination.</td>
<td>Complete study</td>
<td>Spring-Summer 2020</td>
</tr>
<tr>
<td>Birch Lake: 4th &amp; Otter Lake Road Project Development</td>
<td>VLAWMO will work with a consultant to assess the options for BMPs at the 4th and Otter Lake Rd site. Conceptual designs of best possible projects will be completed and VLAWMO will work with its partners to finalize design and secure funding for 2019 installation.</td>
<td>Complete installation Invasive species removal and vegetation restoration near filter to optimize function.</td>
<td>Summer 2020</td>
</tr>
</tbody>
</table>

SUB WATERSHED

- Goose Lake
  - Lambert Creek
  - Pleasant Lake

GRANT PROGRAMS

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Description</th>
<th>Goals</th>
<th>Time Line</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landscape Level 1</td>
<td>Establish relationships and provide grants to property owners within the watershed to install water quality enhancement projects.</td>
<td>Identify and confirm 4 cost-share spotlights. Initial 2 target priority zone funding projects; award 75% of LL1 funds.</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Landscape Level 2</td>
<td>Landscape Level 2 Cost Share Program is aimed at assisting landowners with implementing larger BMP projects within the watershed. Preference for projects that have high visibility, educational value and/or local citizen support.</td>
<td>Fund 2 LL2 projects and achieve .5 lbs of annual phosphorus removal with project implementation.</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Community Blue</td>
<td>A communication and outreach grant program to provide money for projects big and small that otherwise might not qualify for other grant awards. Projects must provide education and outreach benefits that directly relate to water quality.</td>
<td>Use 75% of allocated funds. Complete 2 grants over $100. Complete 2 mini-grants under $100.</td>
<td>Ongoing</td>
</tr>
</tbody>
</table>
### PUBLIC EDUCATION AND OUTREACH

#### 2020 Work Plan

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Description</th>
<th>Goals</th>
<th>Time line</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Watershed Action Volunteers (WAV)</strong> and other volunteering</td>
<td>The WAV consists of Master Water Stewards (Freshwater partnership), Citizen Advisory Commission (CAC), and VLAWMO-specific volunteers who have their own volunteer job description. Service Learning Partnership with the U of M: Custom volunteer job descriptions.</td>
<td>Assist 1 Master Water Steward in capstone project Fulfill 10 hour volunteer requirement in WAV program for 2 Master Water Stewards. Host 3 student service learners. Host 2 successful volunteers with job descriptions.</td>
<td>Ongoing</td>
</tr>
</tbody>
</table>

| **Workshops** | Workshops educate residents on watershed processes, raingarden and native plant function, and installation. They also introduce VLAWMO's cost-share program to participants and encourage them to apply. | Host 3 workshops independently, 3 workshops in partnership Attend 6 community events with a booth Conduct 2 watershed education tours Conduct 3 nature-based education activities | Spring-Summer |

| **Communications** | Create and update material and publications for social media, website, seasonal Enews, and local publications. Make all sections of the website active. Create and maintain communications to promote public awareness for responsible use of our water resources. | Complete updated lake factsheets Maintain social media and email communications Maintain specific project webpages for Lambert Lake and Goose Lake regular updates. | Ongoing |

| **K-12** | Develop youth involvement opportunities and programs that improve/benefit VLAWMO's goals and activities. Reach multiple age demographics through school involvement. Assist schools in establishing and maintaining stormwater best management practices (BMP's). | Complete two volunteer raingarden maintenance events at each school. Interact with each school in the watershed once each year through either an in-person class visit or providing tools, maps, or resources to a class. | Ongoing |

### 2019 ANNUAL REPORT

#### SECTION 3

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Description</th>
<th>Goals</th>
<th>Time line</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Public Education and Outreach</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Watershed Action Volunteers (WAV)</strong></td>
<td>The WAV consists of Master Water Stewards (Freshwater partnership), Citizen Advisory Commission (CAC), and VLAWMO-specific volunteers who have their own volunteer job description. Service Learning Partnership with the U of M: Custom volunteer job descriptions.</td>
<td>Assist 1 Master Water Steward in capstone project Fulfill 10 hour volunteer requirement in WAV program for 2 Master Water Stewards. Host 3 student service learners. Host 2 successful volunteers with job descriptions.</td>
<td>Ongoing</td>
</tr>
</tbody>
</table>

| **Watershed Action Volunteers (WAV)** | | | |
| **Workshops** | Workshops educate residents on watershed processes, raingarden and native plant function, and installation. They also introduce VLAWMO's cost-share program to participants and encourage them to apply. | Host 3 workshops independently, 3 workshops in partnership Attend 6 community events with a booth Conduct 2 watershed education tours Conduct 3 nature-based education activities | Spring-Summer |

| **Communications** | Create and update material and publications for social media, website, seasonal Enews, and local publications. Make all sections of the website active. Create and maintain communications to promote public awareness for responsible use of our water resources. | Complete updated lake factsheets Maintain social media and email communications Maintain specific project webpages for Lambert Lake and Goose Lake regular updates. | Ongoing |

| **K-12** | Develop youth involvement opportunities and programs that improve/benefit VLAWMO's goals and activities. Reach multiple age demographics through school involvement. Assist schools in establishing and maintaining stormwater best management practices (BMP's). | Complete two volunteer raingarden maintenance events at each school. Interact with each school in the watershed once each year through either an in-person class visit or providing tools, maps, or resources to a class. | Ongoing |

### 2020 Work Plan

#### E. coli Sourcing

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Description</th>
<th>Goals</th>
<th>Time line</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Core Activity #</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Monitoring Program</strong></td>
<td></td>
<td>Document and evaluate the general health of the creek.</td>
<td>Final report to be complete June, 2020.</td>
</tr>
</tbody>
</table>

| **Lambert Creek monitoring program** | Monitor basic phosphorus, nitrogen, Chlorophyll A, chloride, and sediment levels at 4 sites along with pH, conductivity and DO at the 3 sites. Monitor automated flow meter and precipitation gauge at Whitaker: Four remote sensors installed along creek, live updated volume and water levels displayed online. | Document and evaluate the general health of the creek. | Monitoring May-Sept |

| **Lambert Creek monitoring program** | | Document and evaluate the general health of the creek. | Monitoring May-Sept |

| **Stormwater Monitoring** | Automated and manual sampling, including flow measurements on targeted streams into Birch Lake and Wilkinson Lake. | Document watershed nutrient loading into Birch and Wilkinson to assist selection of implementation strategies. | December, 2020 |

## ADMINISTRATION & REGULATION

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Description</th>
<th>Goals</th>
<th>Time line</th>
</tr>
</thead>
<tbody>
<tr>
<td>Budget &amp; Stormwater Utility</td>
<td>Storm sewer rates are based on the adopted budget and certified to the counties for collection.</td>
<td>Continued county participation and budgeting for future years.</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Wetland Conservation Act (WCA)</td>
<td>Complete boundary and type &amp; other determinations in consultation with the TER. Respond to WCA questions.</td>
<td>Continued administration of WCA.</td>
<td>Ongoing</td>
</tr>
</tbody>
</table>

## CORE ACTIVITY #1

### 2020 Work Plan

#### SUSTAINABLE LAKE MANAGEMENT PLAN (SLMP) AND FEASIBILITY STUDIES

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Description</th>
<th>Time line</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pleasant Lake Feasibility</td>
<td>A feasibility study to analyze sediment accumulation and possible removal in the west bay of Pleasant Lake</td>
<td>Complete study December 2020</td>
</tr>
<tr>
<td>Wilkinson Lake Feasibility</td>
<td>Partner with Ramsey County and SEH to identify improvement projects in the Wilkinson subwatershed, such as best management practice (BMP) installations.</td>
<td>Complete study December 2020</td>
</tr>
<tr>
<td>West Vadnais, East Vadnais, and Sucker Lake SLMP’s</td>
<td>Surveys and research to be completed to support sustainable lake management plans.</td>
<td>Complete plans December 2020</td>
</tr>
</tbody>
</table>

Wildlife captured by remote camera in various VLAWMO wetlands.
Logistics: Financial Statement and Budget

In This Section
- Finance and Budget
- WCA Summary
- Water Standards
- Local Plan Adoption
- Biennial Solicitations

Wetland Conservation Act (WCA)
VLAWM0 administers the Wetland Conservation Act with review. There were 25 landowner contacts in which wetland-related technical assistance was provided during 2019. There were 4 potential WCA violation sites investigated; all 4 were resolved.

WCA Summary

<table>
<thead>
<tr>
<th>Type of Application</th>
<th>Approved</th>
<th>Denied</th>
<th>Withdrawn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boundary and Type</td>
<td>7</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>No-Loss</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Exemption</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sequencing</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Replacement Plan</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

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

Logistics: Financial Statement and Budget

Biennial Solicitation for Professional Auditing Services
- Proposals for professional auditing services and legal assistance was provided during 2019. Proposals for 2020 will be solicited.

Biennial Solicitation for Legal Services
- Proposals for legal services will be solicited for in 2020.

Partnerships
One of VLAWM0’s greatest successes is working together with partners to use resources wisely and maximize effectiveness. Workshops, meetings, and webinars allow VLAWM0 to be on the cutting edge of the water resources in the Northeast Metro.

- Metro Watershed Partners provides monthly meetings to keep updated with other watersheds, receive feedback and strategy assistance, as well as hear from guest speakers to enhance education and outreach efforts.
- Ramsey County GIS User Group focuses on sharing, developing, and promoting GIS data and technology. As a member agency, VLAWM0 contributes and receives data, and has a voting hand in the content the Group funds and develops. Regular RGCGISUG membership fees go to producing aerial images of Ramsey County and other GIS data.
- Ramsey Conservation District holds informative forums on topics of general concern (AIS, State of the Waters, groundwater). They also provide technical assistance for lake studies and BMP design. Lastly, they provide financial partnership in grant funding of projects.
- Many other organizations and groups (p. 35) help carry out VLAWM0’s mission through events, outreach strategies, and project planning.

Biennial Solicitation for Proposals
Proposals for professional auditing services and legal services will be solicited for in 2020.

2019 Partners
- Metro Watershed Partners
- Ramsey County GIS User Group
- Ramsey Conservation District
- Vadnais Heights Economic Development Corp.
- Birch Lake Improvement District
- North Oaks Home Owners Association
- Tamarack Nature Center
- Minnesota Pollution Control Agency
- MN Erosion Control Association
- Conservation Minnesota
- H.O. for Life
- SCC Local Cable TV
- White Bear Lake School District
- White Bear Preserve Town homes
- Cities in VLAWM0

Special Thanks
Each year our fabulous partners provide leadership, guidance, resources, to support our goals. 2019 saw the completion of some efforts and the continued investment of others. VLAWM0 would like to thank:
- Tracy Lawler: Tracy of Natural Shores, Inc generously supported a Birch Lake wetland and shoreline educational event, in addition to presenting a native plant talk at the Vadnais Heights City Hall.
- Debbie Hartmann: Debbie notified VLAWM0 of dead trumpeter swans at Sucker Lake. Upon investigation, VLAWM0 learned that the swans died of lead poisoning. Debbie continued to support the watershed through photography, capturing dozens of birds, landscapes, and plants to demonstrate the beauty of our local natural resources.
- Jeff Melchoi: Jeff recorded multiple presentations for VLAWM0, complete with editing.
- Ed and Ceci Shapland: Ed and Ceci became VLAWMO’s first Master Water Stewards in 2019. Completing a year of coursework, they became trained in watershed resources to support a capstone project.
- Rika Pennington and Katherine Doll: As residents and members of the Citizen Advisory Committee (CAC), Rika and Katherine helped gather valuable survey responses for VLAWM0’s 2019 end-of-year survey.
- Girl Scout Troop 56087 for supporting education and outreach about the harmful impacts of lead on wildlife.

VLAWM0 staff presenting the swans and lead education initiative (p. 15) with Local Girl Scout Troop 56087. Pictured with State representatives Peter Fischer and Chuck Wiger at the 2019 Water Resources Conference.
The project is to research new ways to filter bacteria, excess nutrients, and pathogens out of stormwater runoff. A linked study on pathogens will be done by the University of Minnesota. The pathogen study wrapped up in 2019.

Construction of the Fourth and Otter hotspot remediation project for Birch Lake was bid in the summer of 2019. When the bids came in higher than anticipated, the Board directed a second bid effort in the winter with some design clarifications. In the meantime, service learning students and other volunteers helped prepare the adjacent parcel, clearing invasive species and preparing for restoration with native vegetation. The partners, White Bear Lake, Ramsey County, the Birch Lake Improvement District and VLAWMO continue to finalize the operations and maintenance plan. The sand-iron filter should do much to address neighborhood runoff that has been loading nutrients into Birch Lake.

Goose Lake work received a substantial boost from the Watershed Based funding pilot grant which will complete modeling and a feasibility study of the subwatershed in 2019. Design and estimated costs should be available early in 2020. VLAWMO applied for grant funding for an in-lake treatment of Goose Lake. Again, more information will be available in 2020.
WHO WE ARE:
The people who make VLAWMO

Primary Directors
Jim Lindner, Chair
4200 Otter Lake Rd
Germ Lake, MN 55110
651.283.6077

Dan Jones
1956 Lakeside Blvd
White Bear Lake, MN 55110
651.283.6077

Marty Long
10 Larch Lane
North Oaks, MN 55127
651.407.8307

Ed Prudhon
470 Otter Lake Rd
White Bear Twp, MN 55110
651.426.3311

Patricia Youker
883 Evergreen Ct.
Vadnais Heights, MN 55127
651.790.7577

Rob Rafferty
1723 Margaretson Ct
Lino Lakes, MN 55038
651.982.2492

Alternate Directors
Rick Bosak
Germ Lake

Bill Walsh
White Bear Lake

Greg Nelson
North Oaks

Bob Kerns
White Bear Township

Craig Johnson
Vadnais Heights

Dave Roesser
Lino Lakes

Who we are:
VLAWMO employs five full-time staff for everyday operations. Consultants are required for a variety of purposes including auditing, bookkeeping, engineering, and technical assistance. The VLAWMO Board of Directors consists of one elected official from each of the six cities within the watershed. Each board member is appointed for a three year term. The VLAWMO Technical Commission consists of one citizen representative from each of the six cities. The Technical Commission meets to review and consider watershed business as well as make recommendations to the Board for wider scope decisions.

Primary
Jim Grism, Chair
White Bear Lake

Jesse Farrell
Vadnais Heights

Gloria Tessler
Germ Lake

Bob Larson, Treasurer
North Oaks

Paul Dusbury
White Bear Township

Marty Adelson
Lino Lakes

Alternate
Connie Tallon
White Bear Lake

Kevin Watson
Vadnais Heights

Gretchen Antig-Swomley
Germ Lake

Diane Gorder
North Oaks

Tom Riedesel
White Bear Township

No alternate available
Lino Lakes

Commissioners can be reached by contacting VLAWMO

IN THIS SECTION
» Staff
» Consultants
» Partnerships
» Board of Directors
» Technical Commission (TEC)

BOARD OF DIRECTORS (BOD)

STAFF
Stephanie McNamara
Administrator
stephanie.o.mcnamara@vlawmo.org
651.204.6075

Dawn Tanner, PhD
Program Development Coordinator
dawn.tanner@vlawmo.org
651.204.6074

Brian Corcoran
Water Resources Manager
brian.corcoran@vlawmo.org
651.204.6075

Nick Voss
Education and Outreach Coordinator
nick.voss@vlawmo.org
651.204.6070

Tyler Thompson
GIS Watershed Technician
tyler.thompson@vlawmo.org
651.204.6071

CONSULTANTS

SEH - Engineer on retainer
3335 Vadnais Center Dr
Vadnais Heights, MN 55110
651.204.6075

Abdo, Eck & Meyers LLP
5201 Eden Ave, Ste. 210
Eden Prairie, MN 55436
952.835.9090

Burns & McDonnell
8201 Norman Center Dr
Bloomington, MN 55437
952.656.6003

Ehlers & Associates
3060 Centre Point Dr
Roseville, MN 55113
651.697.8500

HDR Engineering, Inc.
701 Xerxes Ave. S, Ste. 600
Minneapolis, MN 55416
763.591.5400

Houston Engineering Inc.
6901 E Fish Lake Rd
Maple Grove, MN 55369
763.495.4222

Kennedy & Graven, Chartered
200 South Sixth St, Ste. 470
Minneapolis, MN 55402
612.317.9215

Ramsey Soil and Water Conservation Division
2015 Van Dyke Street
Maplewood, MN 55119

St Paul Regional Water Service
1900 Rice St
St Paul, MN 55113
651.266.6350

Barr Engineering
4300 Market Place
Minneapolis, MN 55435
952.832.2600