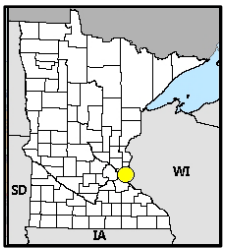
Valley Branch Watershed District

Watershed Restoration and Protection Strategies (WRAPS) Report Summary



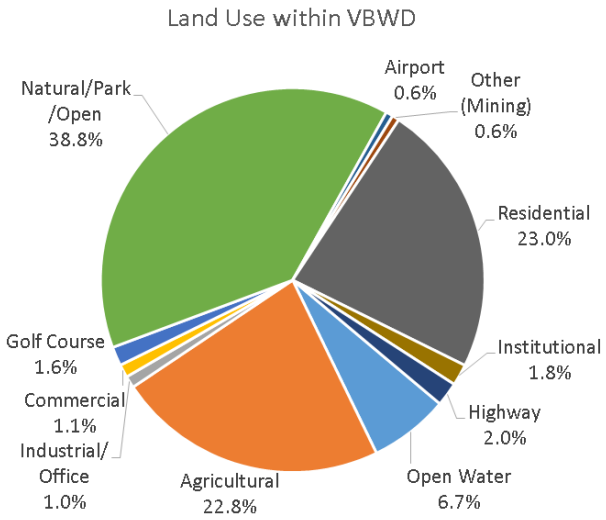
Minnesota has adopted a "watershed approach" to address the state's 80 major watersheds. This watershed approach incorporates the following activities into a 10-year cycle:

- Water quality monitoring and assessments
- Watershed analyses
- Civic engagement
- Planning, implementation, and measurement of results


Lake DeMontreville
Source: Barr Engineering Co.

Valley Branch Watershed Characteristics

- Location: Lower St. Croix River watershed on the eastern edge of the Minneapolis-St. Paul Metropolitan area
- Size: 70 square miles
- Counties: Ramsey and Washington
- Cities/Townships: Lake Elmo, Woodbury, Afton, Oakdale, Grant, Pine Springs, Oak Park Heights, St. Mary's Point, North Saint Paul, Maplewood, White Bear Lake, Baytown, and West Lakeland.
- Land Use: Predominantly natural, park, and open space, residential, and agricultural.
- Water Resources: Numerous streams, including the Valley Creek trout stream, more than 1,200 wetlands, and 11 lakes

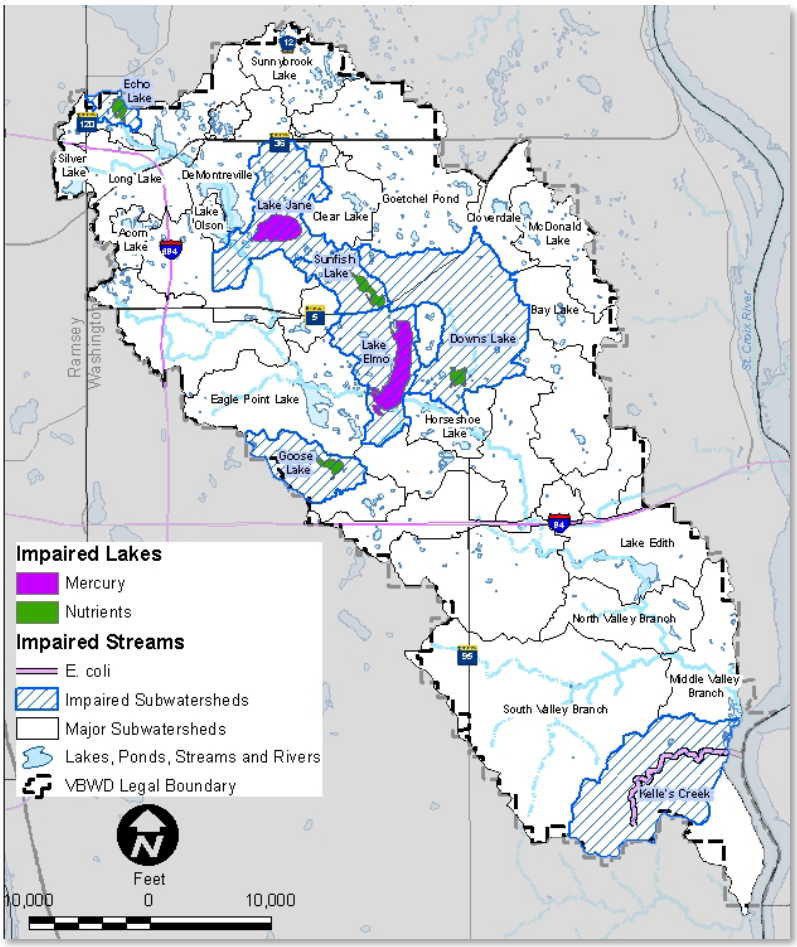


Watershed Conditions

Water quality in lakes, wetlands, and streams is closely linked to watershed conditions and internal waterbody processes. As urbanization continues and other land use changes occur in the VBWD, nutrient and sediment inputs from stormwater runoff can far exceed the natural inputs impacting water quality. Much of the western portion of VBWD has experienced urban development, while the eastern portion remains fairly undeveloped with open spaces and very low density residential development.

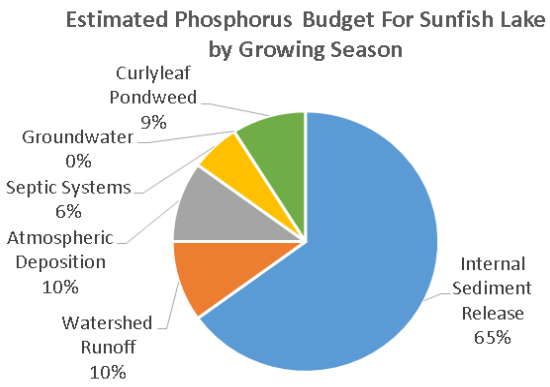
What is affecting our water bodies?

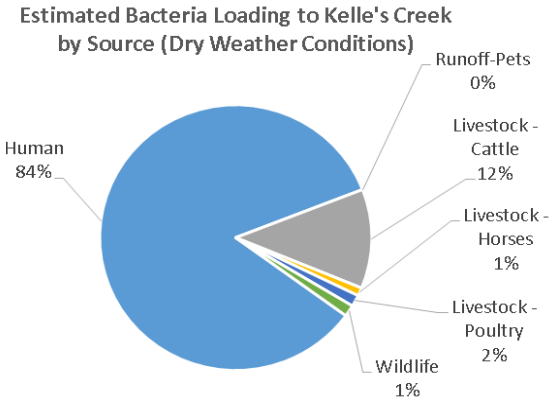
In order to develop appropriate strategies to improve water quality, the factors impacting water quality must be identified. Stormwater runoff carries a number of contaminants affecting water quality, human health, recreation, habitat, and aesthetics. These pollutants include nutrients (e.g., phosphorus and nitrogen), sediments, organic materials, pathogens (e.g., bacteria), hydrocarbons, metals, pesticides, salt, and trash. Also septic systems that do not function as designed can contribute nutrients and bacteria to water resources. Additionally, internal phosphorus loading is a problem in many lakes as historic inputs of phosphorus are concentrated in the sediments. This phosphorus is recycled from the sediments to the overlying waters. If nutrient inputs increase, water quality degradation is likely to occur, resulting in algal growth, reduced diversity of rooted aquatic plants, and fish kills.



Impairments in the Valley Branch Watershed

Waters are "impaired" if they fail to meet standards. The map shows the impairments for six lakes and one stream within the VBWD. Under federal and state laws, impaired waters must have Total Maximum Daily Load (TMDL) studies to determine reductions of pollutants needed to meet water quality standards. In this first WRAPS cycle, the MPCA and local partners completed TMDL studies for Sunfish Lake and Kelle's Creek. The study found that the main source of bacteria to Kelle's Creek is from non-compliant septic systems and manure from livestock. The main source of phosphorus to Sunfish Lake is from internal loading from sediments (see pie charts below).





Restoration and Protection Strategies

The goal of the VBWD is to maintain, protect, and/or improve the quality of all surface waters within the District. Specific strategies have been identified to improve and protect water quality in the VBWD. These strategies were developed by studying the conditions of each waterbody and targeting specific locations and projects through modeling, monitoring, and collecting input from watershed stakeholders.

Watershed-wide:

The VBWD will continue to:

- Educate and reach out to the public to increase awareness and support for the protection of waterbodies in the VBWD
- Manage stormwater and groundwater by continuing monitoring efforts and implementing Best Management Practices (BMPs)
- Implement the permitting program for development and redevelopment projects
- Improve policies and rules and evaluate how they are helping to meet water quality goals

Sunfish Lake:

- Restore and stabilize ravines in the watershed
- Reduce release of phosphorus from sediments through alum treatment and management of aquatic plants
- Address septic systems that are not functioning properly

Silver Lake:

- Target and install small scale BMPs for treating stormwater
- Promote voluntary wake restrictions during early part of season to allow native plants to establish
- Reduce release of phosphorus from sediments through alum treatment

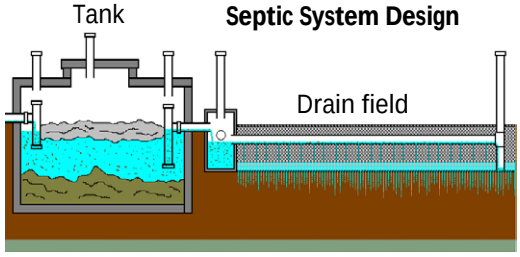
Valley Creek:

- Implement stream stabilization and restoration projects to address identified stream degradation problems

Kelle's Creek:

- Restore and stabilize the stream and ravines
- Identify and address septic systems that are not functioning properly
- Improve pasture management

See the VBWD WRAPS Report for more restoration and protection strategies.



Source: Washington County Public Health and Environment

Civic Engagement – What can you do to help protect our lakes and streams?

We all live in a watershed and our properties eventually drain through storm sewers and into our lakes, wetlands, and streams. You can do your part to help improve water quality:

- Install a rainwater garden or rain barrel to capture runoff from your roof and/or driveway
- Maintain your septic system
- Sweep up grass clippings, fertilizer, leaves, and extra sand and salt
- Clean up after your pet
- Help collect litter in your community
- Learn about aquatic invasive species and how you can help to stop their spread
- Volunteer to collect lake water level readings
- Get involved in lake associations
- Join CAMP (Metropolitan Council's Citizen Assisted Monitoring Program), or MPCA's Lake or Stream Monitoring Program which relies on citizen volunteers to collect data
- Learn more about water quality by participating in the East Metro Water Resource Education Program. For upcoming events, see http://www.mnwcd.org/emwrep/

Full Report

The VBWD WRAPS and TMDL Reports can be seen at: http://www.pca.state.mn.us/hd68k9u

Contacts

MPCA: Rachel Olmanson, rachel.olmanson@state.mn.us, 651-757-2473

VBWD: Contacts listed at http://www.vbwd.org/staff.htm

Minnesota Pollution Control Agency

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The Clean Water, Land and Legacy Amendment is funding a large part of the MPCA's watershed approach.

CLEAN WATER LAND & LEGACY AMENDMENT

www.pca.state.mn.us