

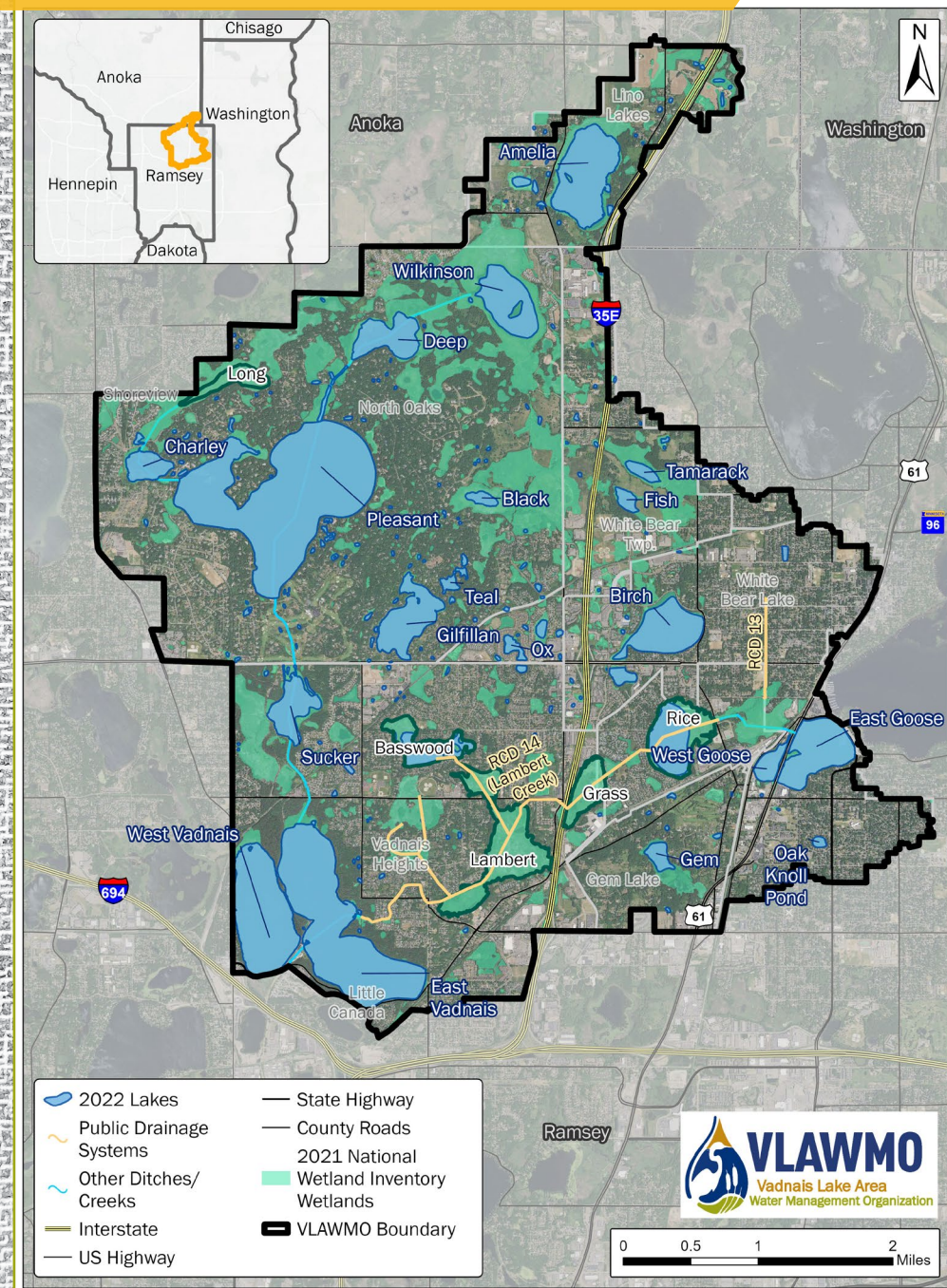
# 1. INTRODUCTION

The Vadnais Lake Area Water Management Organization (VLAWMO) covers 24.2 sq miles of northern Ramsey County and a small portion of Anoka County in the Twin Cities metropolitan area in Minnesota. VLAWMO encompasses the City of North Oaks, and portions of Gem Lake, Lino Lakes, Vadnais Heights, White Bear Lake, and White Bear Township. The watershed is bordered by the Rice Creek Watershed District to the north and the Ramsey-Washington Metro Watershed District to the south. While VLAWMO is predominately urban, the watershed is known for numerous green and natural spaces, including over a thousand wetlands and 15 lakes (Figure 1-1).

**THE MISSION OF VLAWMO IS TO PROTECT AND ENHANCE THE WATER AND NATURAL RESOURCES WITHIN THE WATERSHED THROUGH WATER QUALITY MONITORING, EDUCATION AND OUTREACH PROJECTS, WETLAND PROTECTION, AND WATER QUALITY ENHANCEMENT PROJECTS AND PROGRAMS.**

VLAWMO was formed in 1983 to protect the Vadnais Lake watershed area. To achieve its mission of protecting and enhancing water resources in the watershed, VLAWMO has developed this Watershed Management Plan (Plan). This is the fifth Plan which builds on the foundation of goals and achievements of the previous plans, while evolving to meet the issues and goals of the next decade. This Plan was created to be useful for VLAWMO, its agency and local government partners, and its citizens to provide a guiding vision for management of water and natural resources in the watershed from 2027-2036.

Figure 1-1. VLAWMO general location.





# 1.1 VLAWMO Administration

In 1982, the Minnesota Legislature directed metro-area watersheds to develop watershed management plans through the Metropolitan Area Surface Water Management Act. Minnesota Statute 103B.201 outlines the purpose of WMOs:

1. protect, preserve, and use natural surface and groundwater storage and retention systems;
2. minimize public capital expenditures needed to correct flooding and water quality problems;
3. identify and plan for means to effectively protect and improve surface and groundwater quality;
4. establish more uniform local policies and official controls for surface and groundwater management;
5. prevent erosion of soil into surface water systems;
6. promote groundwater recharge;
7. protect and enhance fish and wildlife habitat and water recreational facilities; and
8. secure the other benefits associated with the proper management of surface and groundwater.

VLAWMO was organized in 1983 through a Joint Powers Agreement (JPA) between the cities of Gem Lake, Lino Lakes, North Oaks, Vadnais Heights, and White Bear Lake and White Bear Township, collectively referred to as the “members.”

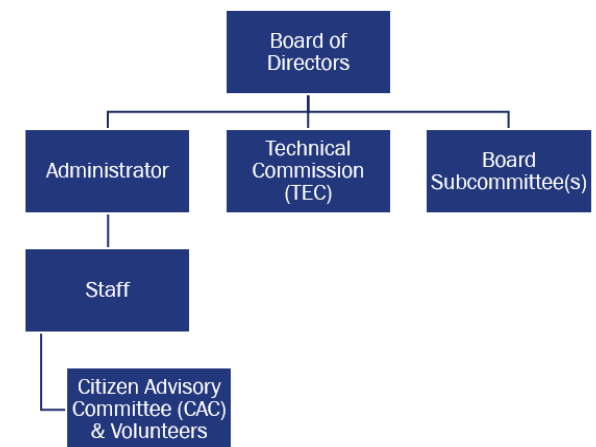


The JPA was developed under authority granted by Minnesota Statutes Sections 471.59 and 103B.201, and established a two-tier governance system consisting of a Board of Directors (Board) and a Technical Commission (TEC):

- ✦ The Board consists of one elected member from each of the six member communities and meets every two months. The Board is responsible for reviewing and voting on VLAWMO policies and larger scale projects and programs and oversees the VLAWMO budget.
- ✦ The TEC is comprised of one representative assigned by each member community and meets monthly. The TEC considers monthly watershed business, votes on small scale projects, and makes recommendations to the Board on large projects. The TEC, through the VLAWMO administrator and other staff members, fulfills its State-mandated purpose via its programs and projects.

In addition to the Board and TEC, VLAWMO organizational structure also includes two committees. The Citizen Advisory Committee (CAC) is comprised of community

volunteers and meets twice yearly to advise on watershed projects. The VLAWMO Board Subcommittee is made up of Board representatives to review and recommend actions related to finance, policies, and personnel.



**Figure 1-2.** VLAWMO Organizational Chart.

## 1.2 Summary of Implementation Success

This is VLAWMO's fifth generation Plan. The first Plan was written in 1985, when key issues were flood control and water-quality protection, through watershed-scale development review and wetland protection. The second Plan, adopted in 1997, expanded VLAWMO's activities to include an annual monitoring program. Implementation of stream and wetland restoration strategies on Lambert Creek and the assessment and protection of wetlands were VLAWMO's priorities. VLAWMO and partners designed and installed projects that mitigated flooding by restoring wetlands along Lambert Creek and conducted a comprehensive wetland assessment for some wetland complexes.

With the third Plan in 2007, VLAWMO added staff, instituted cost-share programs and an enhanced education and outreach program, installed capital projects, and expanded its monitoring program. A funding mechanism (a storm sewer utility fee) was established in 2008 with special permission from the legislature, which provided financial stability for the watershed. During this time, an assessment of VLAWMO's lakes and streams resulted in the inclusion of several waterbodies on the Minnesota Impaired Waters List. A TMDL was developed in 2013/2014 that included nutrient impairments for Gem, Gilfillan, East Goose, West Goose, and Wilkinson Lakes, and a bacteria impairment for Lambert Creek. Additional impairments were listed after the TMDL was completed. Those included nutrient impairments for Pleasant, Tamarack, and West Vadnais Lakes.

The fourth Plan in 2017 recognized issues of groundwater aquifer concerns, fluctuating lake levels, new sources of potable water, and climate change. Goals of the Plan included feasibility efforts and installation of



capital projects to work toward addressing impairments. Projects included construction of a meander and biochar filter on Lambert Creek, an invasive common carp removal program on the Pleasant Lake chain, a constructed wetland to improve Wilkinson Lake, initiation of an alum treatment on Tamarack Lake, and others. A comprehensive effort to build Sustainable Lake Management Plans (SLMPs) was completed. SLMPs have transitioned to Lake Reviews. Lake Reviews compile standardized surveys, monitoring, and results of feasibilities to build, compile, and maintain trends and current information for ongoing management of VLAWMO lakes.

In the fifth Plan beginning in 2027, VLAWMO will continue working with its partners to focus on increased implementation of capital projects to continue improving impaired lakes and protecting lakes with good water quality. Locations VLAWMO intends to focus on include the Pleasant Lake chain, Wilkinson Lake, Tamarack Lake, and ongoing efforts to improve Lambert Creek. Maintenance of completed projects, with project partners, is a high priority to protect gains made to date. All of VLAWMO's projects are undertaken through a lens of climate resiliency and environmental justice. See Section 3.3 Planning Lenses for further explanation on resiliency and environmental justice as a planning lens.



## 1.3 Looking Ahead to the Next 10 Years

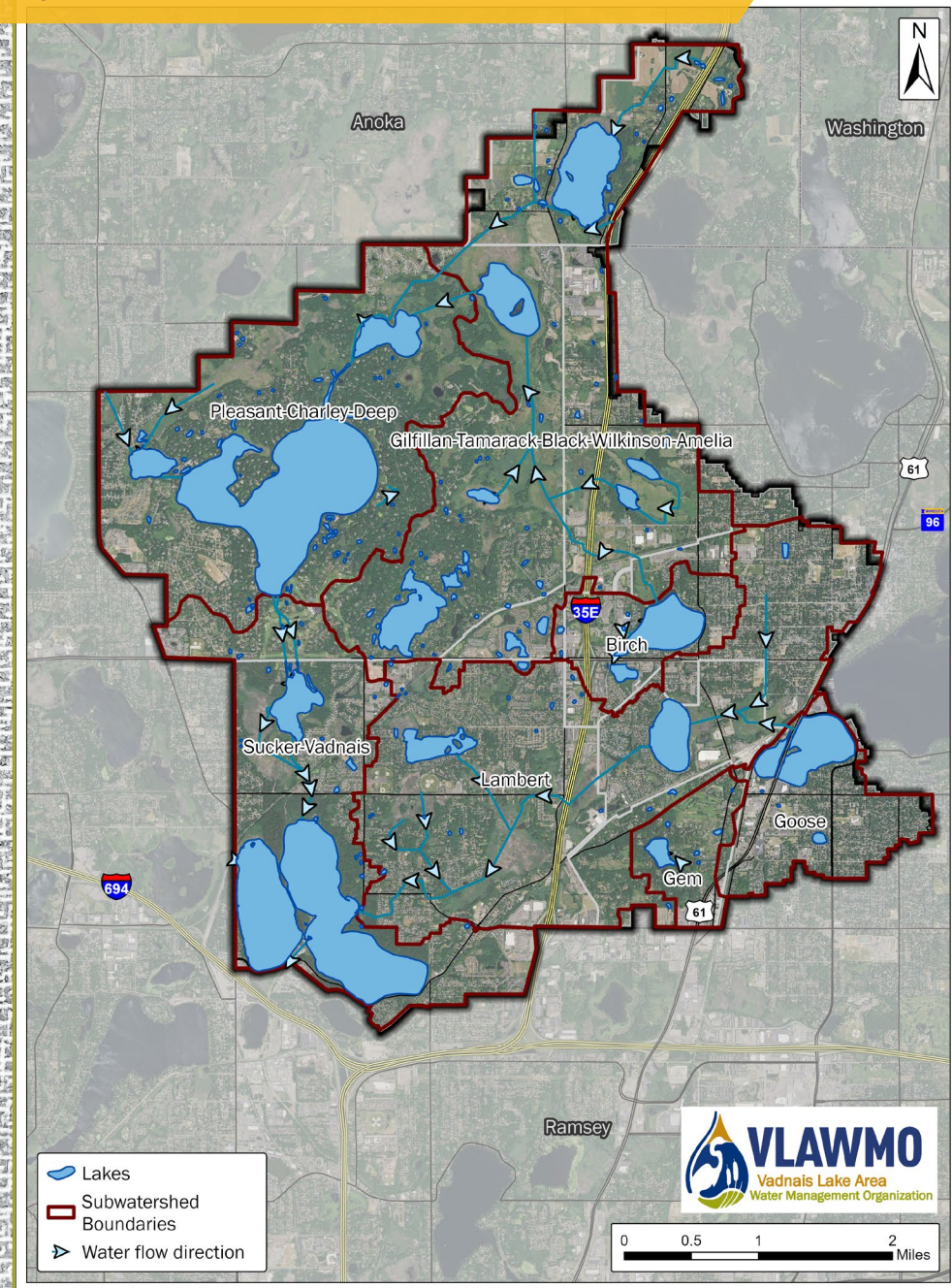
This Plan builds upon the success of previous plans and implementation efforts and sets a guiding vision for management of water and natural resources in the watershed from 2027-2036. To meet this vision, this Plan provides a summary of current conditions in the watershed (Section 2- Land and Water Resources Narrative), describes the issues and goals that are the focus of the Plan (Section 3- Priority Issues and Goals), and identifies the actions that will be implemented to make progress towards goals (Section 4- Implementation Plan).

The prominence of issues may shift based upon the location and associated conditions in a given area of the watershed, due to presence of resources (e.g. wetlands, lakes) or magnitude of issues (e.g. nutrient loading, flooding). Because of this, subwatersheds are referenced throughout this Plan to organize issues, actions, and potential projects at a finer management scale, while maintaining a watershed-wide focus.

### 1.3.1 Subwatersheds

There are seven smaller subwatersheds within the larger VLAWMO boundary (Figure 1-3). Most of the water in VLAWMO flows into East Vadnais Lake, with the exception of the self-contained Gem Lake subwatershed and West Vadnais Lake. There has been no detectable surface nor subsurface connection between West Vadnais and East Vadnais Lakes. In the Lambert Creek Watershed, in the southeastern section of the watershed, water drains into ditches which connect to Lambert Creek and drain to East Vadnais Lake. Along the western side of the watershed, water drains south through Amelia, Deep, Pleasant, and Sucker Lakes into East Vadnais Lake. The centrally located lakes, Birch, Gilfillan, Black, Tamarack, and Fish Lakes, flow north through Wilkinson

Figure 1-3. Subwatersheds within the VLAWMO.



Lake and into Deep Lake. Subwatershed-scale planning can target projects to a specific area and lakeshed. Both watershed-wide and subwatershed activities are included in this Plan. As can be seen in Figure 1-3, the political boundary of VLAWMO does not perfectly align with the hydrologic subwatershed boundaries.

## 1.4 Plan Development and Community Engagement

[Placeholder for future text summarizing community engagement during the plan development process]