



## **EXECUTIVE SUMMARY**

The Vadnais Lakes Area Water Management Organization (VLAWMO) Watershed Management Plan describes how the VLAWMO will address water management over the next 10 years. VLAWMO was organized by a Joint Powers Agreement (JPA) (Appendix F) in 1983 in response to the Minnesota Metropolitan Surface Water Act of 1982 (Minnesota Statutes {M.S.} Section 473.875 to 473.883). The first VLAWMO Watershed Management Plan was prepared, approved, and adopted in 1987.

The Metropolitan Surface Water Management Program (M.S. 103B) and Watershed Act requires the VLAWMO to review and update its Water Management Plan (the Plan) every ten years. The second generation plan was prepared and adopted in 1995. That plan expired in 2006. This current Plan represents a third generation plan and will be effective from 2007 to 2016. In addition to complying with the aforementioned laws, this Plan meets the requirement of Minnesota Rules 8410, 8420, and 8750. The Plan includes management standards and procedures for addressing surface water, wetland, and groundwater issues.

### **Plan Organization**

This Plan document is about the Vadnais Lakes Area Watershed and its management, and therefore, much of the information presented is technical. Background information regarding scientific terms and processes is provided where practical. An acronym list is also provided. Readers are encouraged to consult area professionals or professional references for more information.

The Plan is divided into the following sections:

Executive Summary: Provides an overview of the plan.

Section 1.0 – Introduction: Summarizes State statutes, plan requirements, and the organization and history of VLAWMO.

Section 2.0 – Land and Water Resource Inventory: Presents current and historic background and inventory information regarding the physical, hydrological, biological, and human environment of the watershed.

Section 3.0 – Issues Identification/Assessment of Problems: Provides an overview of the issues identified during the planning process, identifies priorities, and assesses the adequacy of existing controls and identifies potential management gaps.



Section 4.0 – Goals, Policies, and Management Strategies: Presents the management framework (goals, policies, and management strategies and standards) adopted by the VLAWMO Board (Board) to address the priority issues and management gaps.

Section 5.0 – Administration: Presents the administrative functions of the VLAWMO and Local Water Planning authorities with respect to regulation, financing, and administering implementation of the program described in Section 6.0.

Section 6.0 – Implementation Program: Describes the implementation elements of the Plan and its impact on residents and local governments. This section provides an implementation program table and preliminary annual budgets and provides a table of measurable outcomes for each program year.

### **Watershed Issues**

Watershed issues are problems or concerns that have been identified by both the Board and citizens from member communities and need attention and implementation of corrective measures. Partnership meetings were held in North Oaks, White Bear Lake, and Vadnais Heights. In addition, White Bear Township, Gem Lake, and Lino Lakes were contacted to solicit input. Eleven issues were identified in Section 3.0.

- Potable Water Supply from Groundwater
- Groundwater Quality: Threatened and Impaired
- Potable Water Supply from Surface Water
- Development Occurred Before Implementations
- Additional Development is Expected
- Data Needs/Limitations
- Public Awareness
- Sensitive Resources
- Lake Water Quality: Threatened or Impaired
- Exotic Species Infestations
- Localized Flooding



These issues are also prioritized in Section 3.0. It is interesting to note that both the Board's and the public's priorities of the identified issues were similar. Issues dealing with water quality and habitat were of the greatest concern and flooding, while an important issue, was ranked as one of their least concerns.

### **Watershed Management Framework**

Section 4.0 presents the management framework for the Plan in terms of goals, policies, and management strategies and standards. Development of this framework took into consideration the issues and problems identified, their priority, and the adequacy of existing controls and management efforts. Fundamental principles in developing the framework include:

- VLAWMO is not the only organization with responsibilities for water management in the watershed. This is a shared responsibility between State, local governments and the public.
- Available VLAWMO resources should focus on priorities. Several efforts done well are better than numerous efforts done poorly or incompletely.
- That VLAWMO efforts should build on, improve, or enable existing controls/efforts before starting duplicate efforts.
- Management efforts will possibly vary by subwatershed.

To address management at a subwatershed scale, VLAWMO has divided the watershed into seven separate subwatersheds and identified goals for each issue/problem by subwatershed. The subwatersheds are as follows:

- Subwatershed 1 - Lambert Creek
- Subwatershed 2 - Birch Lake
- Subwatershed 3 - Tamarack/Wilkinson
- Subwatershed 4 - Pleasant/Charley/Deep
- Subwatershed 5 – East Vadnais/Sucker (reservoir)
- Subwatershed 6 - Gem Lake
- Subwatershed 7 – West Vadnais Lake

The following goals have been established by VLAWMO (the order does not reflect rank within the watershed):

1. Prevent flooding
2. Protect and improve surface water quality



3. Protect groundwater quality and quantity
4. Protect wetland resources
5. Protect and improve waters for wildlife habitats and recreation
6. Enhance public participation and stewardship
7. Optimize public resources
8. Analyze and use alternative funding sources
9. Make and enable informed decisions
10. Improve communications

### **Plan Implementation**

Four different implementation elements and associated sub-elements are identified in Section 6.0. These include:

Administrative/Managerial Efforts: This includes staffing, day-to-day operations, and funding for audits, reporting, training, and contingency.

Local Water Plan Development and Implementation: This includes working with local communities to complete Local Water Plans (LWP). This will be a significant effort the first two years of the Plan implementation. Other than the Wetland Conservation Act (WCA), LWPs are viewed as the primary mechanism for implementing policies and strategies that incorporate standards and regulations. These standards/regulations include:

- Floodplain and shoreland ordinances
- Rate control standards
- Landlocked basin standards
- Storm water standards
- Standards to control soil loss on small construction sites in shoreland areas
- Wetland protection standards

Some of these standards, such as the floodplain and shoreland ordinance requirements, are already met by member communities. Others are met, to some degree, by local community requirements. Wherever possible, VLAWMO tried to build-on existing standards from State or Federal requirements to minimize duplication.



In addition to standards, other specific expectations for inclusions in LWPs by various communities are described in Section 6.0.

Studies and Programs: Implementation elements include seven different sub-elements as follows:

- Lower Lambert Creek Flood Reduction Study
- County Road E and Highway 61 Storm Water Study
- Development of Sustainable Lake Management Plans (SLMP)
- Financial incentives and cost-sharing
- Public information and education
- Data analysis and monitoring
- WCA and appropriations permitting

Capital Improvements Projects: The Plan includes projects listed below. Additional projects can be added with biannual reviews and minor amendments.

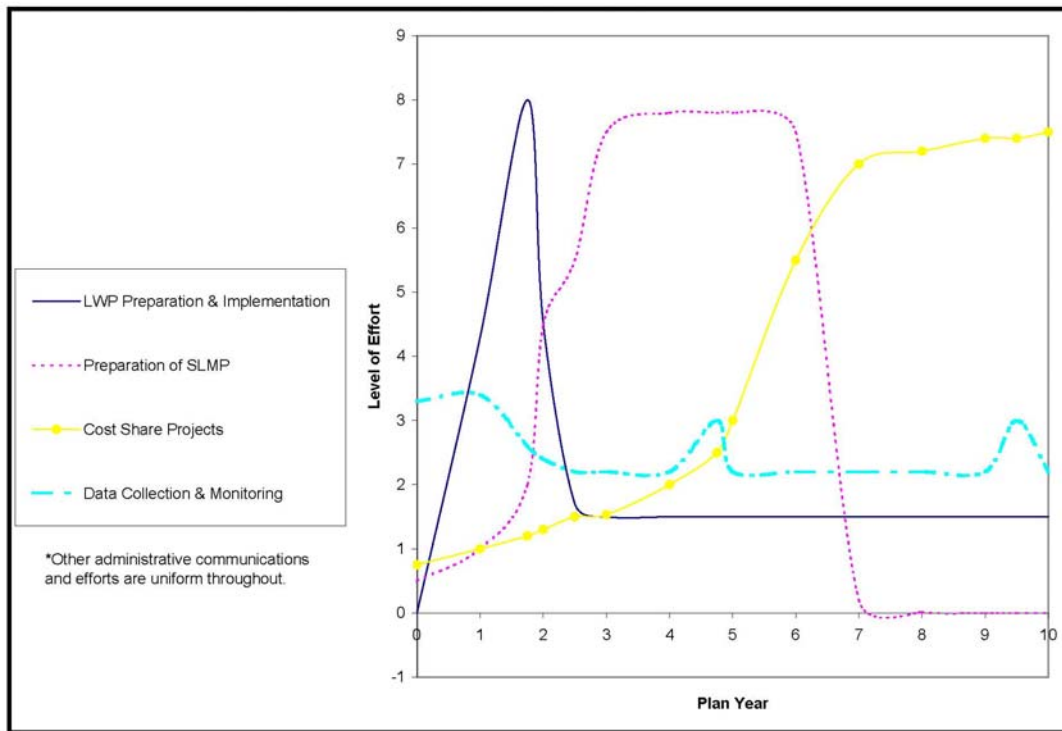
- Lambert Creek Stream Restoration and Stabilization
- Lambert Creek Flume Replacement
- Goose Lake Sediment Treatment and Rough Fish Removal.
- Aluminum/Ferric Chemical Feed to Grass Weir
- Lambert Creek Total Maximum Daily Load (TMDL) Project
- Tamarack Lake Restoration
- Branch 4 – North Storm Water Quality Pond
- Branch 4 – Northeast Quadrant of Vadnais Heights City Center Storm Water Quality Pond

Many implementation efforts, such as administration and WCA permitting, are on-going. Other elements are scheduled more specifically over the course of the 10-year program. The intent is to try to balance efforts over those 10 years.

As shown in Graph ES 1, the primary implementation elements shift from a focus on completion of LWPs, to the completion of SLMPs, during middle years, to habitat and other water quality improvements through financial incentives and cost-sharing in later years.



### GRAPH ES 1 VLAWMO IMPLEMENTATION EFFORTS



#### Measurable Outcomes

The primary outcome measurements for judging effectiveness of this Plan are the numerical water quality standards established for some lakes and the non-degradation standard established for all lakes through modeling effort. Other products/outcomes are identified and tabled by year in Section 6.0, such as the completion of LWPs or a number of SLMPs. These outcomes will be tracked on an annual basis, used to develop annual workplans, and listed in annual reports as a means of tracking implementation of the Plan.