Appendices

Appendix A

Project Synopses of Lake Use Attainability Analyses

Project Synopsis:
Anderson Lakes Use Attainability Analysis

A Use Attainability Analysis (UAA) is a scientific assessment of a water body's physical, chemical, and biological conditions. This assessment provides the foundation for a lake-specific best management practices (BMPs) plan that is used to maintain or attain the existing and potential beneficial uses of a lake, such as swimming, fishing, or aesthetic viewing.

Goals for Anderson Lakes

Southeast Anderson Lake:
Level II Classification—
Summer-average Secchi disc reading ≥ 1.0 m (3.3 ft)

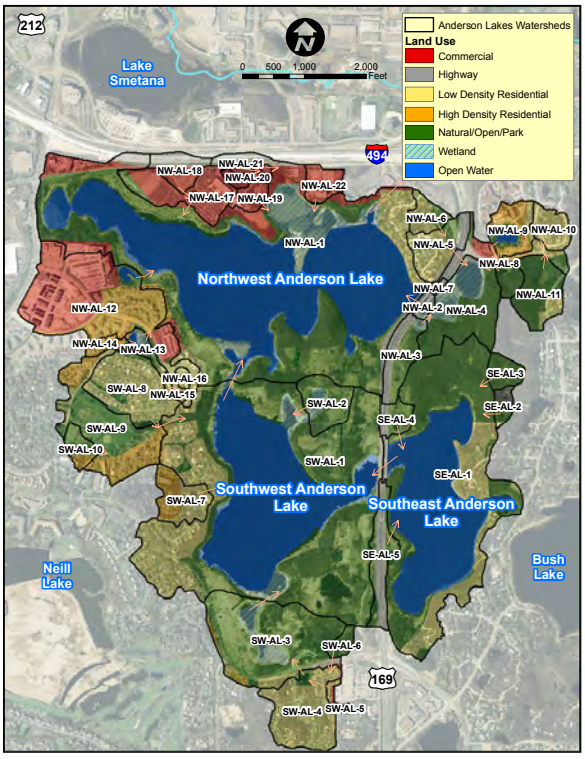
Southwest Anderson Lake:
Level II Classification—
Summer-average Secchi disc reading ≥ 1.0 m (3.3 ft)

Northwest Anderson Lake:
Level III Classification—
Summer-average Secchi disc reading ≥ 0.5 m (1.6 ft)

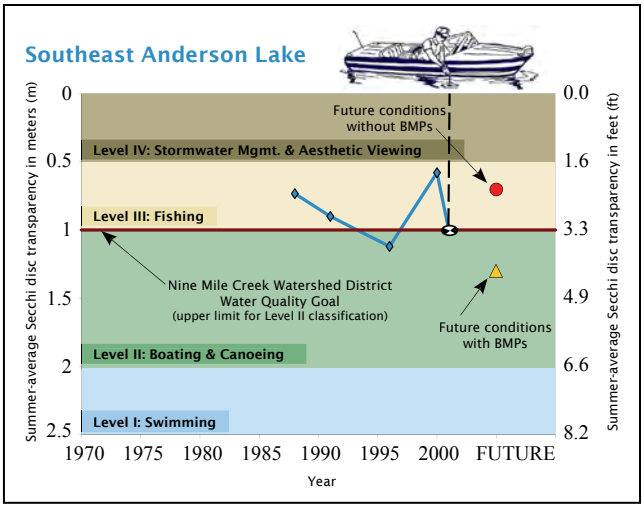
Investigative Techniques

The Anderson Lakes UAA includes both a water quality analysis and prescription of protective measures for all three lakes and their watersheds. This analysis and prescription is based on:

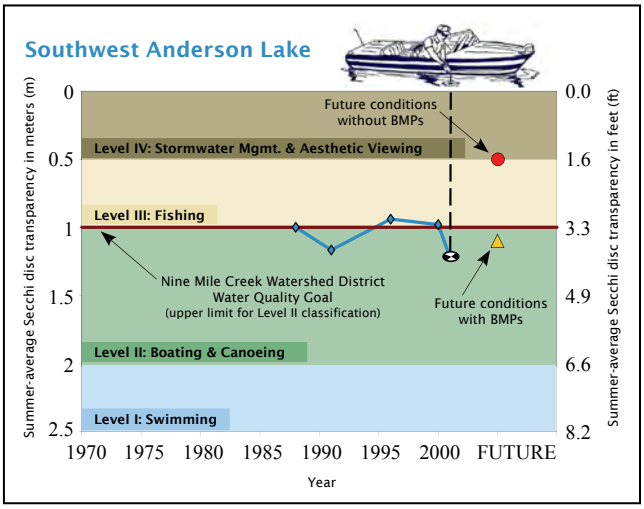
- Historical water quality data
- Intensive lakewater quality study
- P8 computer simulation modeling of runoff water quality
- Lake hydrologic and phosphorus budget analyses (see reverse)
- Best management practices (BMPs) analysis

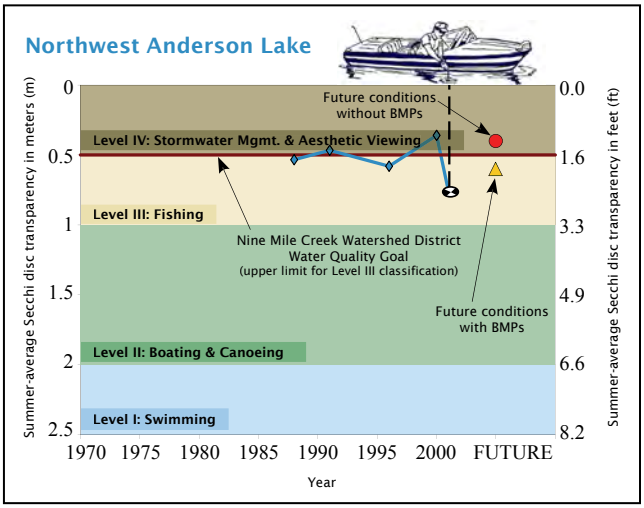


The land use on a lake's watershed directly impacts the water quality in the lake. Therefore, the Anderson Lakes UAA assessed existing and ultimate watershed land-use conditions.



These graphs illustrate historic and predicted future summer-average water clarity (transparency). Transparency is measured as the depth at which a black-and-white patterned disc (a Secchi disc) disappears from view as it is lowered into the water.





Water Quality Problems

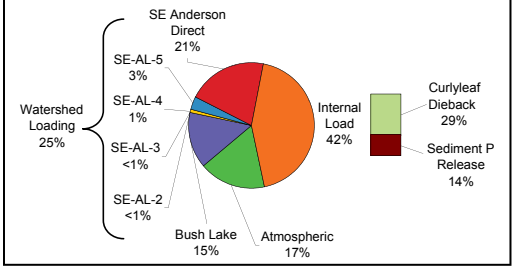
- **Aesthetic Issues**
  Problem: Summer algal blooms (caused by high phosphorus levels)

  Cause: Urban stormwater runoff conveying large amounts of phosphorus to the lake

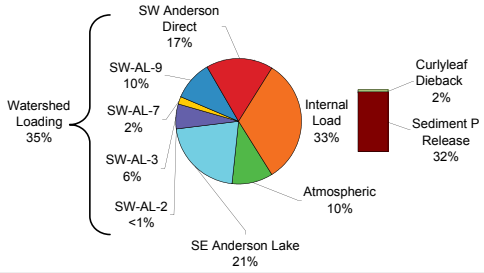
- **Biological Issues**
  Problem: Exotic lake weed species (pictured at right)

  Cause: Curlyleaf pondweed, Eurasian watermilfoil, and purple loosestrife

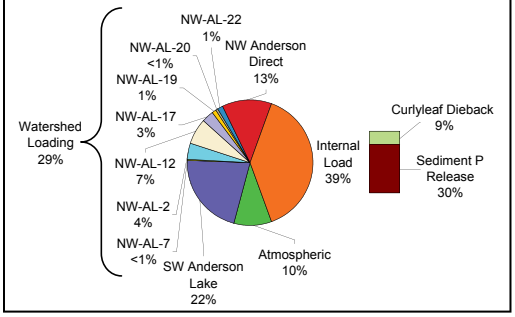
Southeast Anderson Lake Annual Phosphorus Budget (129 lbs)
Model Calibration Year (May 1, 2000 to April 30, 2001) Using Existing Land Use



Southwest Anderson Lake Annual Phosphorus Budget (288 lbs)
Model Calibration Year (May 1, 2000 to April 30, 2001) Using Existing Land Use



Northwest Anderson Lake Annual Phosphorus Budget (527 lbs)
Model Calibration Year (May 1, 2000 to April 30, 2001) Using Existing Land Use



Internal phosphorus loading from the dieback of curlyleaf pondweed and the release of sediment-bound phosphorus contributes significant amounts of phosphorus to all three lakes.

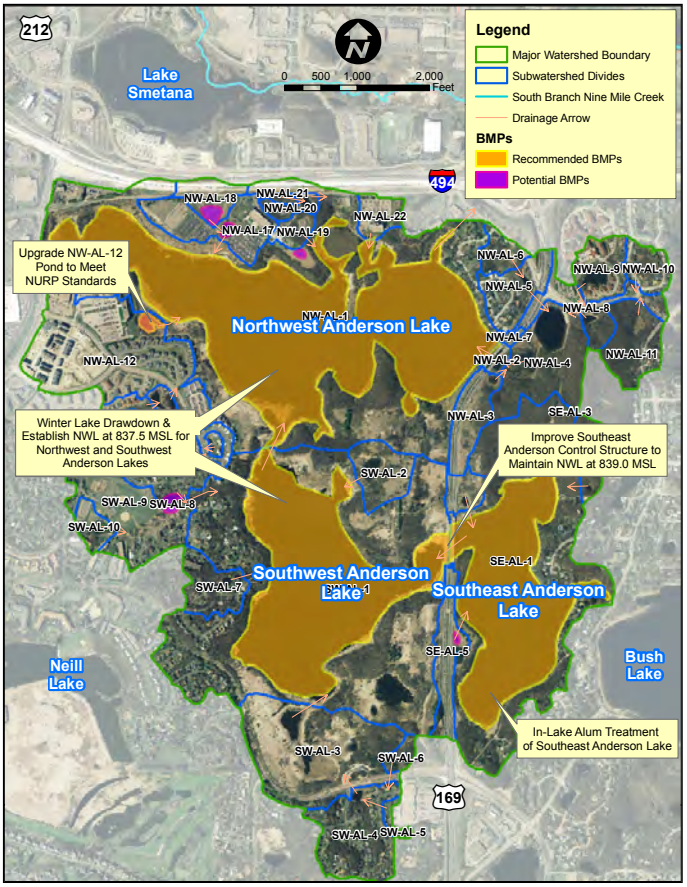
Purple loosestrife is an exotic species that invades wetlands and lake shorelines. It outcompetes native species and, if left unchecked, will eventually become the dominant plant wherever it appears.

Curlyleaf pondweed is an invasive aquatic plant that releases nutrients into the water when it dies back in early summer.

Recommended Remedial Measures*

In-Lake BMPs—Implementing the projects listed below will improve water quality sufficiently to fully meet the Nine Mile Creek Watershed District's goals.

- Improvement of the control structure between Southeast and Southwest Anderson lakes.
- A drawing down of the water levels in Southwest and Northwest Anderson lakes to control non-native aquatic vegetation such as curlyleaf pondweed.
- Improvement of the water quality and stormwater detention efficiency of a runoff detention pond (NW-AL-12) east of Prairie Lakes Drive.
- Whole-lake alum-plus-lime application to Southeast Anderson Lake's entire surface area to reduce the annual phosphorus load by 14 percent.
- Whole-lake endothal treatments for the management of curlyleaf pondweed to reduce Southeast Anderson Lake's annual phosphorus load by 29 percent.



**Implementation of remedial measures may change based on municipal petitions.*

Project Synopsis:
Birch Island Lake Use Attainability Analysis

A Use Attainability Analysis (UAA) is a scientific assessment of a water body's physical, chemical, and biological conditions. This assessment provides the foundation for a lake-specific best management practices (BMPs) plan that is used to maintain or attain the existing and potential beneficial uses of a lake, such as swimming, fishing, or aesthetic viewing.

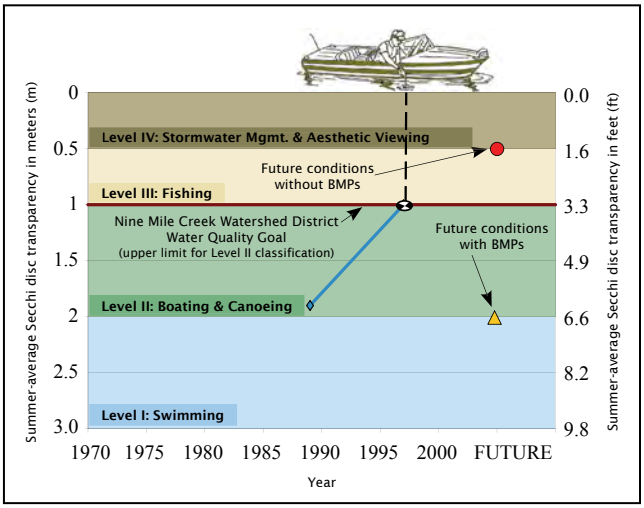
Goals for Birch Island Lake

Nine Mile Creek Watershed District
Water Quality Goal:
Maintain Level II Classification—full support of swimmable use, but threatened.

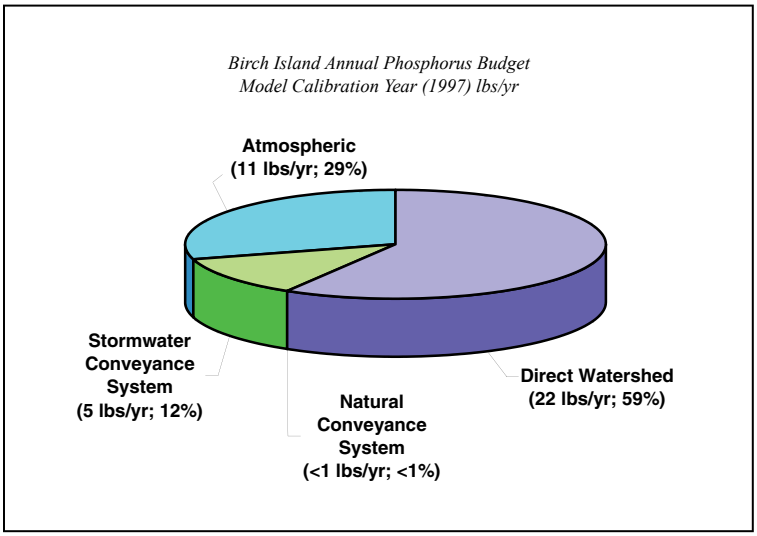
Investigative Techniques

The Birch Island Lake UAA includes both a water quality analysis and prescription of protective measures for Birch Island Lake and its watershed. This analysis and prescription is based on:

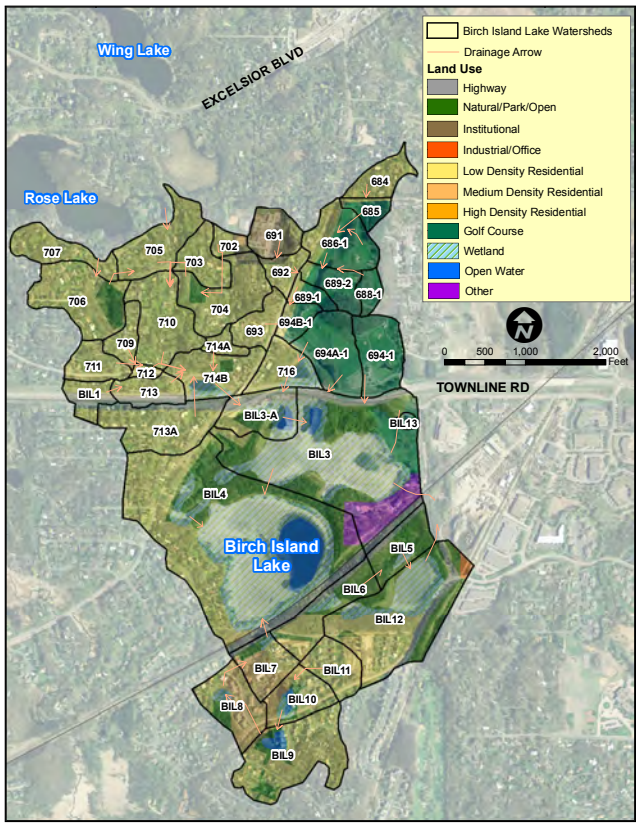
- Historical water quality data
- Intensive lakewater quality study
- P8 computer simulation modeling of runoff water quality
- Lake hydrologic and phosphorus budget analyses (see below)
- Best management practices (BMPs) analysis



This graph illustrates Birch Island Lake's historic and predicted future summer-average water clarity (transparency). Transparency is measured as the depth at which a black-and-white patterned disc (a Secchi disc) disappears from view as it is lowered into the water.



Surface water runoff from Birch Island Lake's watershed contributes roughly 59 percent of the lake's annual phosphorus load.



The land use on a lake's watershed directly impacts the water quality in the lake. Therefore, the Birch Island Lake UAA assessed existing and ultimate watershed land-use conditions. The Birch Island watershed is dominated by low-density residential land use.

Water Quality Problems

- ***Recreational Issues***
  Problem: Summer algal blooms (caused by high phosphorus levels)

  Cause: Urban stormwater runoff conveying large amounts of phosphorus to the lake

- ***Biological Issues***
  Problem: Exotic lake weed species (see below)

  Cause: Purple loosestrife

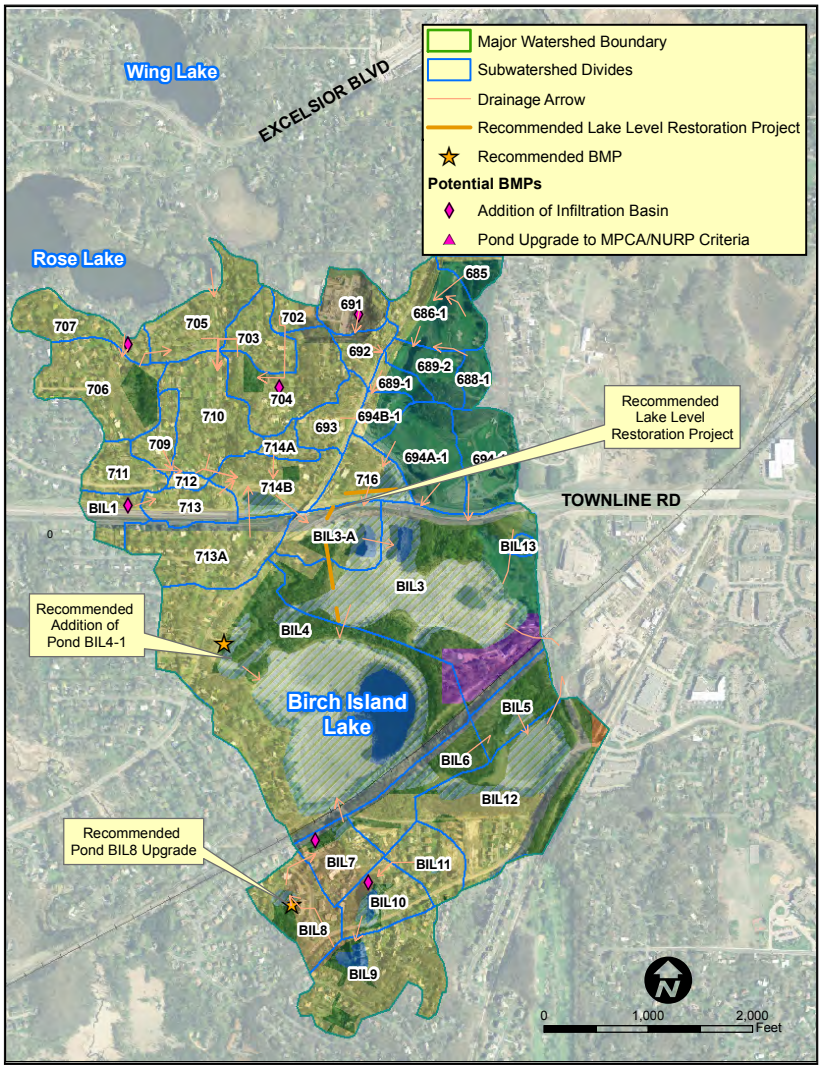
Purple loosestrife is an exotic species that invades wetlands and lake shorelines. It out-competes native species and, if left unchecked, will eventually become the dominant plant wherever it appears. Purple loosestrife not only displaces native plants, but also diminishes wetland habitat value for a variety of native animals.

Recommended Remedial Measures*

Conventional Runoff BMP—Three improvements are recommended for Birch Island Lake's watershed, including:

- One new stormwater treatment/detention pond (Pond BIL4-1) will allow the district's Level II classification to be attained or maintained for average, wet, and model calibration climatic conditions. It will also reduce the annual phosphorus load between 18 and 45 percent and improve the Secchi disc transparency by up to 40 percent, to between 0.7 and 1.8 meters, depending on the climatic condition.
- Improvement of an existing runoff detention pond (BIL8) south of Birch Island Lake, along Lesley Lane. This basin is proposed to have a surface area of about 0.28 acres and a water quality storage volume below the normal water level of roughly 1.15 acre-feet.
- Construction of a pipe bypass system to convey groundwater and surface water runoff from north of CSAH 62 directly to Birch Island Lake to restore the lake's historic hydrology. The recommended appraoch is to bypass the roadway embankment with both surface and groundwater flow.

Biological Management—The district will continue macrophyte (aquatic plant) surveys to monitor the growth of exotic plant species (purple loosestrife).



**Implementation of remedial measures may change based on municipal petitions.*

Project Synopsis:

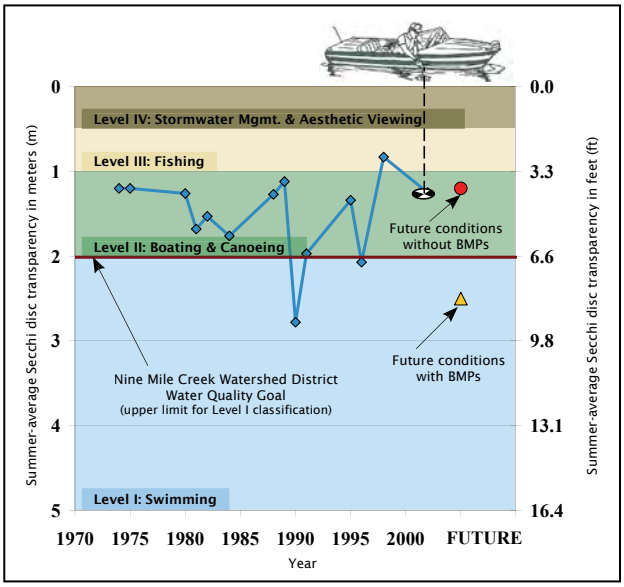
Bryant Lake Use Attainability Analysis

A Use Attainability Analysis (UAA) is a scientific assessment of a water body's physical, chemical, and biological conditions. This assessment provides the foundation for a lake-specific best management practices (BMPs) plan that is used to maintain or attain the existing and potential beneficial uses of a lake, such as swimming, fishing, or aesthetic viewing.

Goals for Bryant Lake

Nine Mile Creek Watershed District
Water Quality Goal:
Level I Classification—full support of swimmable use and a Secchi disc reading ≥ 2.0 m.

Minnesota Pollution Control Agency
Swimmable Use Goal:
Full support of swimming with a total phosphorus concentration < 40 micrograms/liter and a Secchi disc reading ≥ 1.2 m.

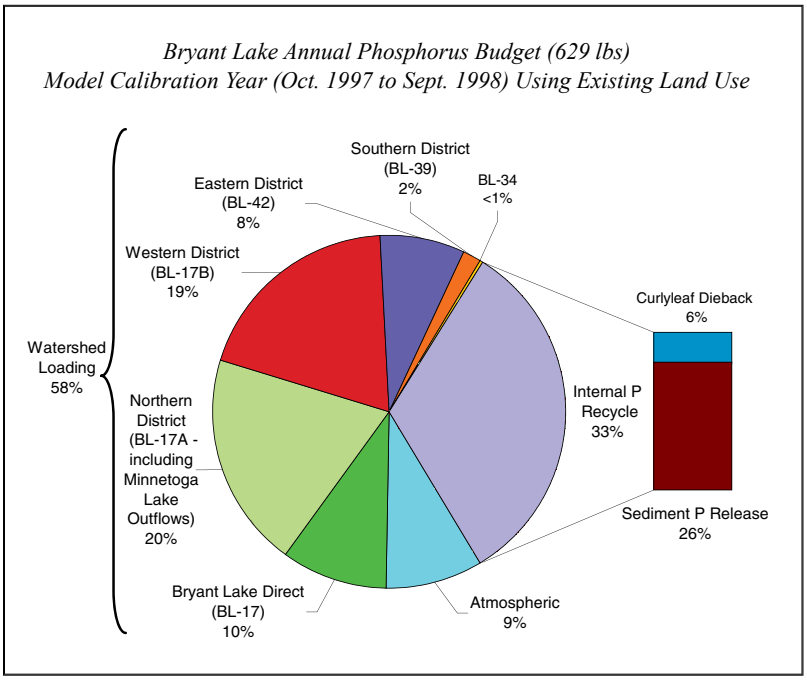


This graph illustrates Bryant Lake's historic and predicted future summer-average water clarity (transparency). Transparency is measured as the depth at which a black-and-white patterned disc (a Secchi disc) disappears from view as it is lowered into the water.

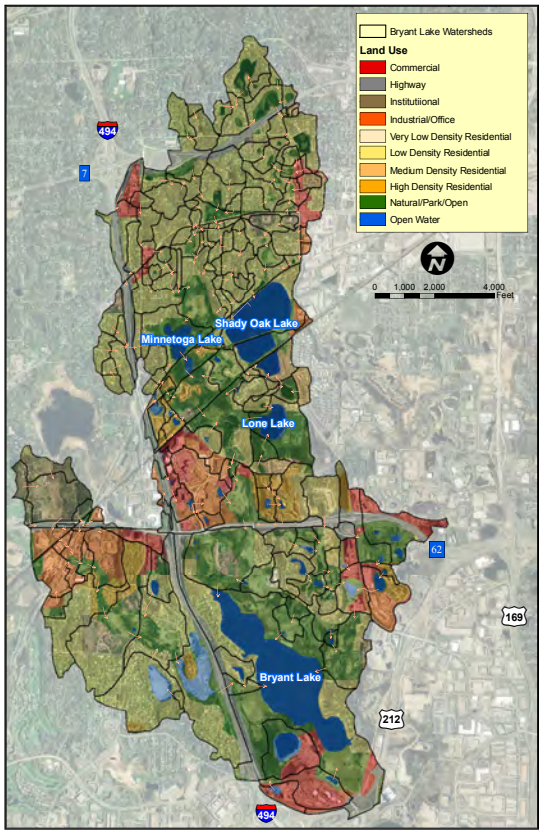
Investigative Techniques

The Bryant Lake UAA includes both a water quality analysis and prescription of protective measures for Bryant Lake and its watershed. This analysis and prescription is based on:

- Historical water quality data
- Aquatic plant surveys
- Intensive lakewater quality study
- P8 computer simulation modeling of runoff water quality
- Lake hydrologic and phosphorus budget analyses (see below)
- Best management practices (BMPs) analysis



Internal phosphorus loading caused by the release of sediment-bound phosphorus contributes significant amounts of phosphorus to Bryant Lake.



The land use on a lake's watershed directly impacts the water quality in the lake. Therefore, the Bryant Lake UAA assessed existing and ultimate watershed land-use conditions.

An invasive aquatic plant, Eurasian watermilfoil adversely impacts aquatic ecosystems by forming dense canopies that often shade out native vegetation. It can "travel" from lake to lake via boat trailers.

Curlyleaf pondweed is an invasive aquatic plant that releases nutrients into the water when it dies back in early summer.

Purple loosestrife is an exotic species that invades wetlands and lake shorelines. It out-competes native species and, if left unchecked, will eventually become the dominant plant wherever it appears.

Water Quality Problems

- ***Swimming Issues***
  Problem: Summer algal blooms (caused by high phosphorus levels)

  Cause: Urban stormwater runoff conveying large amounts of phosphorus to the lake

- ***Biological Issues***
  Problem: Exotic lake weed species (see left)

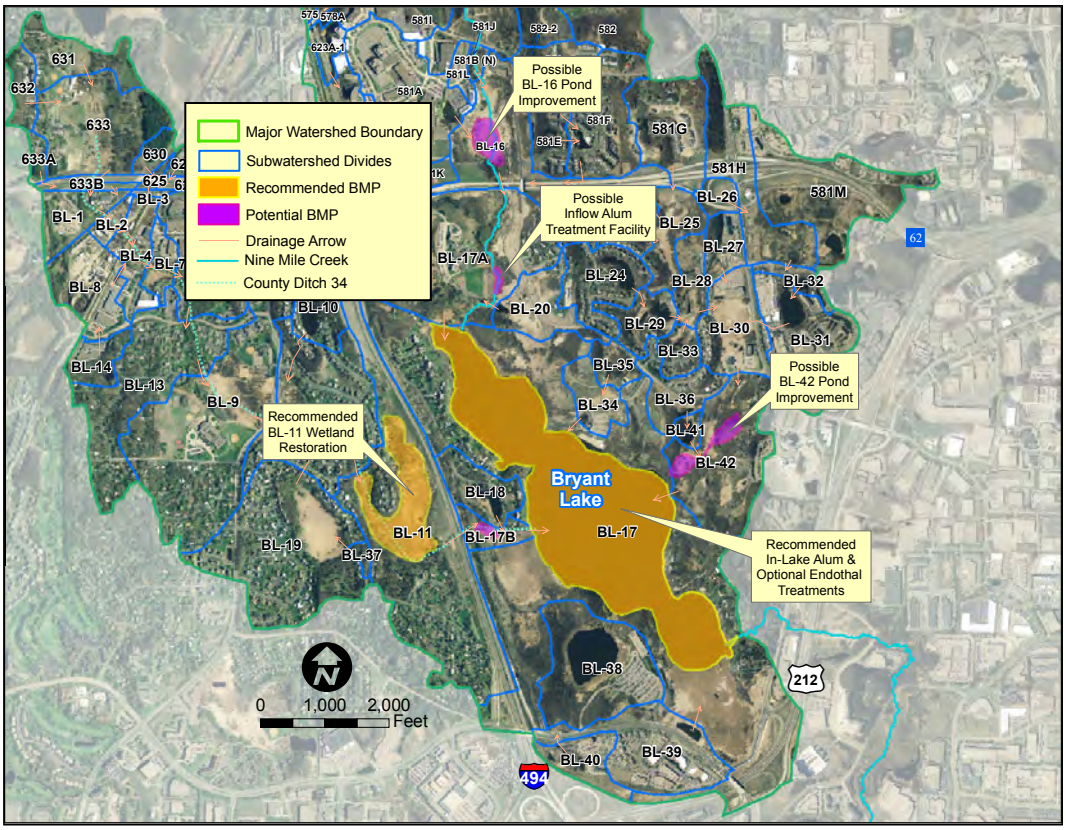
  Cause: Curlyleaf pondweed, Eurasian watermilfoil, and purple loosestrife

Recommended Remedial Measures*

Watershed BMPs—Restoring wetland (BL-11) located west of I-494 will reduce the May-September total phosphorus load by 6 percent.

In-Lake BMPs—Implementing the projects listed below will improve water quality sufficiently to fully meet the Minnesota Pollution Control Agency's swimmable-use goal.

- Whole-lake alum applications to the surface area of Bryant Lake to reduce the annual phosphorus load by 21 percent
- *Optional:* Whole-lake endothal treatments for the management of curlyleaf pondweed to reduce the annual phosphorus load by 6 percent. The optional treatment would be coordinated with Three Rivers Park District to treat specific areas as needed.
- *Optional:* Management of Eurasian watermilfoil in cooperation with Three Rivers Park District



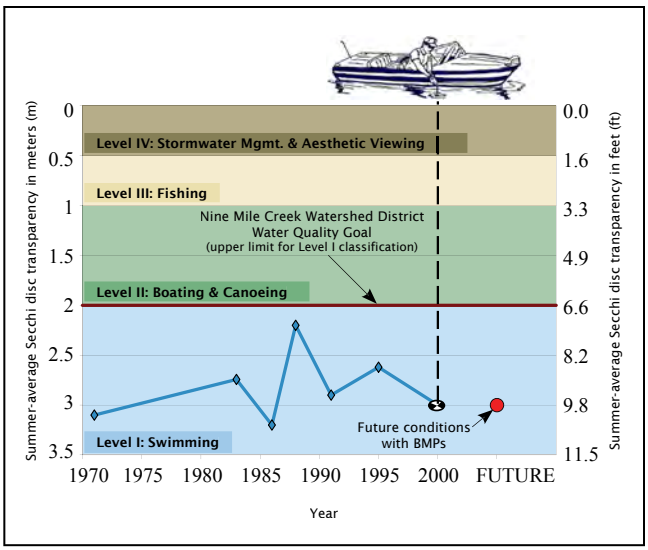
*Implementation of remedial measures may change based on municipal petitions.

Project Synopsis:
Bush Lake Use Attainability Analysis

A Use Attainability Analysis (UAA) is a scientific assessment of a water body's physical, chemical, and biological conditions. This assessment provides the foundation for a lake-specific best management practices (BMPs) plan that is used to maintain or attain the existing and potential beneficial uses of a lake, such as swimming, fishing, or aesthetic viewing.

Goals for Bush Lake

Nine Mile Creek Watershed District Water Quality Goal:
Level I Classification—full support of swimmable use and a Secchi disc reading ≥ 2.0 m.

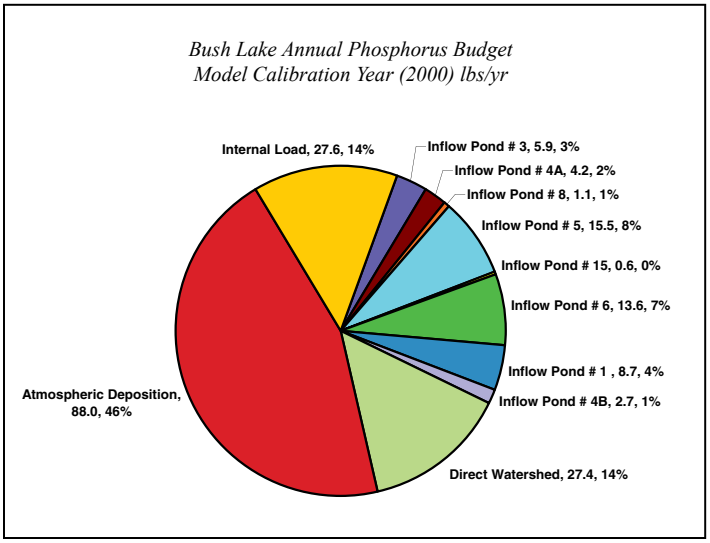


This graph illustrates Bush Lake's historic and predicted future summer-average water clarity (transparency). Transparency is measured as the depth at which a black-and-white patterned disc (a Secchi disc) disappears from view as it is lowered into the water.

Investigative Techniques

The Bush Lake UAA includes both a water quality analysis and prescription of protective measures for Bush Lake and its watershed. This analysis and prescription is based on:

- Historical water quality data
- Aquatic plant surveys
- Intensive lakewater quality study
- P8 computer simulation modeling of runoff water quality
- Lake hydrologic and phosphorus budget analyses (see below)
- Best management practices (BMPs) analysis



Atmospheric deposition accounts for more than 46 percent of Bush Lake's annual phosphorus load.

The land use on a lake's watershed directly impacts the water quality in the lake. Therefore, the Bush Lake UAA assessed existing and ultimate watershed land-use conditions.

An invasive aquatic plant, Eurasian watermilfoil adversely impacts aquatic ecosystems by forming dense canopies that often shade out native vegetation. It can "travel" from lake to lake via boat trailers.

Curlyleaf pondweed is an invasive aquatic plant that releases nutrients into the water when it dies back in early summer.

Purple loosestrife is an exotic species that invades wetlands and lake shorelines. It outcompetes native species and, if left unchecked, will eventually become the dominant plant wherever it appears.

Water Quality Problems

Biological Issues

Problem: Exotic lake weed species (see left)

Cause: Urban stormwater runoff conveying large amounts of phosphorus to the lake; curlyleaf pondweed, Eurasian watermilfoil, and purple loosestrife

Recommended Remedial Measures*

Conventional Runoff BMPs—No further BMPs are required to meet the district's water quality goals.

Water Quality Goal Modification—More stringent goals are recommended to provide greater protection of Bush Lake.

- Total phosphorus concentration $\leq$ 24 micrograms per liter
- Chlorophyll *a* concentration $\leq$ 7 micrograms per liter

Biological Management Techniques—

- Aquatic plant management
- Whole-lake fluridone treatment to control Eurasian watermilfoil and curlyleaf pondweed

Harvesting Eurasian watermilfoil is a biological management technique used on many area lakes.

Purple loosestrife can be managed by releasing root-boring weevils onto the plants.

Digging loosestrife by hand is another possible management method.

*Implementation of remedial measures may change based on municipal petitions.

Project Synopsis:
Glen Lake Use Attainability Analysis

A Use Attainability Analysis (UAA) is a scientific assessment of a water body's physical, chemical, and biological conditions. This assessment provides the foundation for a lake-specific best management practices (BMPs) plan that is used to maintain or attain the existing and potential beneficial uses of a lake, such as swimming, fishing, or aesthetic viewing.

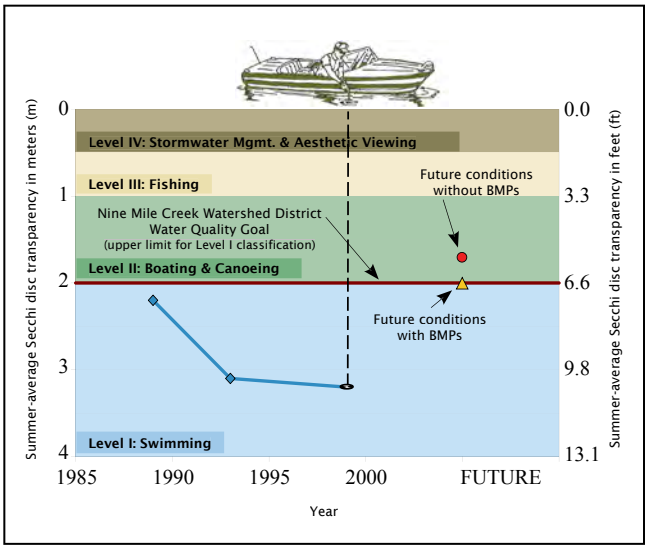
Goals for Glen Lake

Nine Mile Creek Watershed District Water Quality Goal:
Level I Classification—full support of swimmable use and a Secchi disc reading ≥ 2.0 m.

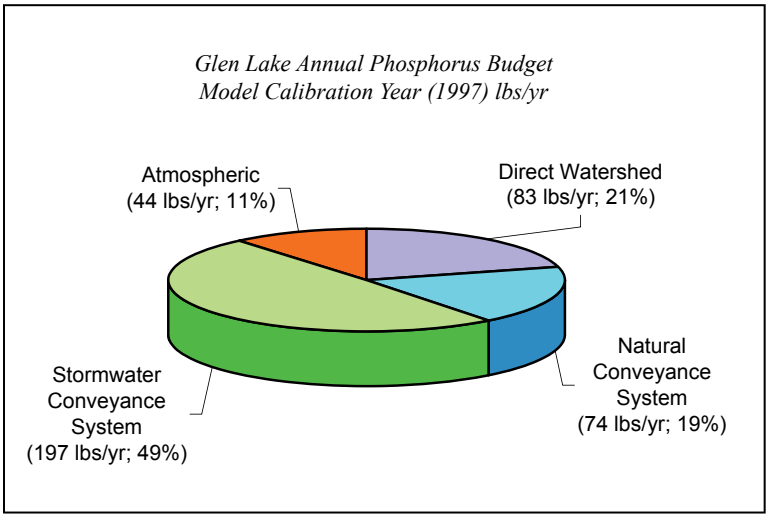
Investigative Techniques

The Glen Lake UAA includes both a water quality analysis and prescription of protective measures for Glen Lake and its watershed. This analysis and prescription is based on:

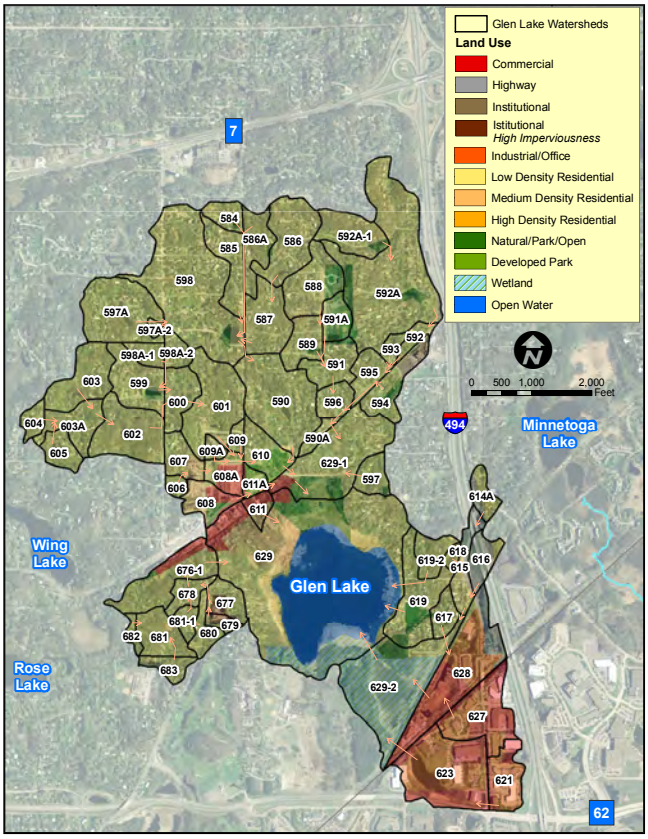
- Historical water quality data
- Intensive lakewater quality study
- P8 computer simulation modeling of runoff water quality
- Lake hydrologic and phosphorus budget analyses (see below)
- Best management practices (BMPs) analysis



This graph illustrates Glen Lake's historic and predicted future summer-average water clarity (transparency). Transparency is measured as the depth at which a black-and-white patterned disc (a Secchi disc) disappears from view as it is lowered into the water.



The stormwater conveyance system contributes roughly half of Glen Lake's annual phosphorus load.



The land use on a lake's watershed directly impacts the water quality in the lake. Therefore, the Glen Lake UAA assessed existing and ultimate watershed land-use conditions.

Purple loosestrife is an exotic species that invades wetlands and lake shorelines. It outcompetes native species and, if left unchecked, will eventually become the dominant plant wherever it appears.

Purple loosestrife can be managed by releasing root-boring weevils onto the plants.

Digging loosestrife by hand is another possible management method.

Water Quality Problems

Swimming Issues

Problem: Summer algal blooms

Cause: Urban stormwater runoff conveying large amounts of phosphorus to the lake

Biological Issues

Problem: Exotic lake weed species (see left)

Cause: Purple loosestrife

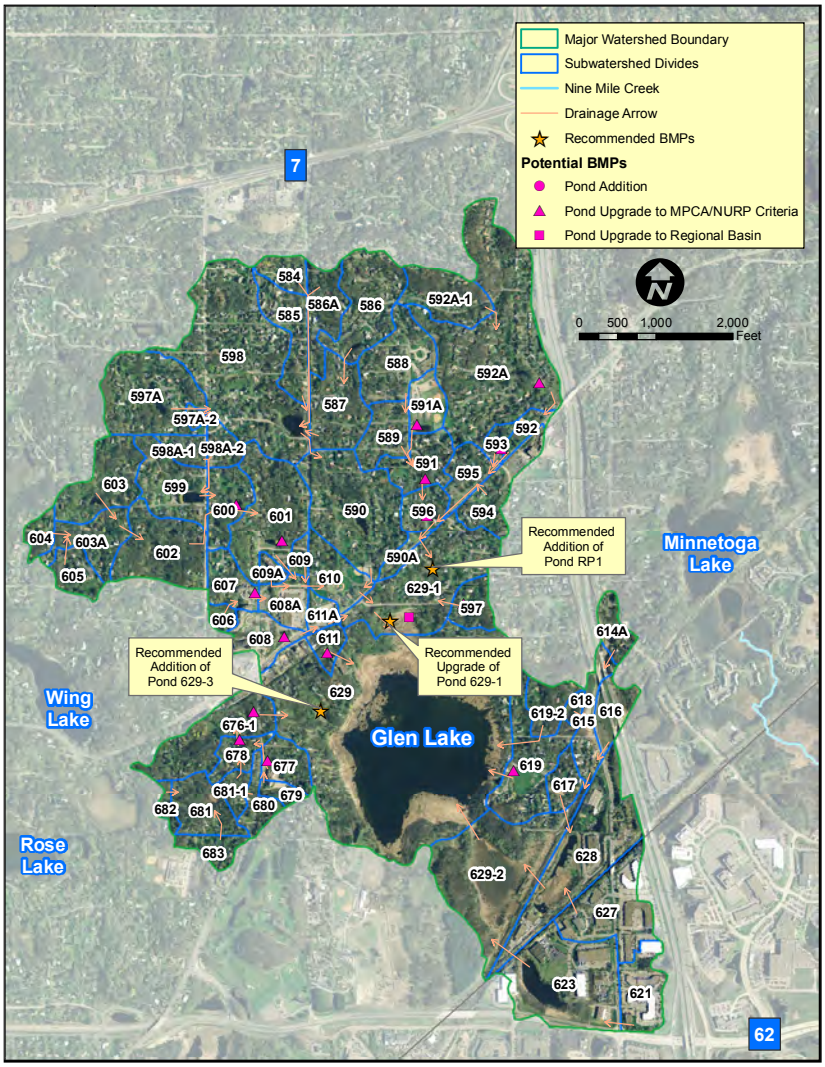
Recommended Remedial Measures*

Conventional Runoff BMPs—Implementing the projects listed below will improve water quality sufficiently to fully meet the Nine Mile Creek Watershed District's goals.

- Add two new stormwater runoff treatment/detention ponds (692-3 and RP1)
- Upgrade pond 629-1 from the City of Minnetonka Surface Water Management Plan in order to meet Minnesota Pollution Control Agency (MPCA) and Nationwide Urban Runoff Program (NURP) criteria for a regional runoff detention/treatment pond

Biological Management Techniques—

- Aquatic plant management (see left)



**Implementation of remedial measures may change based on municipal petitions.*

Project Synopsis:

Lone Lake Use Attainability Analysis

A Use Attainability Analysis (UAA) is a scientific assessment of a water body's physical, chemical, and biological conditions. This assessment provides the foundation for a lake-specific best management practices (BMPs) plan that is used to maintain or attain the existing and potential beneficial uses of a lake, such as swimming, fishing, or aesthetic viewing.

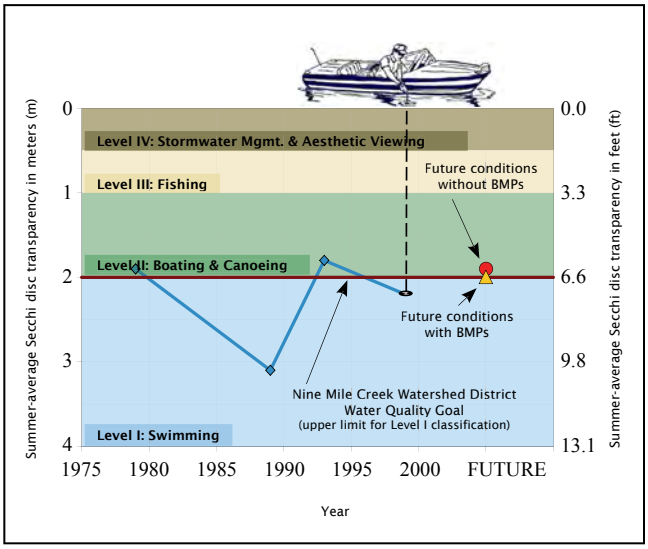
Goals for Lone Lake

Nine Mile Creek Watershed District Water Quality Goal:
Level I Classification—full support of swimmable use and a Secchi disc reading ≥ 2.0 m.

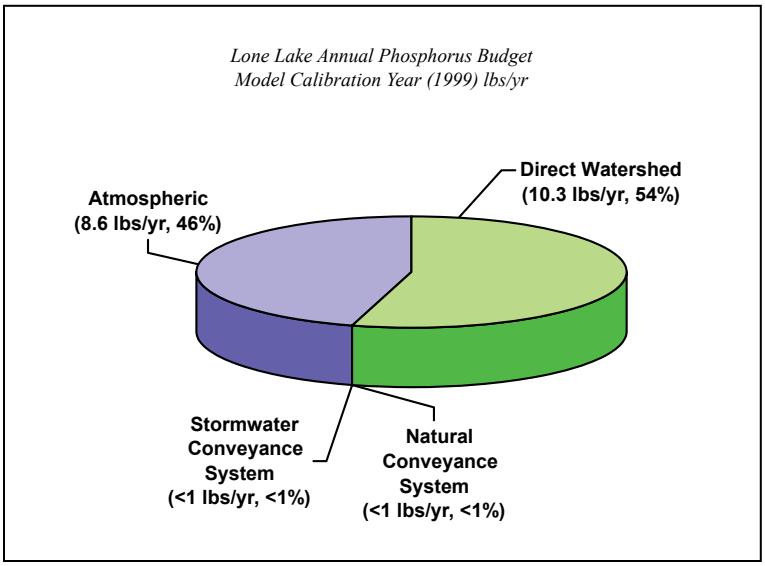
Investigative Techniques

The Lone Lake UAA includes both a water quality analysis and prescription of protective measures for Lone Lake and its watershed. This analysis and prescription is based on:

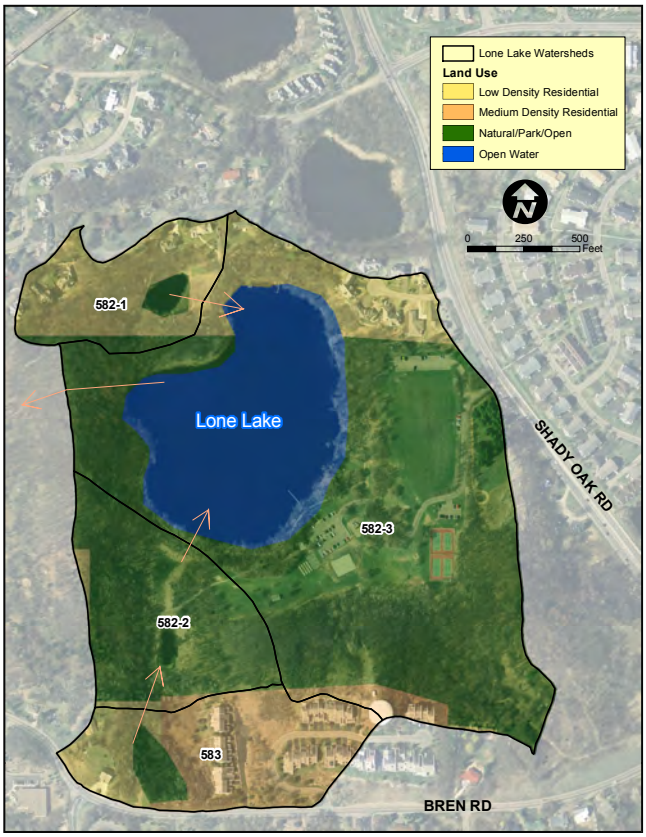
- Historical water quality data
- Intensive lakewater quality study
- P8 computer simulation modeling of runoff water quality
- Lake hydrologic and phosphorus budget analyses (see below)
- Best management practices (BMPs) analysis



This graph illustrates Lone Lake's historic and predicted future summer-average water clarity (transparency). Transparency is measured as the depth at which a black-and-white patterned disc (a Secchi disc) disappears from view as it is lowered into the water.



Surface runoff from Lone Lake's direct watershed contributes roughly 54 percent of the lake's annual phosphorus load.



The land use on a lake's watershed directly impacts the water quality in the lake. Therefore, the Lone Lake UAA assessed existing and ultimate watershed land-use conditions.

Purple loosestrife is an exotic species that invades wetlands and lake shorelines. It out-competes native species and, if left unchecked, will eventually become the dominant plant wherever it appears.

Purple loosestrife can be managed by releasing root-boring weevils onto the plants.

Digging loosestrife by hand is another possible management method.

Water Quality Problems

Swimming Issues

Problem: Summer algal blooms

Cause: Urban stormwater runoff conveying large amounts of phosphorus to the lake

Biological Issues

Problem: Exotic lake weed species (see left)

Cause: Purple loosestrife

Recommended Remedial Measures*

Conventional Runoff BMPs—Implementing the projects listed below will improve water quality sufficiently to fully meet the Nine Mile Creek Watershed District's goals.

- Add one new stormwater runoff treatment/detention ponds (582-3)

Biological Management Techniques—

- Aquatic plant management (see left)

**Implementation of remedial measures may change based on municipal petitions.*

Project Synopsis:
Minnetoga Lake Use Attainability Analysis

A Use Attainability Analysis (UAA) is a scientific assessment of a water body's physical, chemical, and biological conditions. This assessment provides the foundation for a lake-specific best management practices (BMPs) plan that is used to maintain or attain the existing and potential beneficial uses of a lake, such as swimming, fishing, or aesthetic viewing.

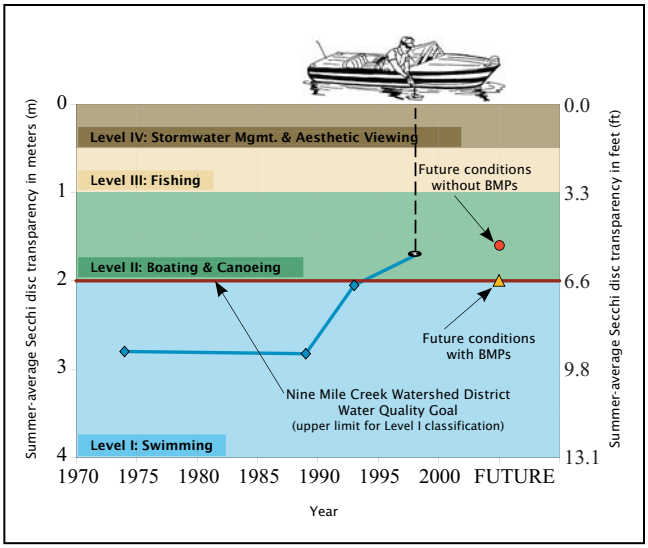
Goals for Minnetoga Lake

Nine Mile Creek Watershed District Water Quality Goal:
Level I Classification—full support of swimmable use and a Secchi disc reading ≥ 2.0 m.

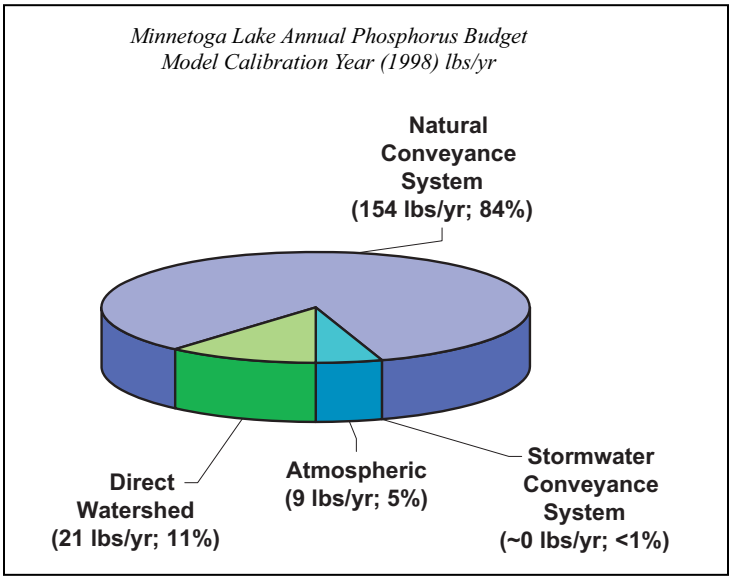
Investigative Techniques

The Minnetoga Lake UAA includes both a water quality analysis and prescription of protective measures for Minnetoga Lake and its watershed. This analysis and prescription is based on:

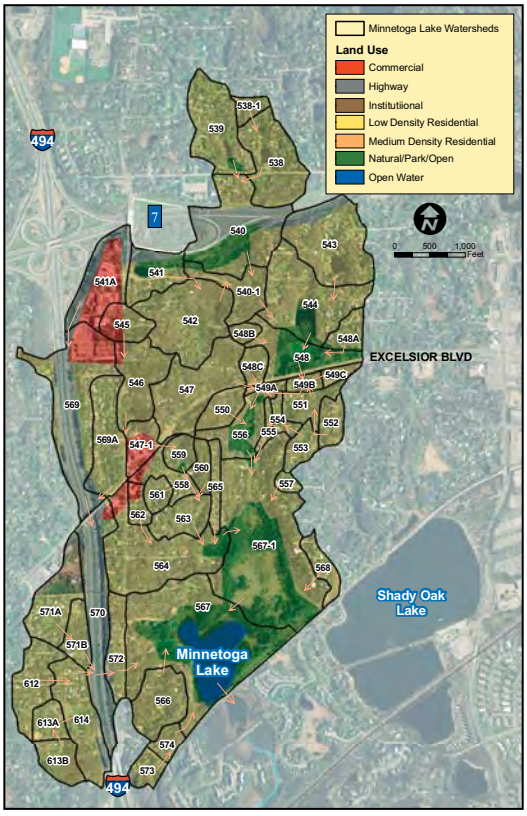
- Historical water quality data
- Intensive lakewater quality study
- P8 computer simulation modeling of runoff water quality
- Lake hydrologic and phosphorus budget analyses (see below)
- Best management practices (BMPs) analysis



This graph illustrates Minnetoga Lake's historic and predicted future summer-average water clarity (transparency). Transparency is measured as the depth at which a black-and-white patterned disc (a Secchi disc) disappears from view as it is lowered into the water.

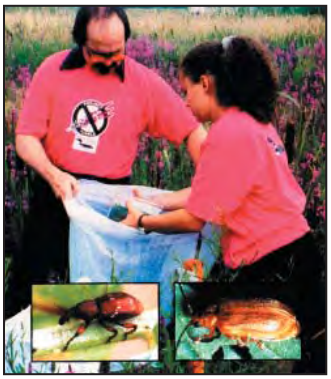


Minnetoga Lake's natural conveyance system contributes roughly 84 percent of the lake's annual phosphorus load.



The land use on a lake's watershed directly impacts the water quality in the lake. Therefore, the Minnetoga Lake UAA assessed existing and ultimate watershed land-use conditions.

Purple loosestrife is an exotic species that invades wetlands and lake shorelines. It outcompetes native species and, if left unchecked, will eventually become the dominant plant wherever it appears.



Purple loosestrife can be managed by releasing root-boring weevils onto the plants.

Digging loosestrife by hand is another possible management method.

Water Quality Problems

Swimming Issues

Problem: Summer algal blooms

Cause: Urban stormwater runoff conveying large amounts of phosphorus to the lake

Biological Issues

Problem: Exotic lake weed species (see left)

Cause: Purple loosestrife

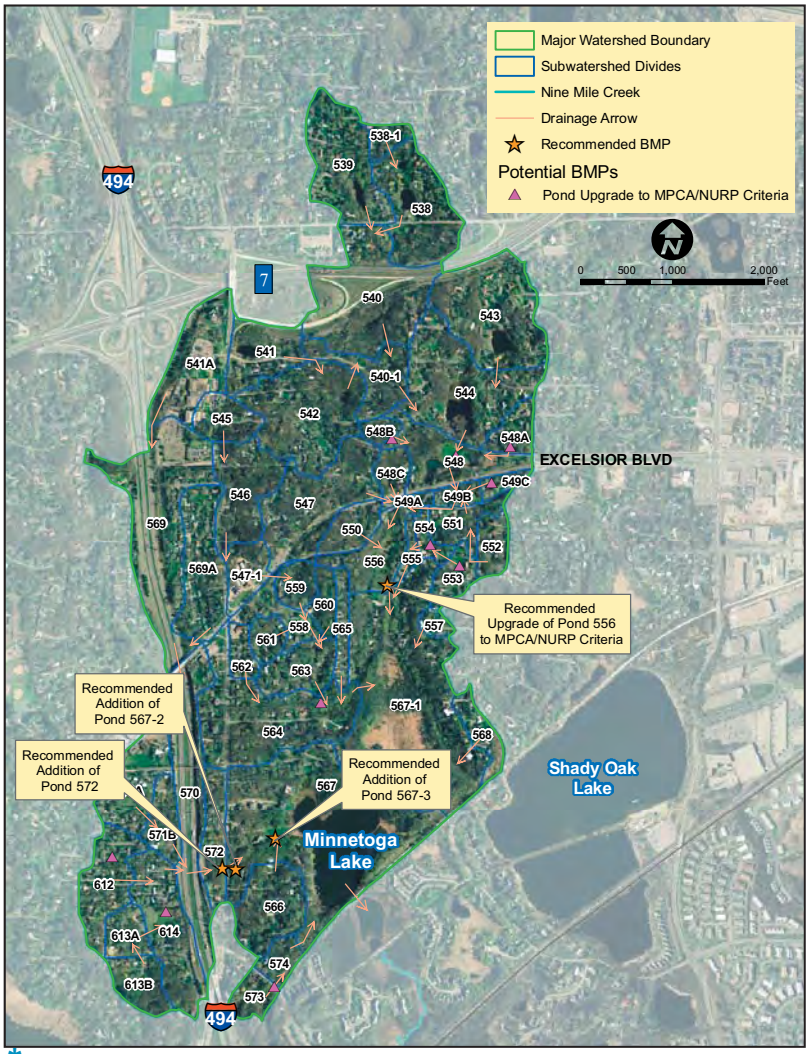
Recommended Remedial Measures*

Conventional Runoff BMPs—Implementing the projects listed below will improve water quality sufficiently to fully meet the Nine Mile Creek Watershed District's goals.

- Add three new stormwater treatment ponds (572, 567-2**, and 567-3)
- Upgrade pond 556 for the City of Minnetonka Surface Water Management Plan (to meet Minnesota Pollution Control/Nationwide Urban Runoff Program criteria for a regional runoff detention pond)

Biological Management Techniques—

- Aquatic plant management (see left)



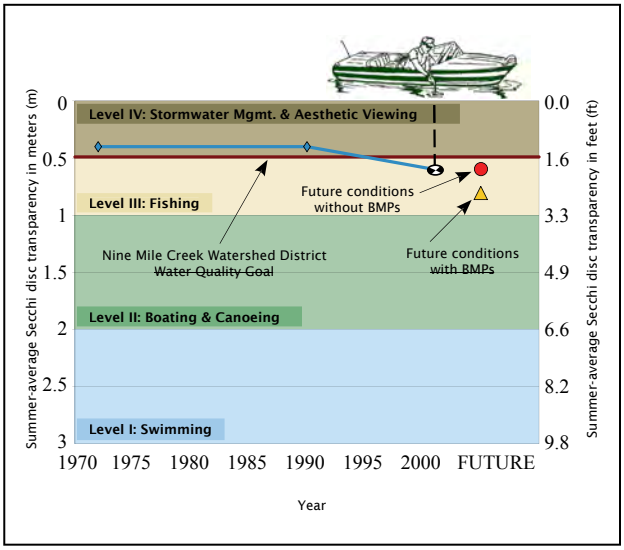
*Implementation of remedial measures may change based on municipal petitions.
**The final design did not include construction of 567-2.

Project Synopsis:
Mirror Lake Use Attainability Analysis

A Use Attainability Analysis (UAA) is a scientific assessment of a water body's physical, chemical, and biological conditions. This assessment provides the foundation for a lake-specific best management practices (BMPs) plan that is used to maintain or attain the existing and potential beneficial uses of a lake, such as swimming, fishing, or aesthetic viewing.

Goals for Mirror Lake

Nine Mile Creek Watershed District Water Quality Goal:
Level IV Classification—intended for runoff management and aesthetic viewing; a Secchi disc reading ≤ 0.5 m.

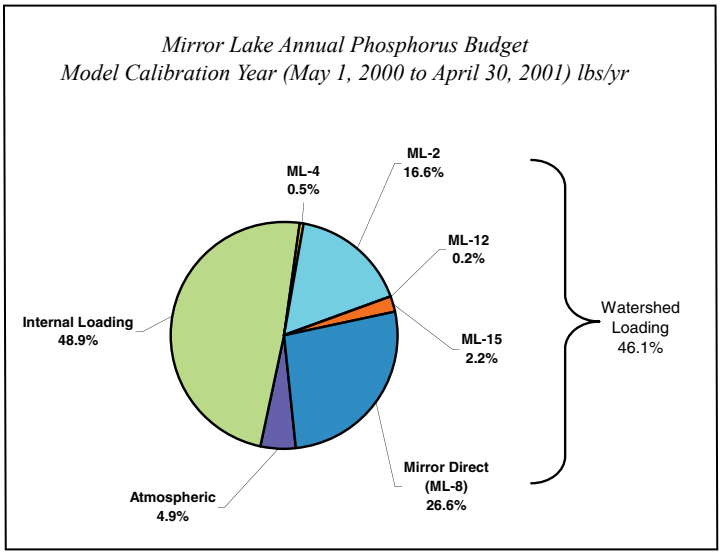


This graph illustrates Mirror Lake's historic and predicted future summer-average water clarity (transparency). Transparency is measured as the depth at which a black-and-white patterned disc (a Secchi disc) disappears from view as it is lowered into the water.

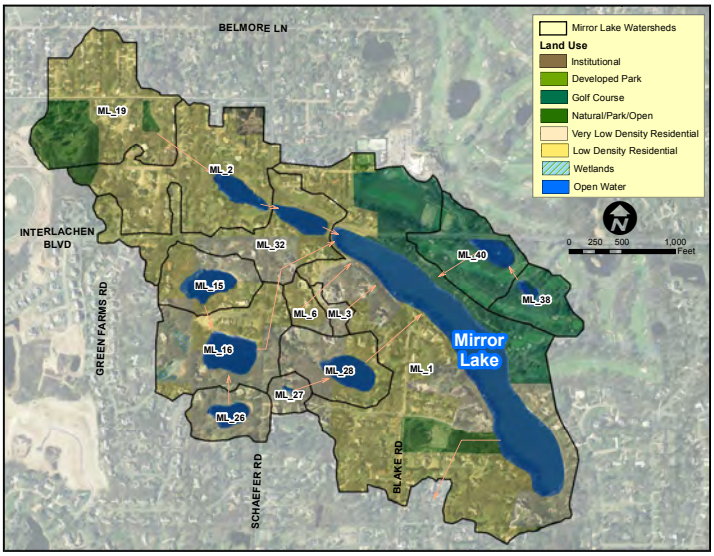
Investigative Techniques

The Mirror Lake UAA includes both a water quality analysis and prescription of protective measures for Mirror Lake and its watershed. This analysis and prescription is based on:

- Historical water quality data
- Aquatic plant surveys
- Intensive lakewater quality study
- P8 computer simulation modeling of runoff water quality
- Lake hydrologic and phosphorus budget analyses (see below)
- Best management practices (BMPs) analysis



Internal phosphorus loading from the dieback of curlyleaf pondweed and the release of sediment-bound phosphorus contributes nearly 50 percent of Mirror Lake's annual phosphorus load.



The land use on a lake's watershed directly impacts the water quality in the lake. Therefore, the Mirror Lake UAA assessed existing and ultimate watershed land-use conditions.

Curlyleaf pondweed is an invasive aquatic plant that releases nutrients into the water when it dies back in early summer.

Purple loosestrife is an exotic species that invades wetlands and lake shorelines. It outcompetes native species and, if left unchecked, will eventually become the dominant plant wherever it appears.

Purple loosestrife can be managed by releasing root-boring weevils onto the plants.

Water Quality Problems

- ***Recreational Issues***
  Problem: Summer algal blooms (caused by high phosphorus levels)

  Cause: Urban stormwater runoff conveying large amounts of phosphorus to the lake

- ***Biological Issues***
  Problem: Exotic lake weed species (see left)

  Cause: Curlyleaf pondweed and purple loosestrife

Recommended Remedial Measures*

Conventional Runoff BMPs

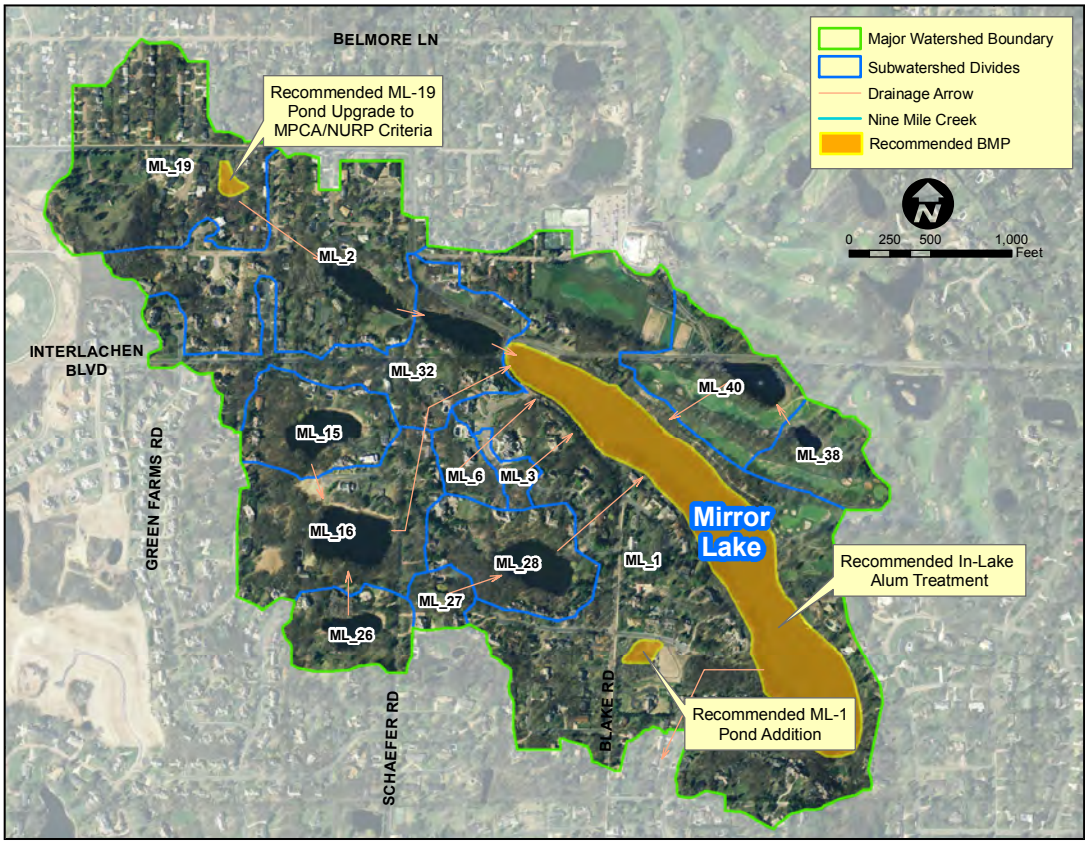
- Add water quality treatment volume to existing pond ML-3
- Construct a new water quality treatment pond in subwatershed ML-16

In-Lake BMPs

- Alum application to the entire surface area of Mirror Lake to reduce the annual phosphorus load by roughly 34 percent
- Manage curlyleaf pondweed with whole-lake endothal treatments to reduce the lakeweed's impact on water quality

Biological Management Techniques

- Manage purple loosestrife by releasing specific beetle species



*Implementation of remedial measures may change based on municipal petitions.

Project Synopsis:
Normandale Lake Use Attainability Analysis

A Use Attainability Analysis (UAA) is a scientific assessment of a water body's physical, chemical, and biological conditions. This assessment provides the foundation for a lake-specific best management practices (BMPs) plan that is used to maintain or attain the existing and potential beneficial uses of a lake, such as swimming, fishing, or aesthetic viewing.

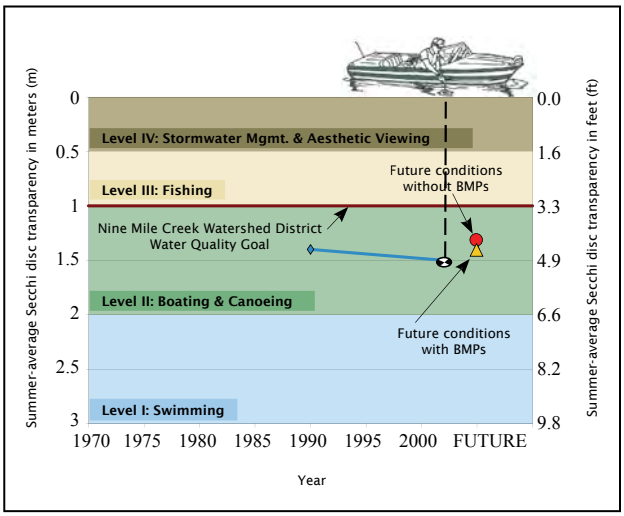
Goals for Normandale Lake

Nine Mile Creek Watershed District Water Quality Goal:

Level II Classification—full support of swimmable use, but threatened; Secchi disc reading ≥ 1.0 m. (3.2 ft.) and total phosphorus concentrations ≤ 75 micrograms per liter

Minnesota Pollution Control Agency Swimmable Use Goal:

Full support of swimming with a total phosphorus concentration < 40 micrograms/liter and a Secchi disc reading ≥ 1.2 m.

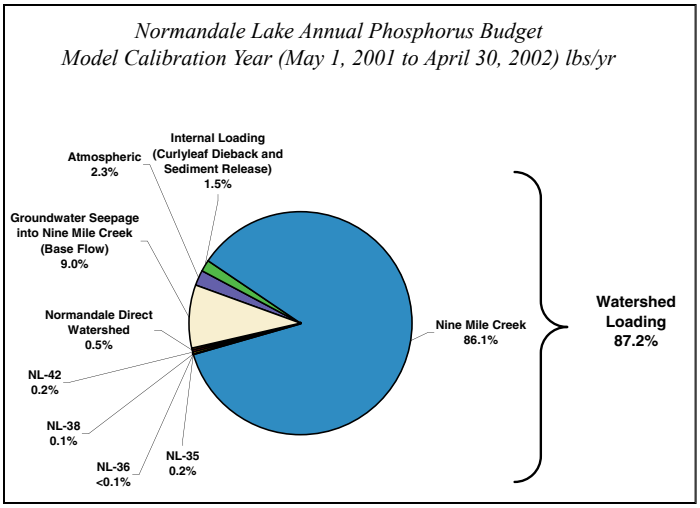


This graph illustrates Normandale Lake's historic and predicted future summer-average water clarity (transparency). Transparency is measured as the depth at which a black-and-white patterned disc (a Secchi disc) disappears from view as it is lowered into the water.

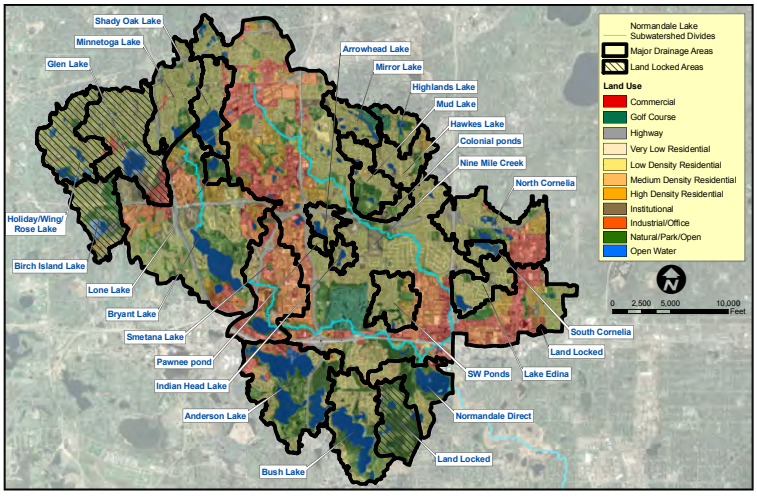
Investigative Techniques

The Normandale Lake UAA includes both a water quality analysis and prescription of protective measures for Normandale Lake and its watershed. This analysis and prescription is based on:

- Historical water quality data
- Aquatic plant surveys
- Intensive lakewater quality study
- P8 computer simulation modeling of runoff water quality
- Lake hydrologic and phosphorus budget analyses (see below)
- Best management practices (BMPs) analysis



Surface runoff conveyed to Normandale Lake via Nine Mile Creek contributes roughly 87 percent of the lake's annual phosphorus load.



The land use on a lake's watershed directly impacts the water quality in the lake. Therefore, the Normandale Lake UAA assessed existing and ultimate watershed land-use conditions.

Curlyleaf pondweed is an invasive aquatic plant that releases nutrients into the water when it dies back in early summer.

Purple loosestrife is an exotic species that invades wetlands and lake shorelines. It outcompetes native species and, if left unchecked, will eventually become the dominant plant wherever it appears.

Water Quality Problems

- ***Recreational Issues***
  Problem: Summer algal blooms (caused by high phosphorus levels)

  Cause: Urban stormwater runoff conveying large amounts of phosphorus to the lake

- ***Biological Issues***
  Problem: Exotic lake weed species (see left)

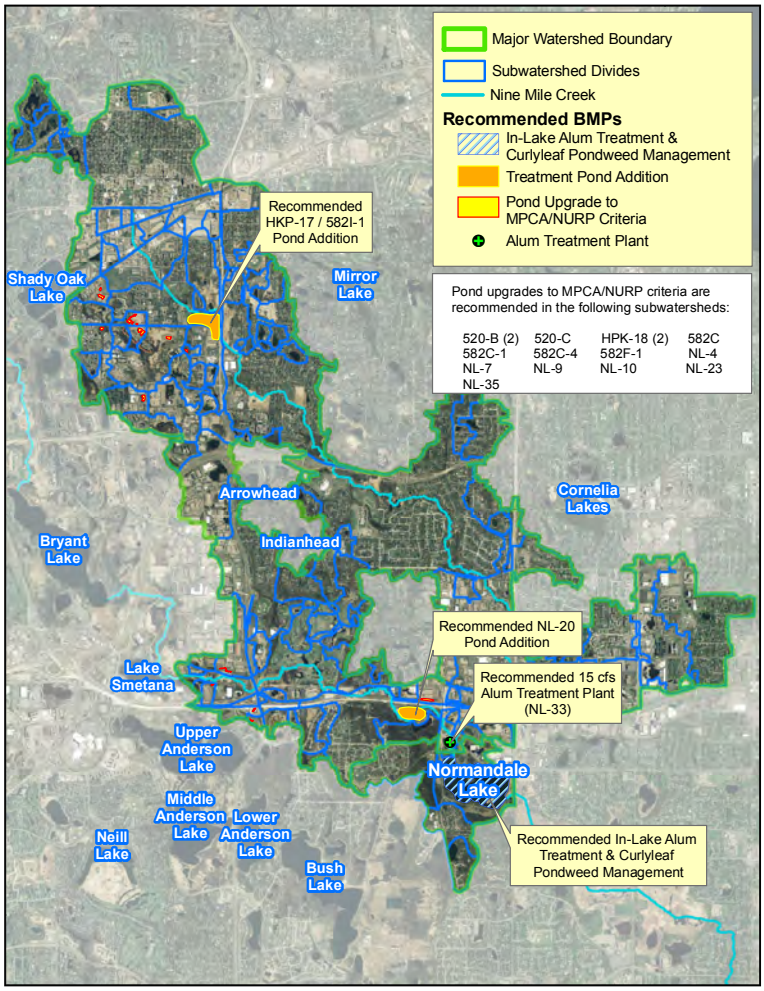
  Cause: Curlyleaf pondweed and purple loosestrife

Recommended Remedial Measures*

No additional BMPs are required to meet the district's or the MPCA's water clarity goal for Normandale Lake. However, additional BMPs are required to meet the district's total phosphorus goal of less than 75 micrograms per liter. The BMPs necessary are:

- Improve Bryant and Smetana lakes' water quality
- Add two water quality treatment ponds—one pond would be located along the north fork of Nine Mile Creek in Hopkins while the other would be located along the south fork of Nine Mile Creek just upstream of East Bush Lake Road

To meet the MPCA's swimmable-use goal for total phosphorus, an alum treatment facility, located at the confluence of the north and south forks of Nine Mile Creek, with the capacity to treat 15 cubic feet per second of stream flow is necessary.



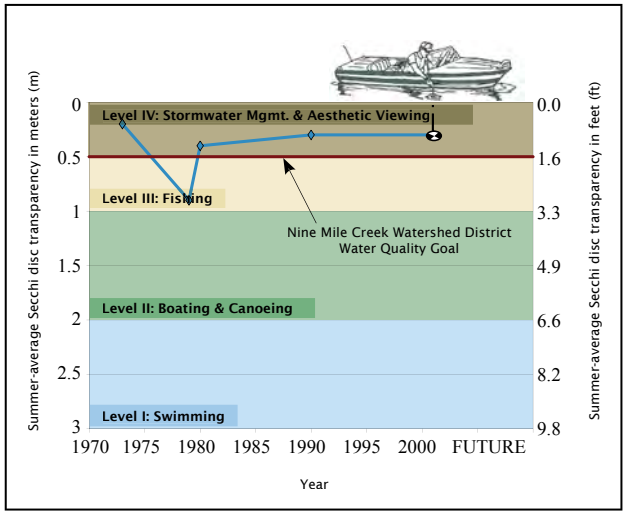
*Implementation of remedial measures may change based on municipal petitions.

Project Synopsis:
Penn Lake Use Attainability Analysis

A Use Attainability Analysis (UAA) is a scientific assessment of a water body's physical, chemical, and biological conditions. This assessment provides the foundation for a lake-specific best management practices (BMPs) plan that is used to maintain or attain the existing and potential beneficial uses of a lake, such as swimming, fishing, or aesthetic viewing.

Goals for Penn Lake

Nine Mile Creek Watershed District
Water Quality Goal:
Level IV Classification—intended for runoff management and aesthetic viewing; Secchi disc reading ≤ 0.5 m.

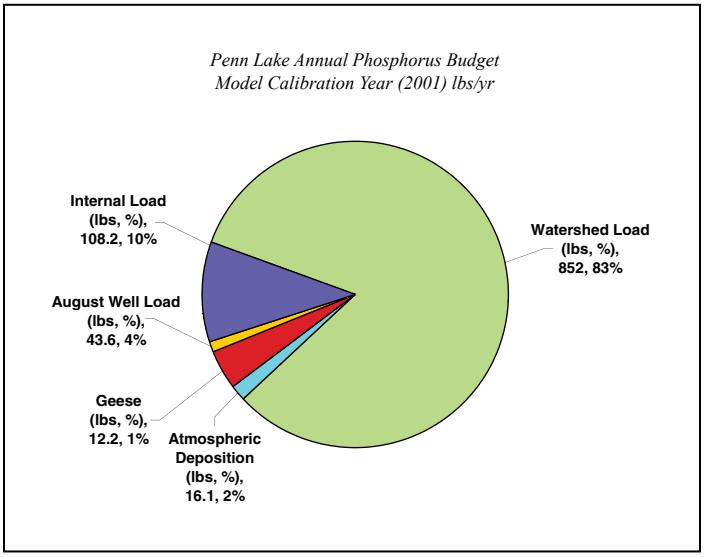


This graph illustrates Penn Lake's historic and predicted future summer-average water clarity (transparency). Transparency is measured as the depth at which a black-and-white patterned disc (a Secchi disc) disappears from view as it is lowered into the water.

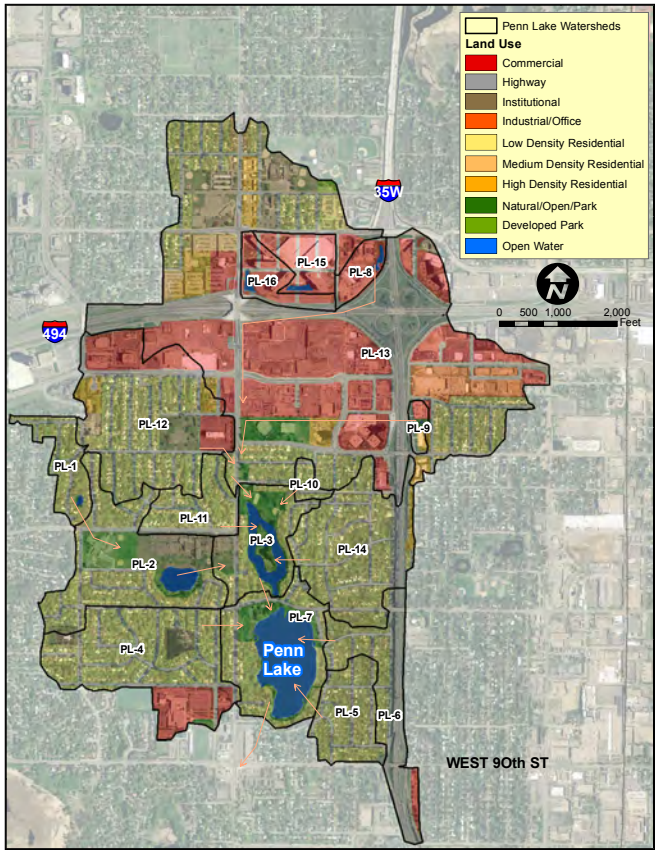
Investigative Techniques

The Penn Lake UAA includes both a water quality analysis and prescription of protective measures for Penn Lake and its watershed. This analysis and prescription is based on:

- Historical water quality data
- Aquatic plant surveys
- Intensive lakewater quality study
- P8 computer simulation modeling of runoff water quality
- Lake hydrologic and phosphorus budget analyses (see below)
- Best management practices (BMPs) analysis



The annual phosphorus budget indicates watershed runoff contributes the largest amount of phosphorus to Penn Lake (~83 percent), while geese contribute roughly 4 percent of the annual phosphorus load.



The land use on a lake's watershed directly impacts the water quality in the lake. Therefore, the Penn Lake UAA assessed existing and ultimate watershed land-use conditions.

Purple loosestrife is an exotic species that invades wetlands and lake shorelines. It outcompetes native species and, if left unchecked, will eventually become the dominant plant wherever it appears.

Water Quality Problems

- ***Recreational Issues***
  Problem: Summer algal blooms (caused by high phosphorus levels)

  Cause: Urban stormwater runoff conveying large amounts of phosphorus to the lake

- ***Biological Issues***
  Problem: Exotic lake weed species (see left)

  Cause: Purple loosestrife

Recommended Remedial Measures*

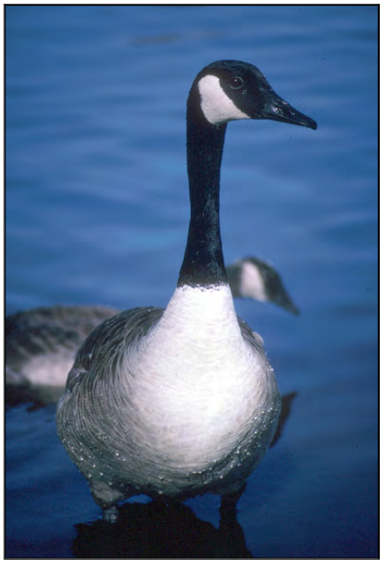
Conventional Runoff BMPs

- Pretreatment of runoff from future 35W expansion

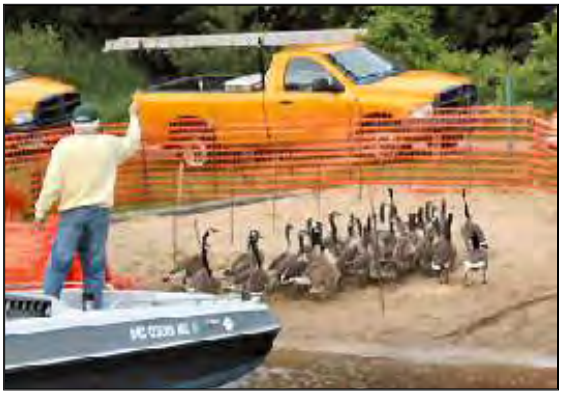
Biological Management Techniques

- Manage purple loosestrife by releasing specific beetle species
- Continue annual goose removal program

Purple loosestrife can be managed by releasing root-boring weevils onto the plants.



The annual goose removal program continues to help reduce this source of phosphorus to Penn Lake.



Geese are herded into a pen where the Department of Natural Resources assesses the birds, relocating some to distant locations and slaughtering others for donation to local food shelves.

Digging loosestrife by hand is another possible management method.

*Implementation of remedial measures may change based on municipal petitions.

Project Synopsis:
Shady Oak Lake Use Attainability Analysis

A Use Attainability Analysis (UAA) is a scientific assessment of a water body's physical, chemical, and biological conditions. This assessment provides the foundation for a lake-specific best management practices (BMPs) plan that is used to maintain or attain the existing and potential beneficial uses of a lake, such as swimming, fishing, or aesthetic viewing.

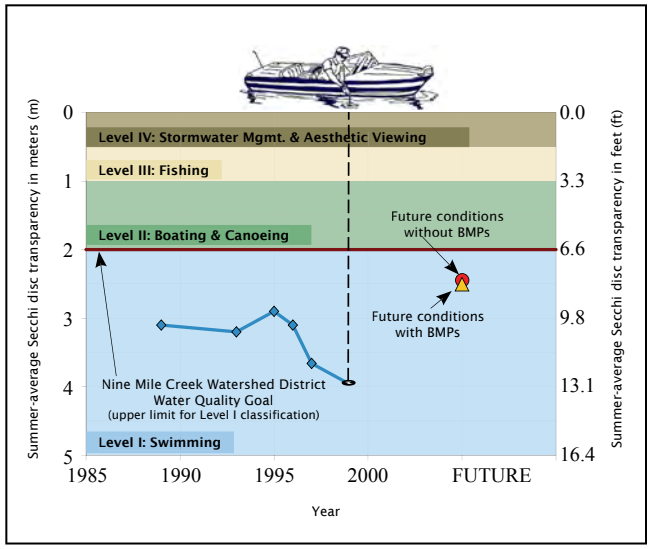
Goals for Shady Oak Lake

Nine Mile Creek Watershed District Water Quality Goal:
Level I Classification—full support of swimmable use and a Secchi disc reading ≥ 2.0 m.

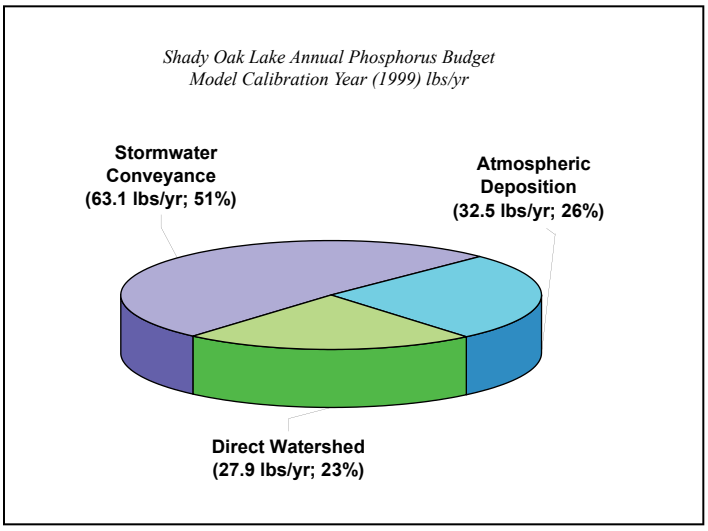
Investigative Techniques

The Shady Oak Lake UAA includes both a water quality analysis and prescription of protective measures for Shady Oak Lake and its watershed. This analysis and prescription is based on:

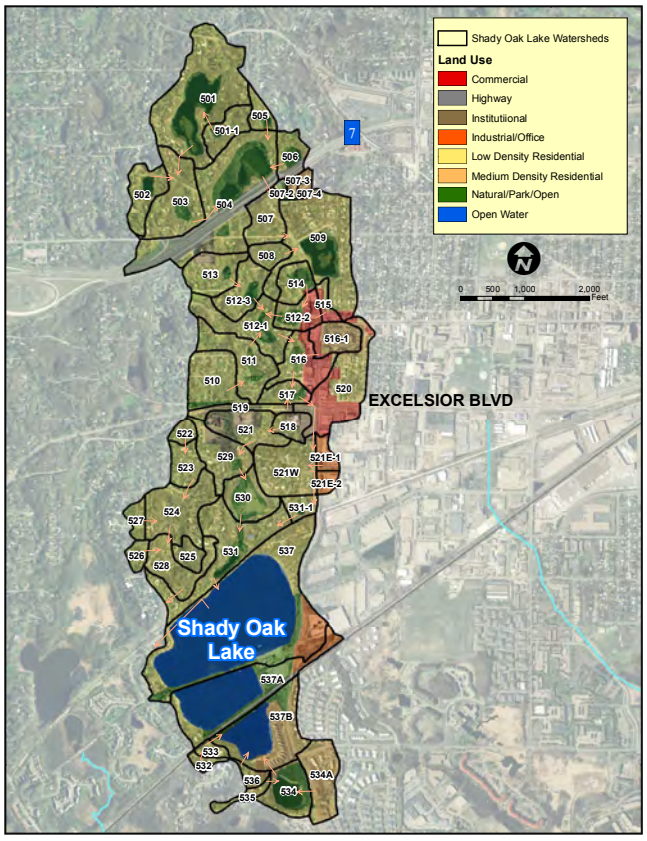
- Historical water quality data
- Intensive lakewater quality study
- P8 computer simulation modeling of runoff water quality
- Lake hydrologic and phosphorus budget analyses (see below)
- Best management practices (BMPs) analysis



This graph illustrates Shady Oak Lake's historic and predicted future summer-average water clarity (transparency). Transparency is measured as the depth at which a black-and-white patterned disc (a Secchi disc) disappears from view as it is lowered into the water.



Stormwater conveyance accounts for more than 50 percent of Shady Oak Lake's annual phosphorus load.



The land use on a lake's watershed directly impacts the water quality in the lake. Therefore, the Shady Oak Lake UAA assessed existing and ultimate watershed land-use conditions.

An invasive aquatic plant, Eurasian watermilfoil adversely impacts aquatic ecosystems by forming dense canopies that often shade out native vegetation. It can "travel" from lake to lake via boat trailers.

Purple loosestrife is an exotic species that invades wetlands and lake shorelines. It outcompetes native species and, if left unchecked, will eventually become the dominant plant wherever it appears.

Purple loosestrife can be managed by releasing root-boring weevils onto the plants.

Water Quality Problems

Swimming Issues

Problem: Summer algal blooms (caused by high phosphorus levels)

Cause: Urban stormwater runoff conveying large amounts of phosphorus to the lake

Biological Issues

Problem: Exotic lake weed species (see left)

Cause: Eurasian watermilfoil and purple loosestrife

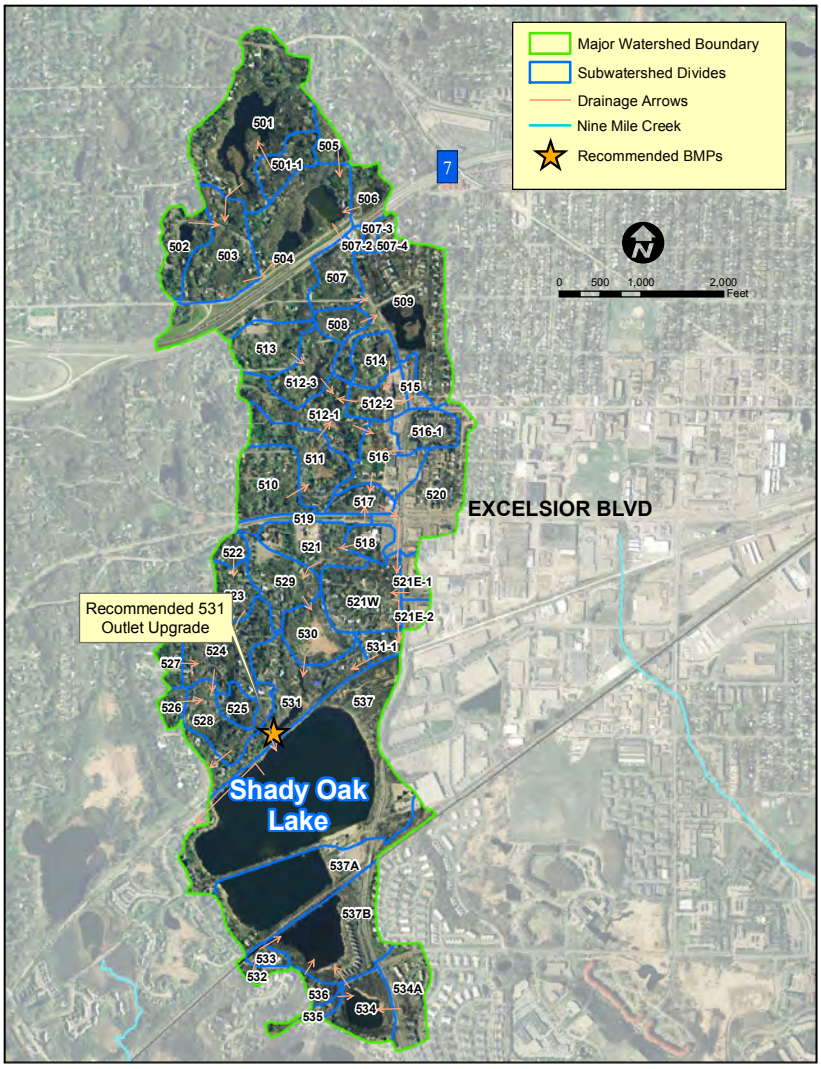
Recommended Remedial Measures*

Conventional Runoff BMPs—No further BMPs, besides those prescribed by the Minnetonka Water Resources Management Plan, are required to meet the district's water quality goals. However, elevating the outlet from pond 531 could improve the water quality in the lake.

Harvesting Eurasian watermilfoil is a biological management technique used on many area lakes.

Biological Management Techniques—

- Aquatic plant management



*Implementation of remedial measures may change based on municipal petitions.

Project Synopsis:
Smetana Lake Use Attainability Analysis

A Use Attainability Analysis (UAA) is a scientific assessment of a water body's physical, chemical, and biological conditions. This assessment provides the foundation for a lake-specific best management practices (BMPs) plan that is used to maintain or attain the existing and potential beneficial uses of a lake, such as swimming, fishing, or aesthetic viewing.

Goals for Smetana Lake

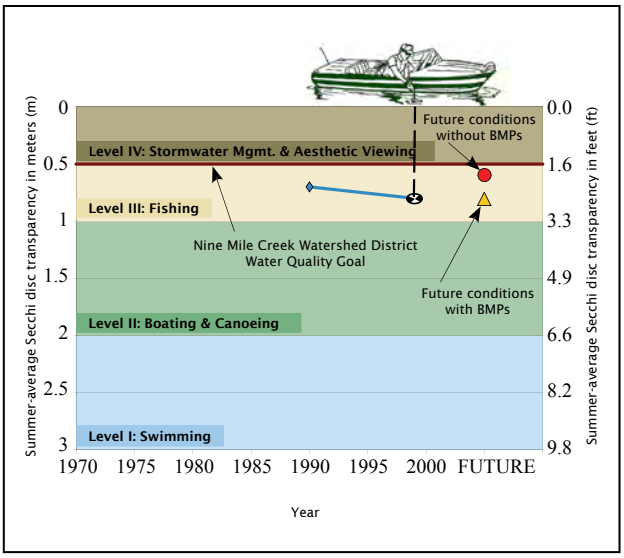
Nine Mile Creek Watershed District Water Quality Goal:

Level III Classification—partial support of swimmable use and a Secchi disc reading ≥ 0.5 m.

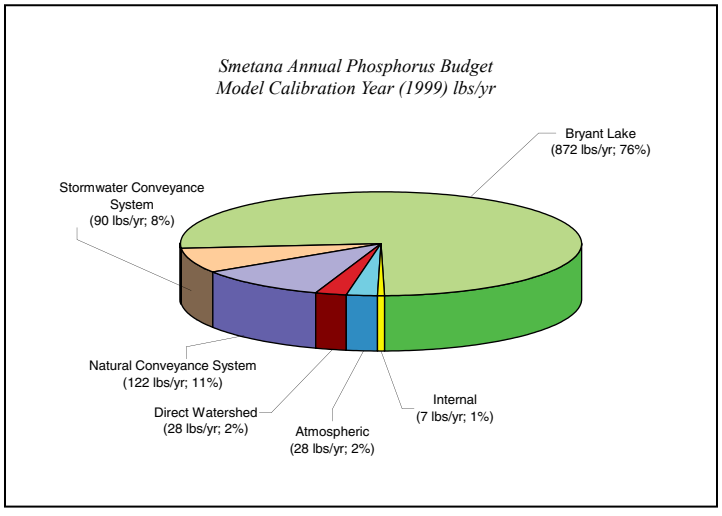
Investigative Techniques

The Smetana Lake UAA includes both a water quality analysis and prescription of protective measures for Smetana Lake and its watershed. This analysis and prescription is based on:

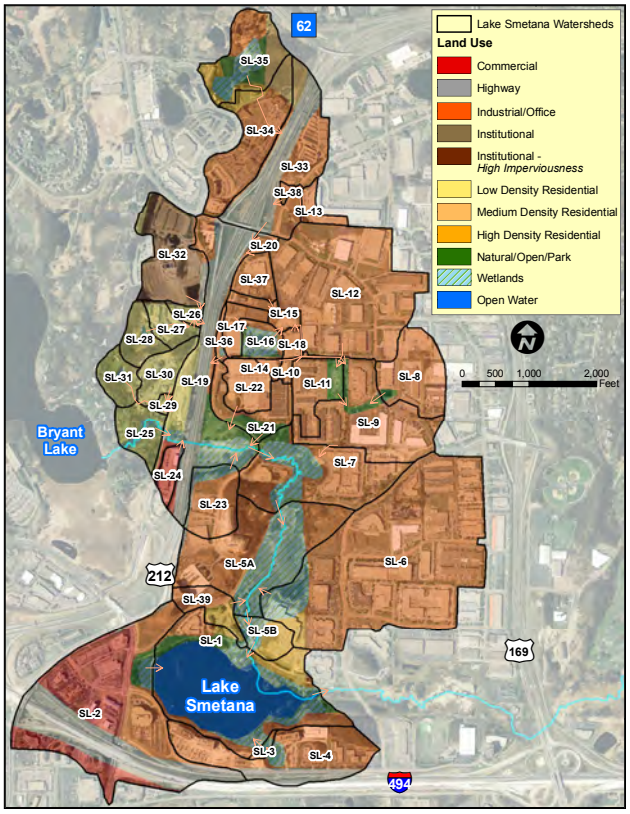
- Historical water quality data
- Intensive lakewater quality study
- P8 computer simulation modeling of runoff water quality
- Lake hydrologic and phosphorus budget analyses (see below)
- Best management practices (BMPs) analysis



This graph illustrates Smetana Lake's historic and predicted future summer-average water clarity (transparency). Transparency is measured as the depth at which a black-and-white patterned disc (a Secchi disc) disappears from view as it is lowered into the water.



The annual phosphorus budget indicates outflows from Bryant Lake contribute the largest amount of phosphorus to Smetana Lake (~76 percent).



The land use on a lake's watershed directly impacts the water quality in the lake. Therefore, the Smetana Lake UAA assessed existing and ultimate watershed land-use conditions.

Curlyleaf pondweed is an invasive aquatic plant that releases nutrients into the water when it dies back in early summer.

Purple loosestrife is an exotic species that invades wetlands and lake shorelines. It outcompetes native species and, if left unchecked, will eventually become the dominant plant wherever it appears.

Water Quality Problems

- ***Swimming Issues***
  Problem: Summer algal blooms (caused by high phosphorus levels)

  Cause: Urban stormwater runoff conveying large amounts of phosphorus to the lake

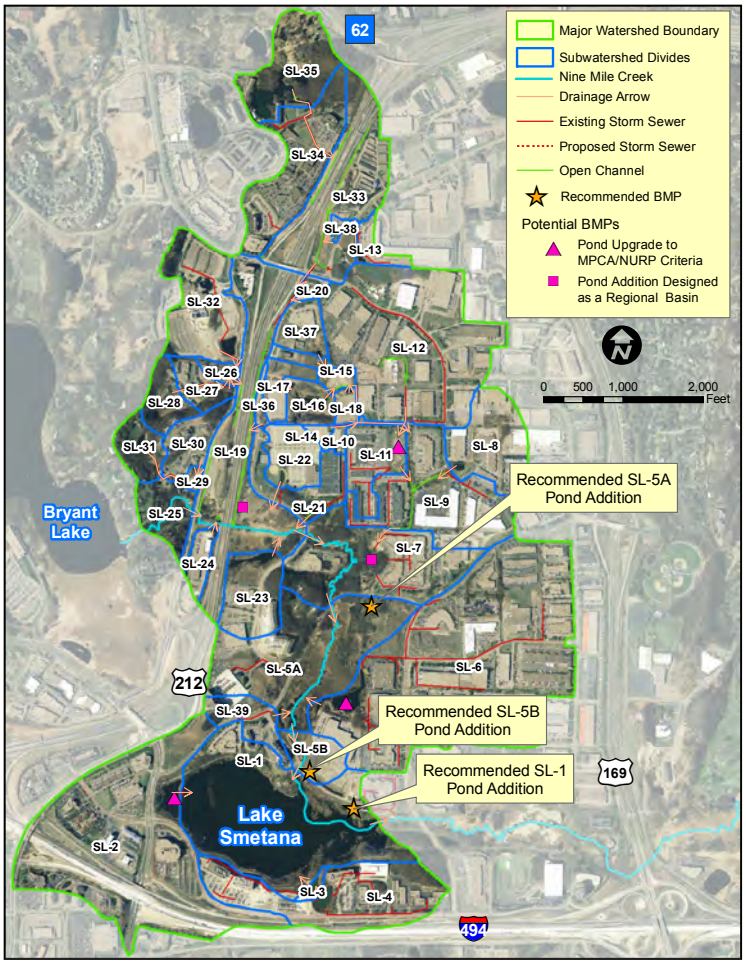
- ***Biological Issues***
  Problem: Exotic lake weed species (see left)

  Cause: Curlyleaf pondweed and purple loosestrife

Recommended Remedial Measures*

No additional BMPs are required to meet the district's water quality goal for Smetana Lake (a level III classification). However, additional BMPs could be implemented to enhance the lake's water quality during various climatic conditions.

- Implementation of BMPs on the Bryant Lake watershed will also improve Smetana Lake's water quality.
- Implementation of all the illustrated BMPs, combined with improved Bryant Lake water quality (the analysis assumed Bryant Lake water quality meets the district's goal for that lake), would reduce the annual phosphorus load by 90 to 219 pounds/year (8 to 19 percent).
- Summer average Secchi disc transparency is estimated to improve minorly, by up to 0.2 meters.



*Implementation of remedial measures may change based on municipal petitions.

Appendix B

Summary Memo of May 4, 2016 Community Input Forum

Memorandum

To: Nine Mile Creek Watershed District Board of Managers
From: Janna Kieffer
Subject: Summary of May 4, 2016 Community Input Forum
Date: June 14, 2016
Project: Water Management Plan Update
c: Bob Obermeyer, Erica Sniegowski, Kevin Bigalke and Michael Welch

On May 4, 2016 the Nine Mile Creek Watershed District (NMCWD) hosted a community input forum to inform citizens about the NMCWD and the update of its Water Management Plan and solicit feedback regarding citizen issues and concerns. The forum was held at the Centennial Lakes Pavilion in Edina. Attendance included 18 citizens, three Nine Mile Creek staff members, two NMCWD managers, and one NMCWD consultant.

Meeting Agenda

At the onset of the meeting, participants were greeted by NMCWD staff and asked to sign in and prepare a name tag. Participants were given a colored dot and instructed to locate their residence on a large map of the Nine Mile Creek watershed. At the sign-in table, participants were also given 3" x 5" cards with instructions to answer each of three strategic questions which were shown on a large projection screen. The questions were in relation to which NMCWD resources were used, how they were used and what people most valued about the resources within the watershed. During a welcome and overview by the District administrator, staff collected the 3" x 5" cards which were then tabulated and results were presented at the end of the meeting.

The attendees were arranged into small groups of 4-8 people per table in order to facilitate the next part of the meeting, the "brain sprinting" exercise. The "brain sprinting" exercise was a timed effort that focused on gathering responses in a rapid, repeating sequence. The first round of the exercise focused on generating the key issues/concerns in relation to the water resources within the NMCWD, such as invasive species, animal habitats, stormwater and other pollutants, water quality, aquatic vegetation, increased development/impervious surfaces and the need for education and maintenance. The second round of the "brain sprinting" exercise was then to identify potential solutions to the issues identified in the first round. The "brain sprinting" responses were tabulated on pre-printed sheets that were gathered at the end of the meeting. After the exercise, each of the small groups were given a chance to discuss some key issues and solutions from their table, selecting one issue and solution to share with the larger group.

Next, NMCWD staff led a brief question and answer session, followed by a summary of next steps in the planning process, and a quick presentation of which resources the group most used, how they used the resources, and a summary of what the group most valued about the water resources within the Nine Mile Creek watershed. The meeting was then adjourned.

Documenting the Results

NMCWD staff gathered a variety of information from the community input forum, including:

- A colored dot on the District watershed map for each person that attended the meeting.
- The three 3" x 5" cards for each participant that included answers to three strategic questions.
- One sheet (two sides) for each participant that summarized the issues and solutions identified in the "brain sprinting" exercise.

At sign-in, attendees were given a colored dot and instructed to locate their residence on a large map of the Nine Mile Creek watershed. A photo of the "dot" map is included as Figure 1. The majority of attendees were from Edina and Bloomington, with one representative from both the cities of Eden Prairie and Hopkins. As seen in Figure 1, a large portion of the forum participants were from a residential neighborhood near Normandale Lake.

Staff compiled the answers to each of the three strategic questions and organized the responses into similar categories. This information was summarized based on the number of responses in each category (in a spreadsheet) and summarized in graphical format at the closing of the forum meeting (see Figures 2 through 4).

All responses collected during the "brain sprinting" exercise were compiled into a spreadsheet as a first step. The responses were then organized into gross categories and then further refined into more specific categories. The compiled results for the key issues of concern and ideas for improvement are presented in Figures 5 and 6, respectively. As noted above, a large portion of the forum participants reside in Bloomington. As such, many comments specific to Normandale Lake were shared during the brain sprinting exercise.

Incorporating the Results into the NMCWD Plan Update

A summary of the May 4, 2016 Community Input Forum was provided to the NMCWD Board of Managers at their May 5, 2016 Board Workshop. This information, along with input gathered from the community input survey, was considered as the Board of Managers conducted issue identification and prioritization for the Water Management Plan update. Feedback from the community input forum is also being used as staff develop goals, policies, and implementation activities for inclusion in their updated Water Management Plan.

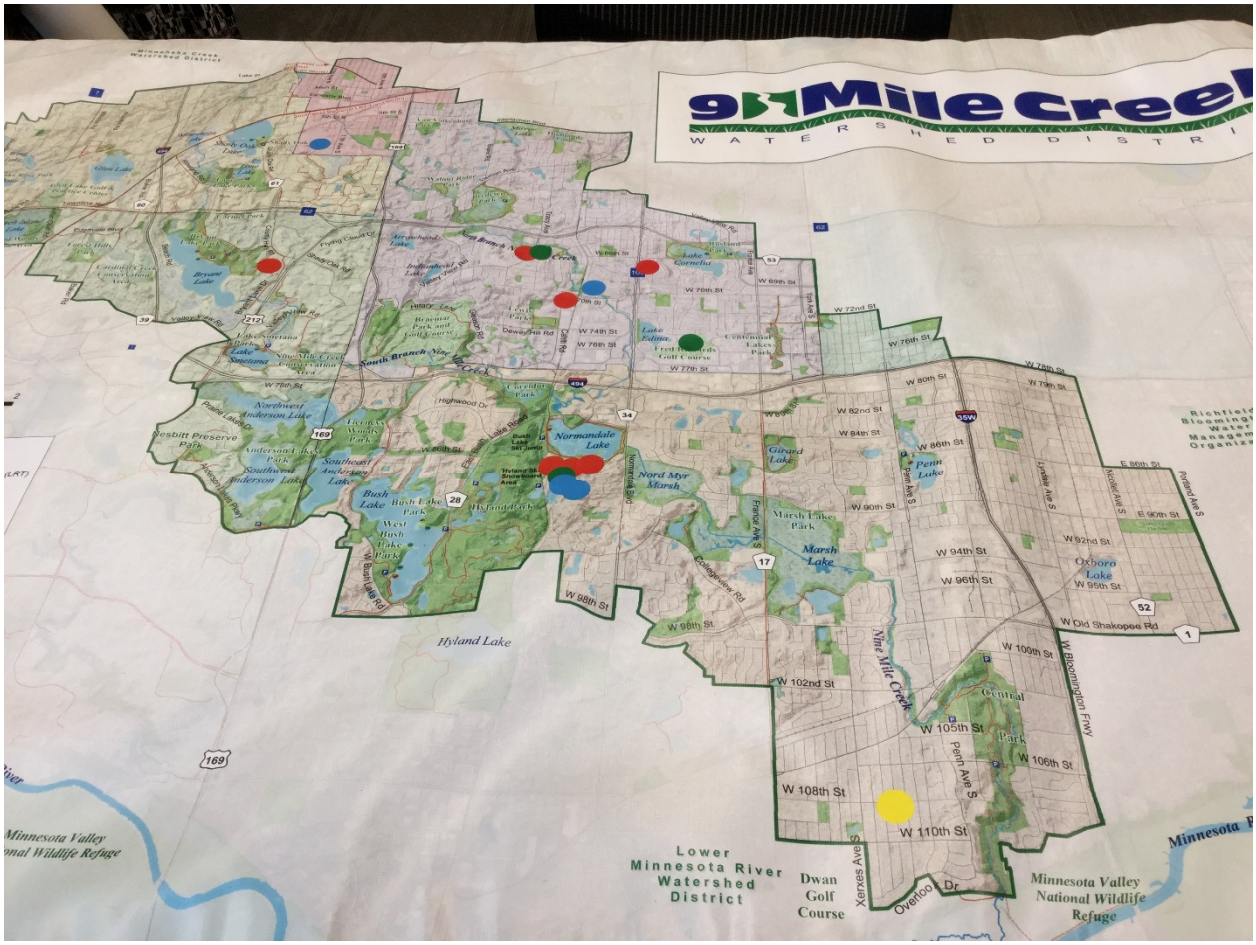


Figure 1. Watershed "dot" map, with dots representing where forum attendees live.

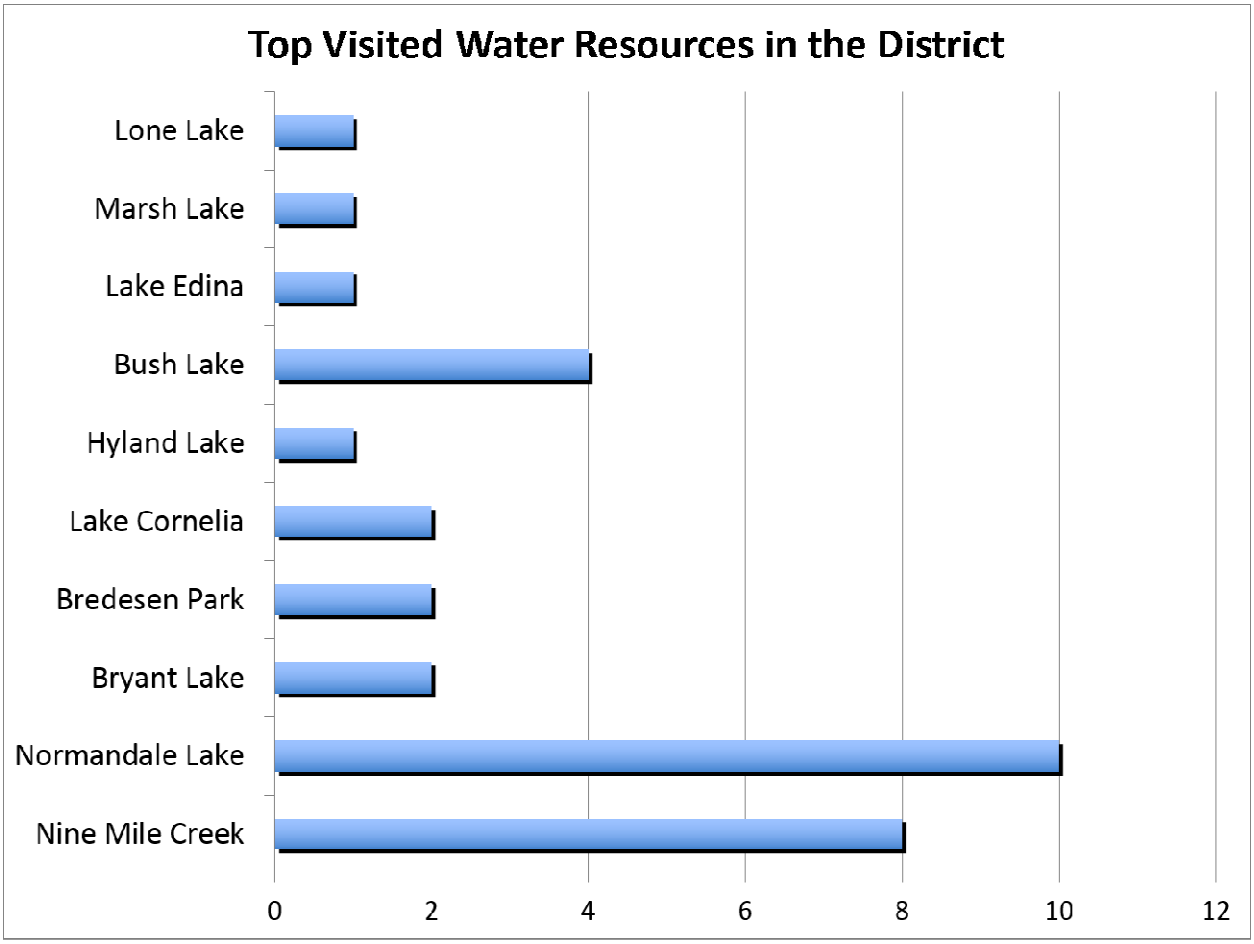


Figure 2. Summary of responses to question "What lakes, creeks, and/or wetlands do you visit in the watershed?"

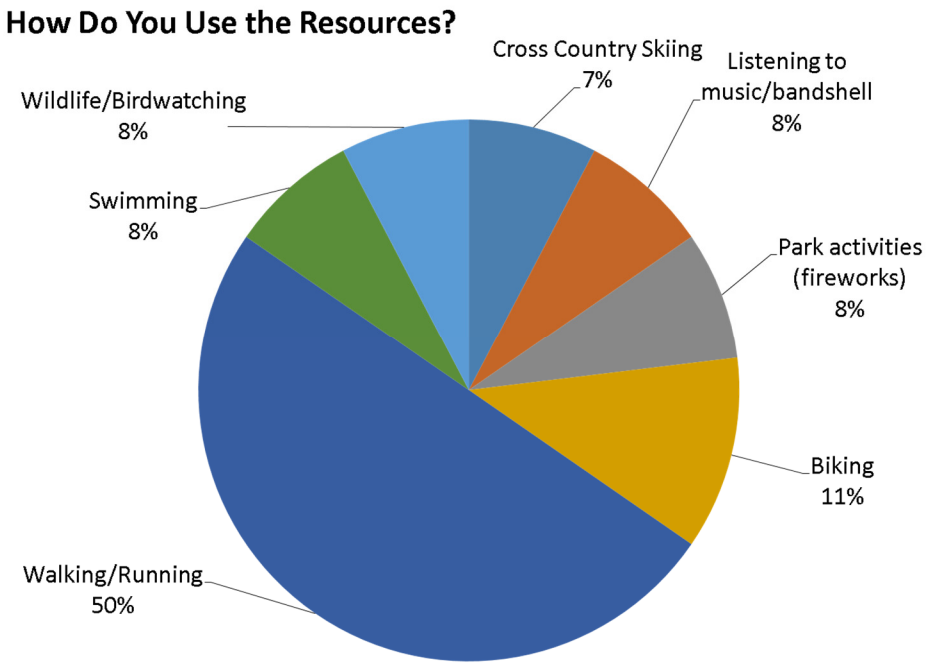


Figure 3. Summary of responses to question "How do you use the lakes, creeks, and/or wetlands in the watershed?"

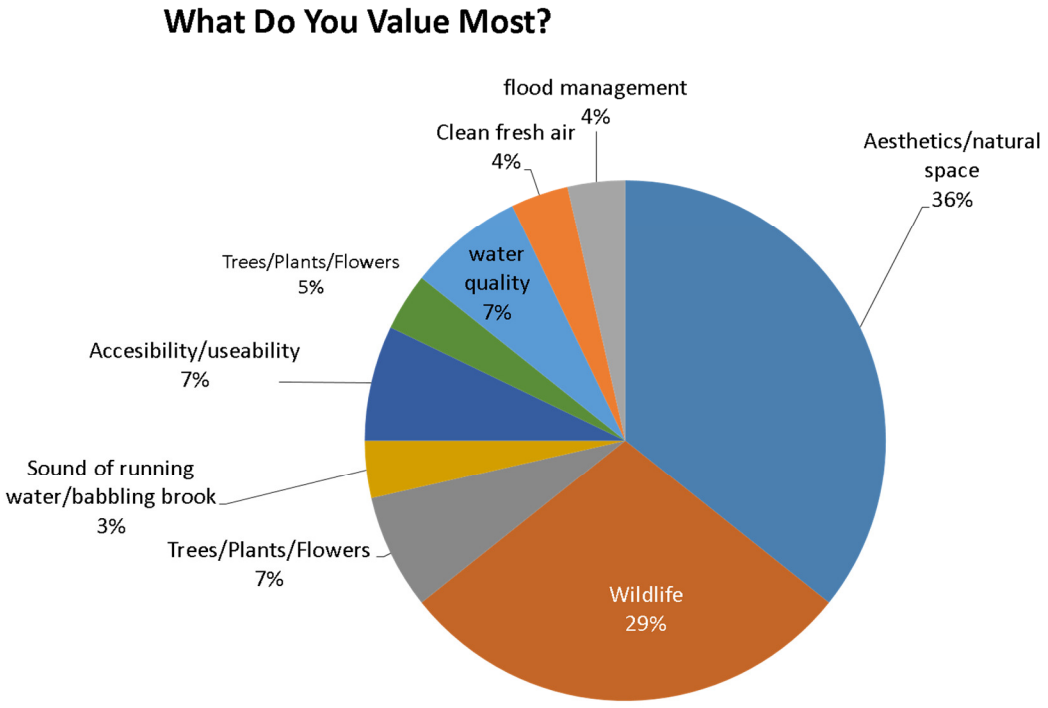


Figure 4. Summary of responses to question "What do you value most about your local lakes, creeks, and wetlands?"

Normandale Lake

- Too Much Algae [10]
- Contaminated Influent [5]
- Limited Recreational Activities [5]
- Inadequate Implementation of Long-term Solutions [4]
- Odor [4]
- Concern about District Approach [3]
- Nonresponsive to Public Comments [3]
- Too Many Aquatic Plants [3]
- No Clear Definition of Success [2]
- Conservation of Habitat [1]
- Ineffective Spending [1]
- Insufficient Access [1]
- Not Enough Interaction with Army Corps of Engineers [1]
- Visual Aesthetics [1]
- Wildlife Protection [1]

Surface Water & Groundwater Quality

- Poor Quality of Runoff [10]
- General Poor Water Quality [5]
- Impacts of Poor Water Quality on Habitat [4]
- Too Much Algae [4]
- Too Much Fertilizer Use [4]
- Erosion & Stabilization [4]
- Sediment Filling Ponds [4]
- Chlorides in Runoff [2]
- Dumping into Storm Sewer or Waterbodies [2]
- Geese [2]
- Pet Waste Disposal [2]
- Insufficient Buffers/BMPs [1]
- Low Fish Population [1]
- Not Enough Stormwater Reuse [1]
- Pollution Management [1]
- Impervious Surfaces [1]
- Sedimentation [1]

Ecology/AIS

- Wildlife Protection [8]
- Invasive Species [4]
- Terrestrial Invasive Species (Buckthorn) [3]
- Coyotes [2]
- Conservation of Habitat [1]
- Further Spread of Invasive Species [1]
- Overpopulation of Deer [1]
- Protection of Existing Wetlands [1]
- Too Many Aquatic Plants [1]
- Too Many Mosquitoes [1]
- Support Aquatic Life [1]
- Not Enough Wetlands [1]

Flooding

- Flooding [3]
- Need Increased Floodplain Management [1]
- Shallow Pond Levels [1]

Education and Outreach

- More Education – Quality & Use of the Resources [4]
- More Citizen Engagement [3]
- Develop Incentive Program [1]
- More Education – Buffer Plantings [1]
- More Education – Lawn Practices [1]
- More Education – Rain Gardens [1]

Land Use Planning & Recreational Use

- Insufficient Access [6]
- Need More Walkway & Bikeway Installation and Upkeep [4]
- Impacts Caused by Development & Redevelopment [3]
- Inadequate Parking Space at Lakes [1]
- Limited Recreational Activities [1]

Organization Management

- Need Better Coordination with Cities and Other Government Entities [4]
- Need Increased BMP & Water Quality Funding [3]
- Maintain Spending Levels [1]
- Need Sustainable Management [1]
- Not Enough Communication with the Public [1]
- Poor Public Meeting Structure [1]

Figure 5. Brain Sprinting Exercise: **Key Issues of Concern**

Note: [#] indicates frequency of comment

Normandale Lake

- Build Influent Treatment Plant [7]
- Cooperation between Government Entities (Cities, WDs, Army Corp of Engineers) [2]
- Hire Internal or External Specialists [2]
- Listen to & Address Citizen Concerns [2]
- Bring Board Members to the Field [1]
- Change Format of Public Meetings [1]
- Develop a Strategy [1]
- Increased Funding [1]
- Update UAA Study [1]

Surface Water Quality

- Reduce Commercial Lawn Fertilizer & Chemical Usage [6]
- Install Rain Gardens [3]
- Implement Stream Stabilization and Erosion Controls [3]
- Increased Monitoring [2]
- Promote Buffers [2]
- Filter Stormwater [1]
- Fund Installation of Rain Gardens on Private Property [1]
- Increased Dredging of Ponds & Creeks [1]
- Install more ponds [1]
- Introduce Bottom Feeding Fish [1]
- Offer Incentives for Improved Water Quality [1]
- Prioritization [1]

Ecology/AIS

- Remove & Control Invasive Species [4]
- Promote Wildlife Habitat (Build Birdhouses) [2]
- Conduct Wildlife Counts and Publish Data [1]
- Introduce Native Plants [1]
- More Effective Mosquito Control [1]
- Organize Public Cleanup (Boy Scouts, Businesses, Groups, High School Students) [1]

Other

- Use & Promote Energy Conservation [2]
- Encourage Groundwater Conservation [2]
- Encourage Recycling [1]

Education and Outreach

- Educate Citizens (Lawn Clippings, Salt, Invasive Species, Chemical Use, Pet Waste) [8]
- Demonstrate Progress to Public [6]
- Organize Public Cleanup (Boy Scouts, Businesses, Groups, High School Students) [4]
- Foster Community Involvement and Teach Children [3]
- Reduce Commercial Lawn Fertilizer & Chemical Usage [3]
- Exhibit Successes of Property Owners [2]
- More Signage (Pet Waste, Stormwater Drain Dumping, Show Access Points) [2]
- Offer Incentives for Improved Water Quality [2]
- Collaborate with Lake Associations [1]

Land Use Planning

- Promote Access (Canoe Landings, Bike Trails, Signage for Awareness) [1]

Organizational Management

- Obtain Increased Funding (Grants, Issue Bond, Donations) [7]
- Cooperation between Government Entities (Cities, WDs, Army Corp of Engineers) [6]
- Listen to & Address Citizen Concerns [5]
- Develop a Strategy [2]
- Consider Changing Past Policies [1]
- Long-term Planning [1]

Figure 6. Brain Sprinting Exercise: **Ideas for Improvement**

Note: [#] indicates frequency of comment

Appendix C

Summary of Online Public Input Survey

resourceful. naturally.
engineering and environmental consultants

BARR

Memorandum

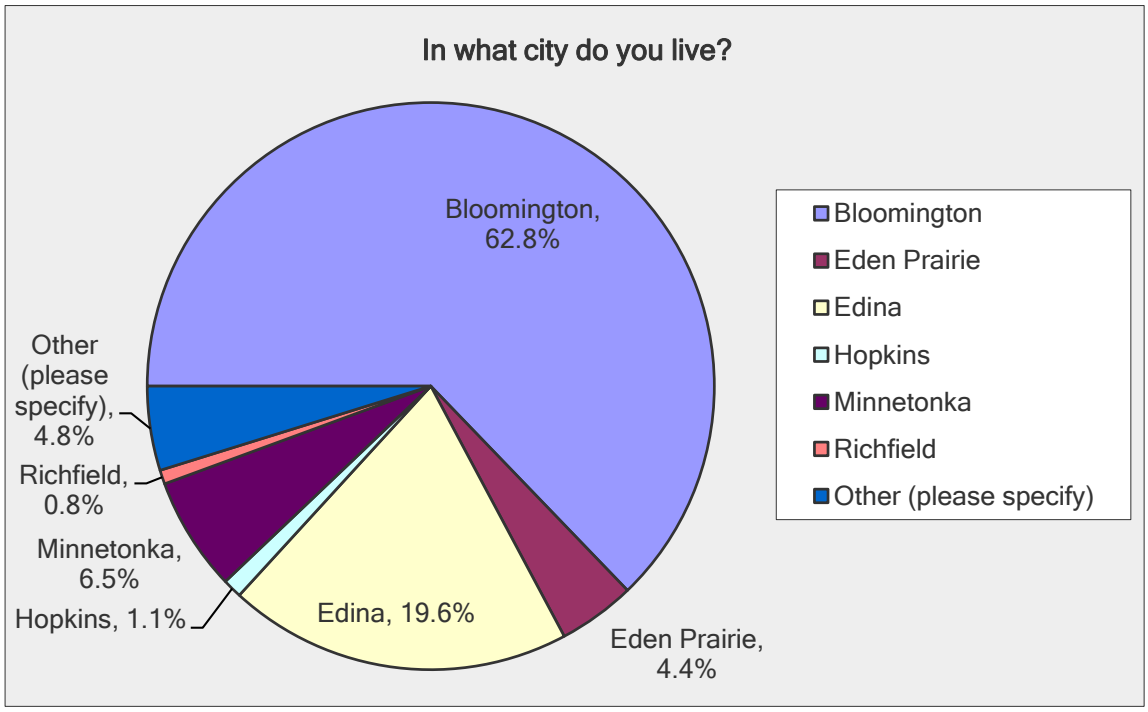
DRAFT

To: NMCWD Board of Managers
From: Greg Williams and Janna Kieffer
Subject: NMCWD Plan Update - Summary of Online Survey Results (update through May 26, 2016)
Date: June 15, 2016
c: Kevin Bigalke, Bob Obermeyer, Erica Sniegowski, Michael Welch

As part of the plan update process, the Nine Mile Creek Watershed District has collected community input through an online survey. The survey has been active since February 18, 2016 and received 719 responses (as of May 26, 2016). This memorandum presents the responses to the survey, including categorical responses and open-ended comments. This information may be used as the Board of Managers seeks to prioritize issues to be addressed in the plan. Responses to survey question 13 ("What do you think should be the top four priorities for the District over the next 10 years?") may be especially helpful.

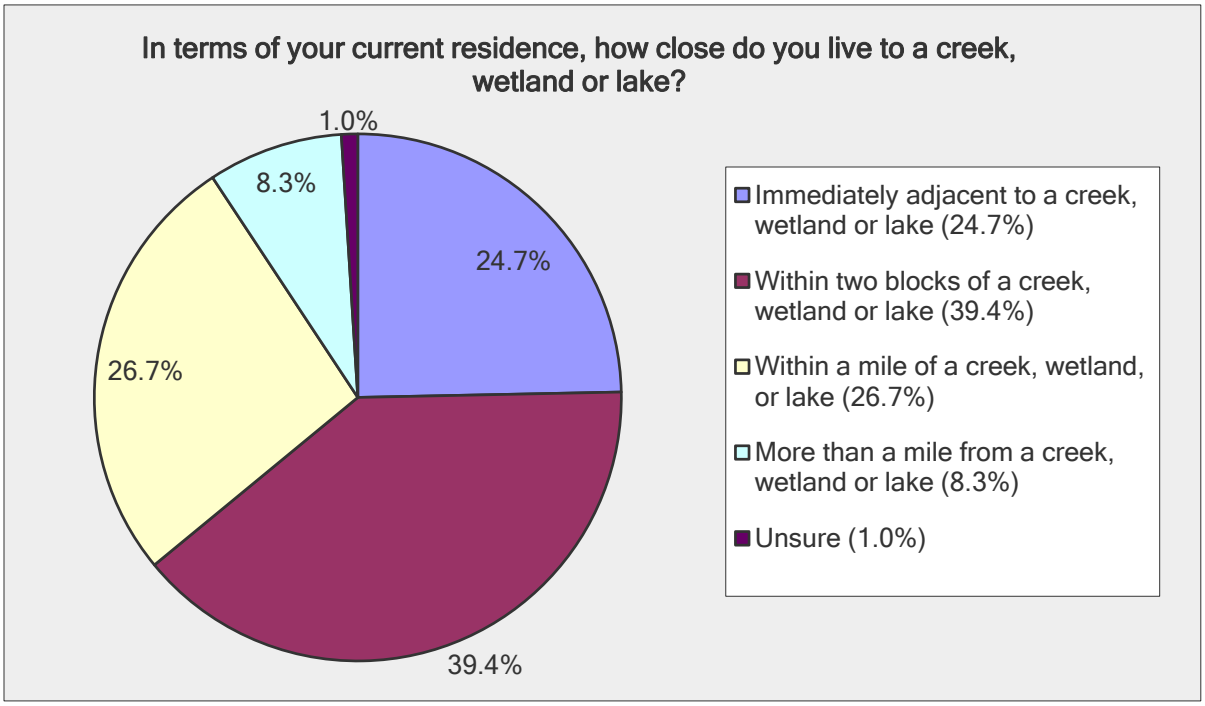
Survey Results

Question 1: In what city do you live? (719 responses)



Over 60% of respondents live in Bloomington. A total of 35 respondents identified other cities, including most commonly: Minneapolis (9), Apple Valley (4), and St. Paul (3). Several respondents listing "other" noted that they work in Bloomington.

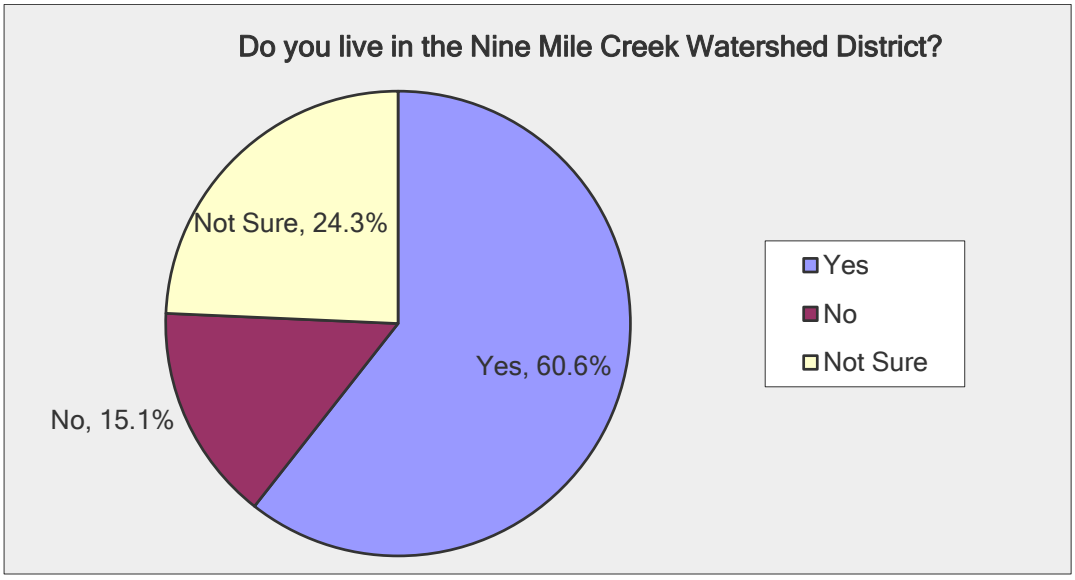
Question 2: In terms of your current residence, how close do you live to a creek, wetland or lake? (719 responses)



About two thirds of the survey respondents live less than two blocks from a creek, wetland, or lake. The survey asked those living adjacent to a waterbody to identify the waterbody. A complete list of waterbodies identified in Question 2 is included at the end of this memo. Waterbodies identified by three or more respondents include:

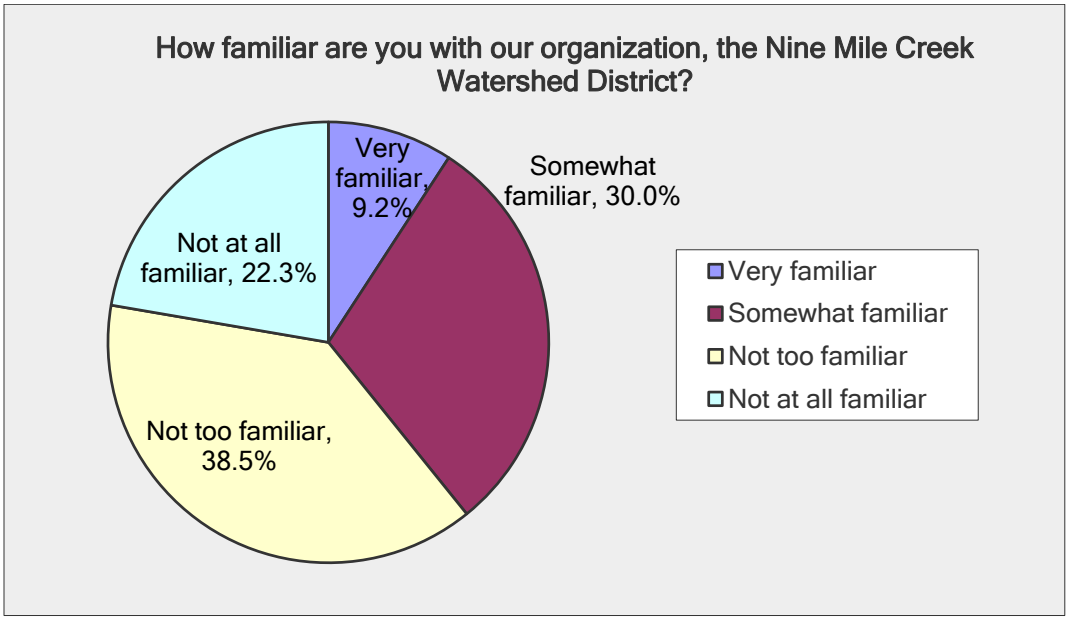
- Nine Mile Creek (65)
- Normandale Lake (27)
- Lake Minnetoga (11)
- Hyland Lake (9)
- Arrowhead Lake (9)
- Bush Lake (8)
- Minnesota River (6)
- Penn Lake (6)
- Shady Oak Lake (6)
- Anderson Lakes (3)
- Mirror Lake (3)
- Dewey Hills Pond (3)

Question 3: Do you live in the Nine Mile Creek Watershed? (719 responses)



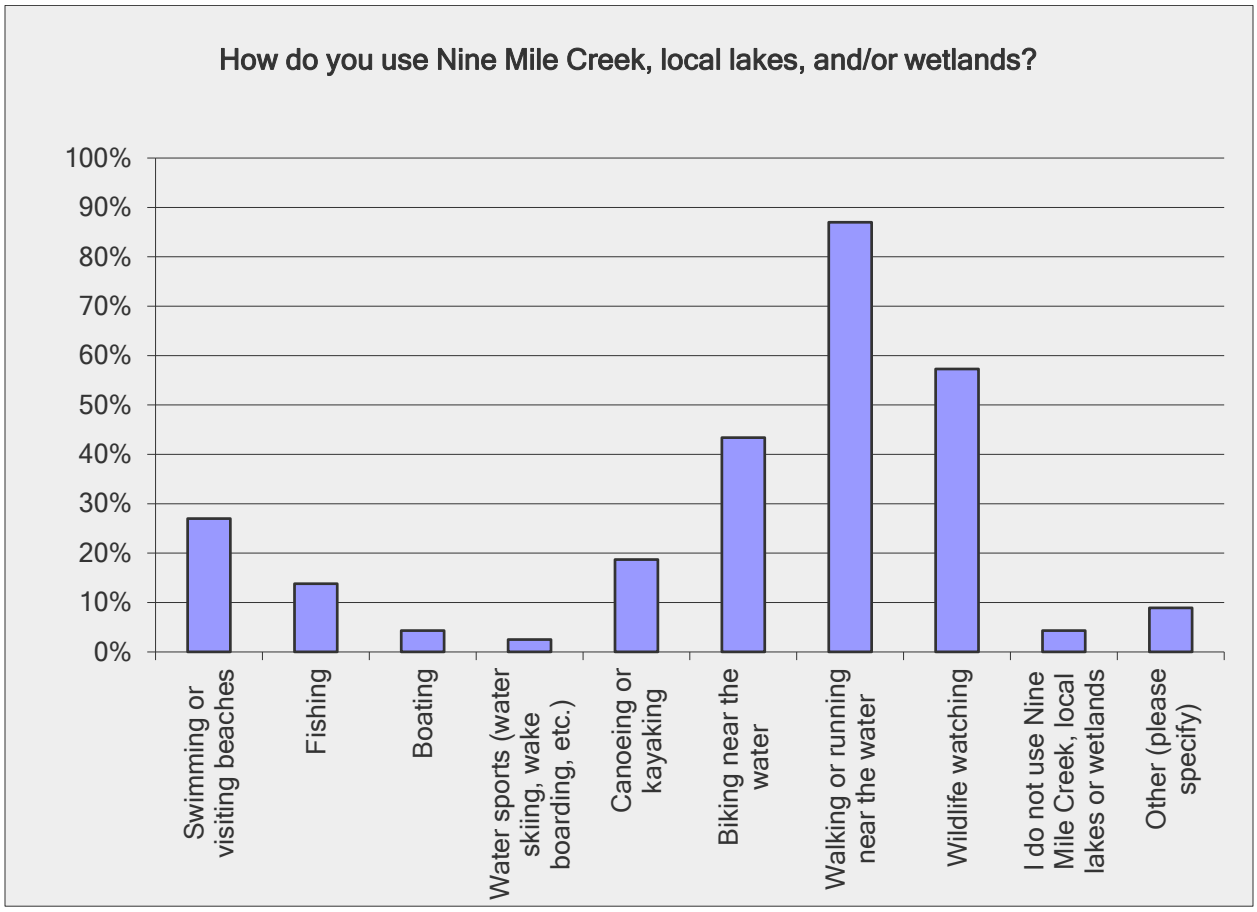
About 60% of respondents live within the District. About a quarter of respondents are unsure whether they live within the District.

Question 4: How familiar are you with our organization, the Nine Mile Creek Watershed District? (719 responses)



Approximately 60%of the respondents indicated that they are not familiar with the District. Less than 10% of respondents are very familiar with the District.

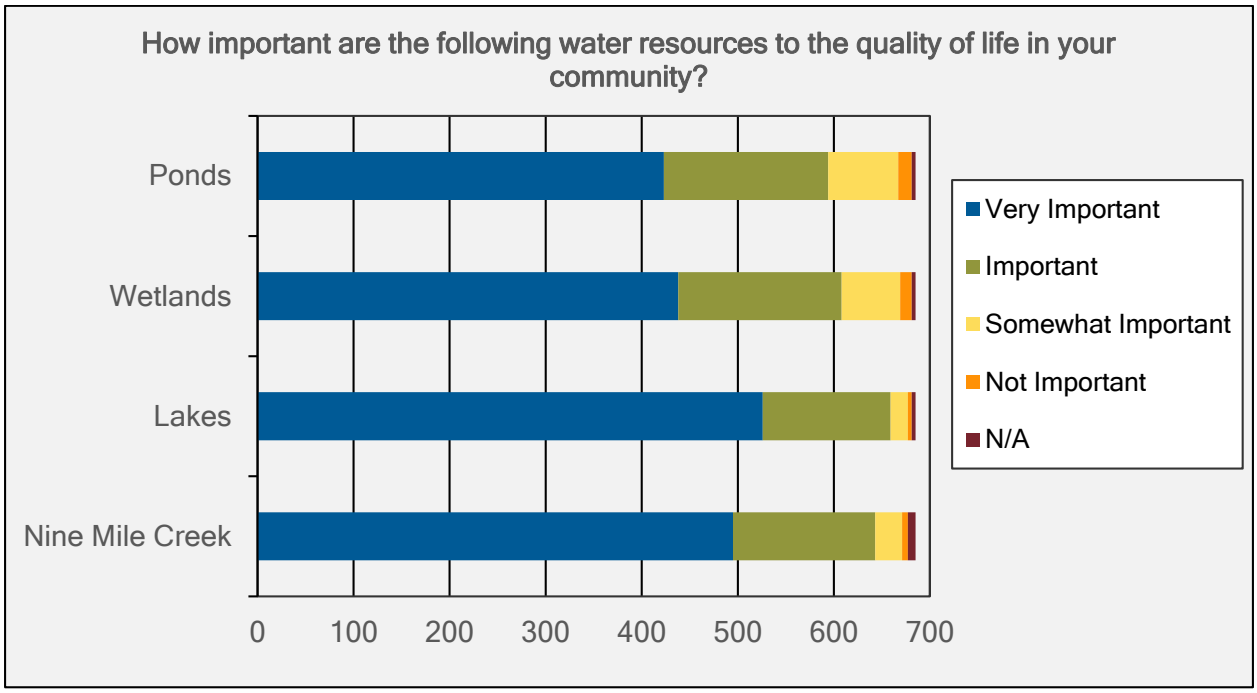
Question 5: How do you use Nine Mile Creek, local lakes, and/or wetlands? (685 responses)



The most common uses include those that involve simply "being around" the waterbody (e.g., walking, running). Sixty of the 685 respondents identified "other" uses; Most of the other uses identified may generally be included in the pre-selected categories and are not presented individually in this memo. Because respondents may select multiple responses, it is likely that the "other" responses are also counted within the most applicable category. Other uses commonly specified in the other category include:

- Winter activities (ice skating, snowshoeing, and cross-country skiing)
- Exercising dogs (including letting them drink the lake water)

Question 6: How important are the following water resources to the quality of life in your community? (685 responses)

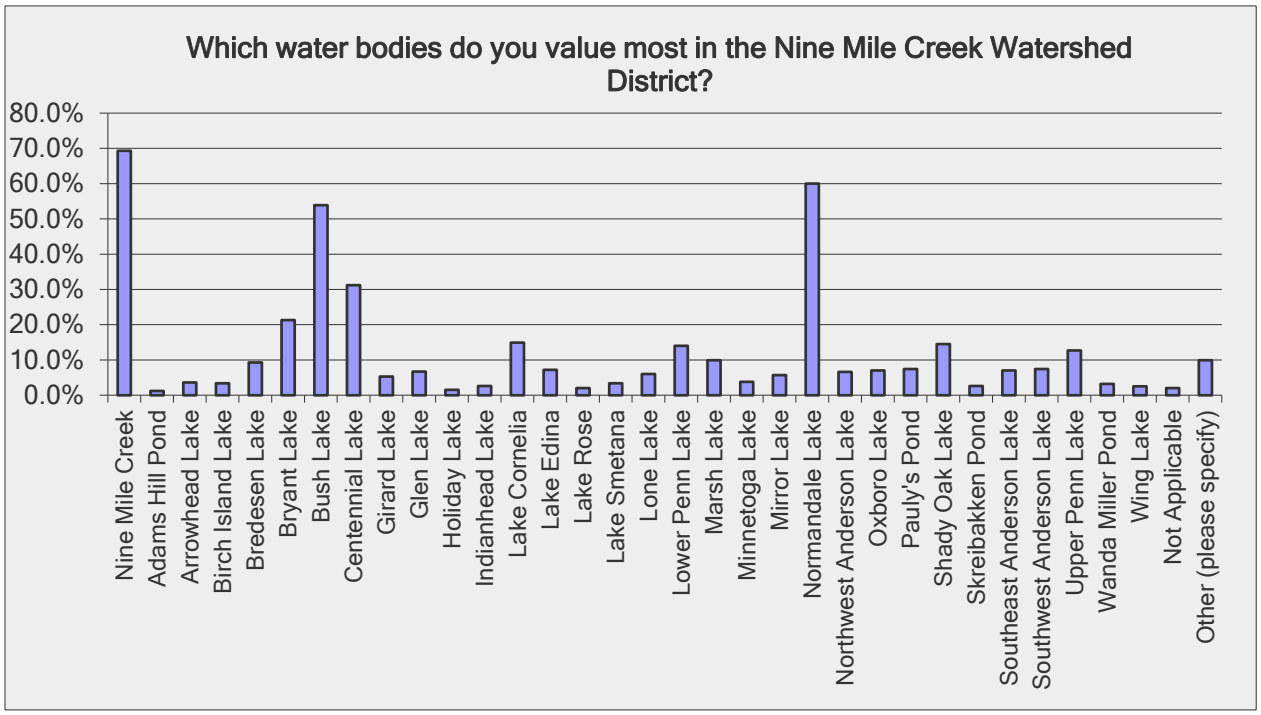


The majority of the 685 respondents considered each of the listed resources as very important. Over 85% of respondents considered each resource either important or very important. Respondents generally considered lakes to be most important, followed by the creek, then wetlands and ponds. Thirty-five respondents provided comments on this question. Most of the comments were related to the following topics:

- Water quality
- Wildlife habitat, health, and diversity
- Green space, aesthetics, and recreation

A complete list of the open-ended responses to question 6 is attached to this memorandum.

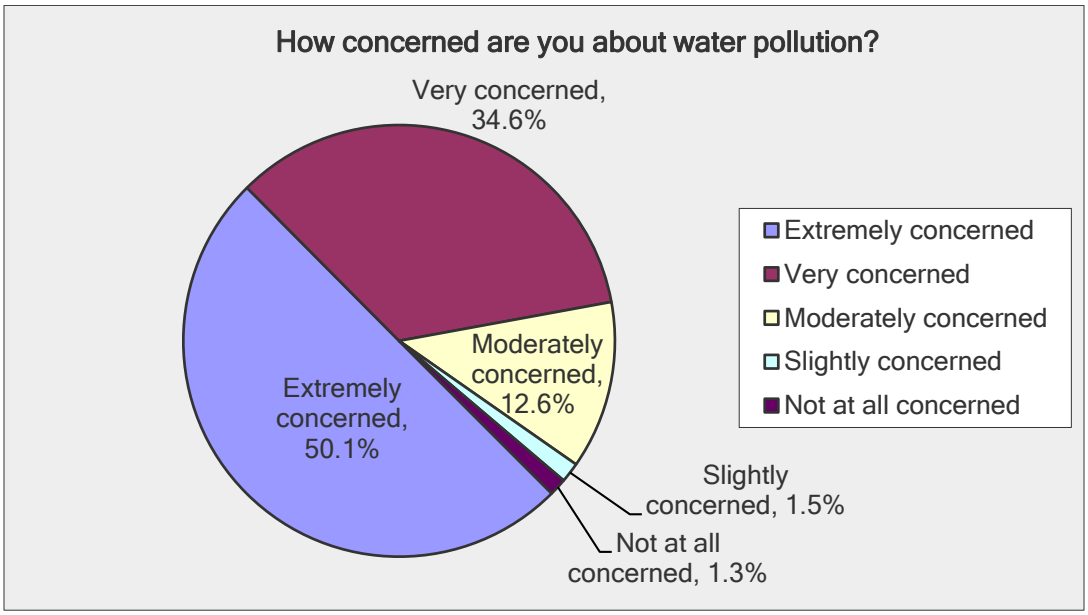
Question 7: Which water bodies do you value most in the Nine Mile Creek Watershed District? (685 responses)



Nine Mile Creek was valued by 70% of respondents. Normandale Lake and Bush Lake were the next most highly rated waterbodies. Centennial Lake and Bryant Lake were the only other lakes valued by over 20% of respondents. Of 68 open-ended responses, 22 noted that all waterbodies in the District are valuable. The open ended responses included several other lakes within the District (and some outside the District), including:

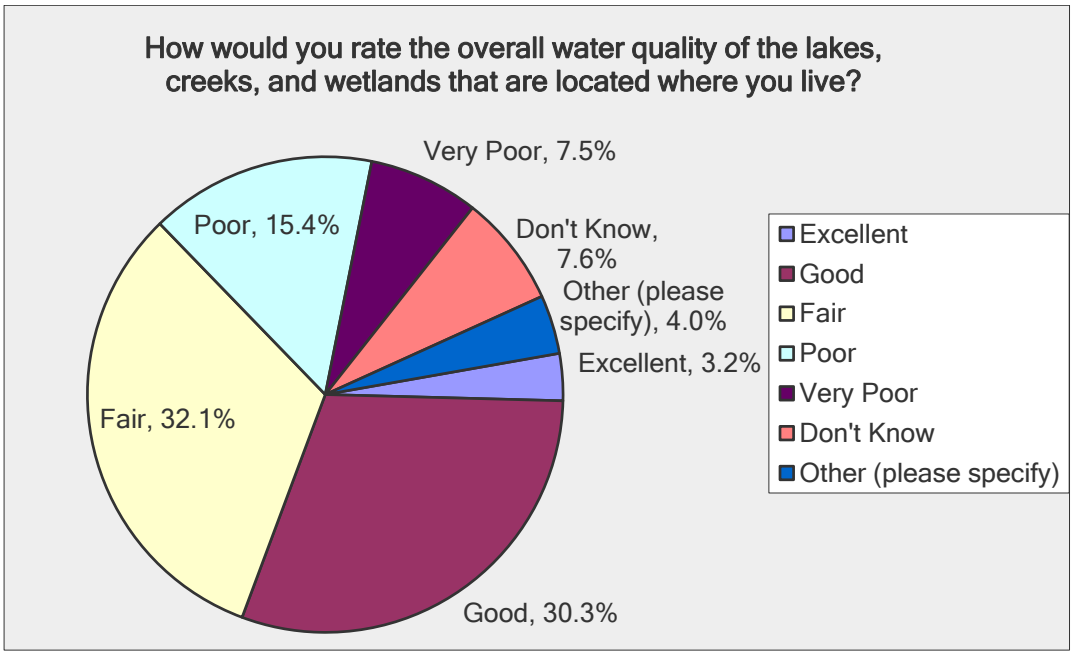
- Hyland Lake (9)
- Hawkes Lake (6)
- Minnesota River (3)
- Cardinal Creek (2)
- Canterbury Pond
- Cote Pond
- Dewey Hill Ponds
- Overlook Lake
- Round Lake
- Sandro Pond
- Stauder Lake
- Tierney Woods wetlands
- Timberglade Pond
- Topview Pond

Question 8: How concerned are you about water pollution? (683 responses)



About 85% of respondents indicated a high level of concern over water quality, and nearly all respondents indicated some concern.

Question 9: How would you rate the overall water quality of the lakes, creeks, and wetlands that are located where you live? (683 responses)

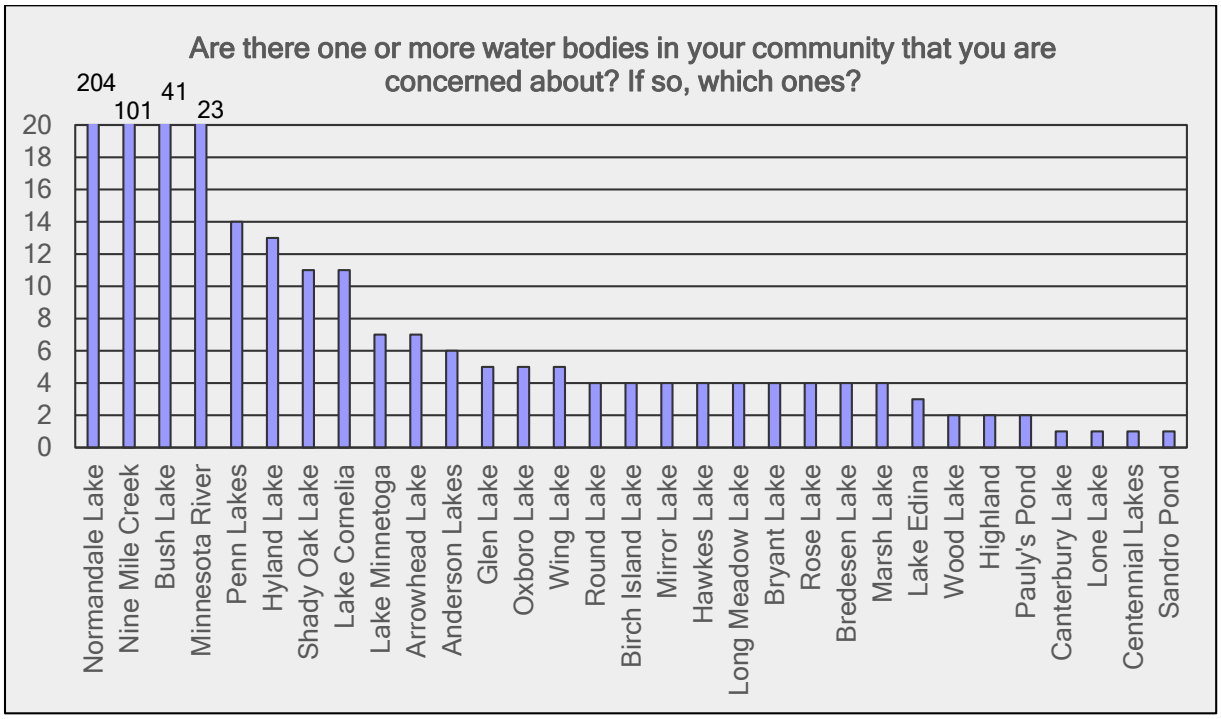


Respondents' views on overall water quality were split with about one third rating water quality good or better, one third rating water quality as fair, and one third rating water quality as poor or worse. There were 27 open-ended responses. Common open-ended responses identified the following water quality concerns:

- Algal blooms (odor and aesthetics)
- Debris/trash
- Weeds
- Normandale Lake water quality
- Nine Mile Creek water quality

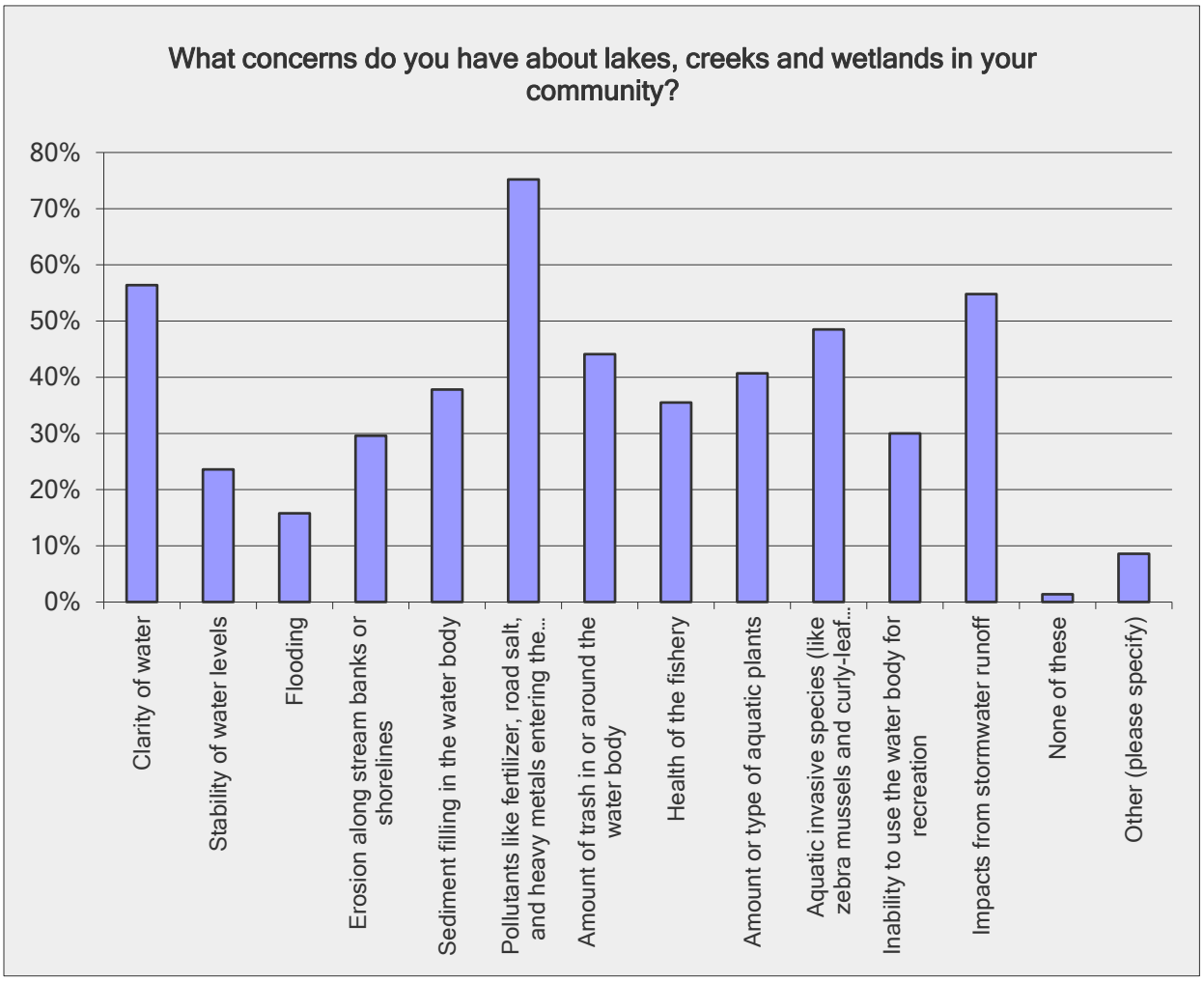
A complete list of the open-ended responses to question 9 is attached to this memo.

Question 10: Are there one or more water bodies in your community that you are concerned about? If so, which ones? (662 responses)



Responses to question 10 varied widely. Many responses did not identify any waterbodies as a particular concern, while others cited all waterbodies in the District as a concern. Over 200 responses sited Normandale Lake as a concern, and 101 responses cited Nine Mile Creek as a concern. Other waterbodies receiving a high number of responses included Bush Lake (41 responses) and the Minnesota River (23 responses).

Question 11: What concerns do you have about lakes, creeks and wetlands in your community? (662 responses)

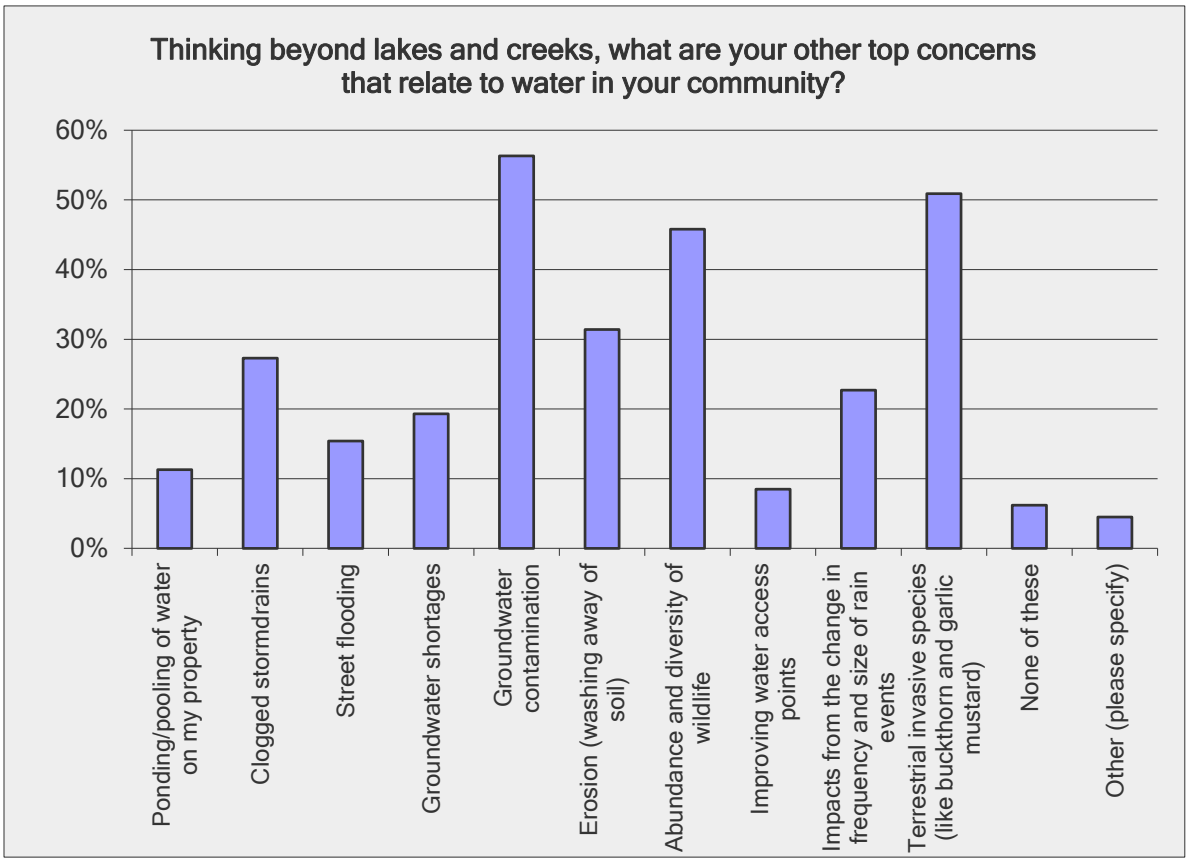


The most commonly identified concerns included pollutants (75%), water clarity (56%), and stormwater runoff impacts (55%). Aquatic invasive species was identified by about 50% of respondents as a concern. Stability of water levels and flooding were identified as a concern by only 24% and 16% of respondents, respectively. Fifty-six respondents specified other concerns via open-ended responses, including:

- Odor issues
- Algal blooms
- Weeds (impacts to aesthetics and recreation)
- Pet waste, fertilizer, road salt and other pollutants

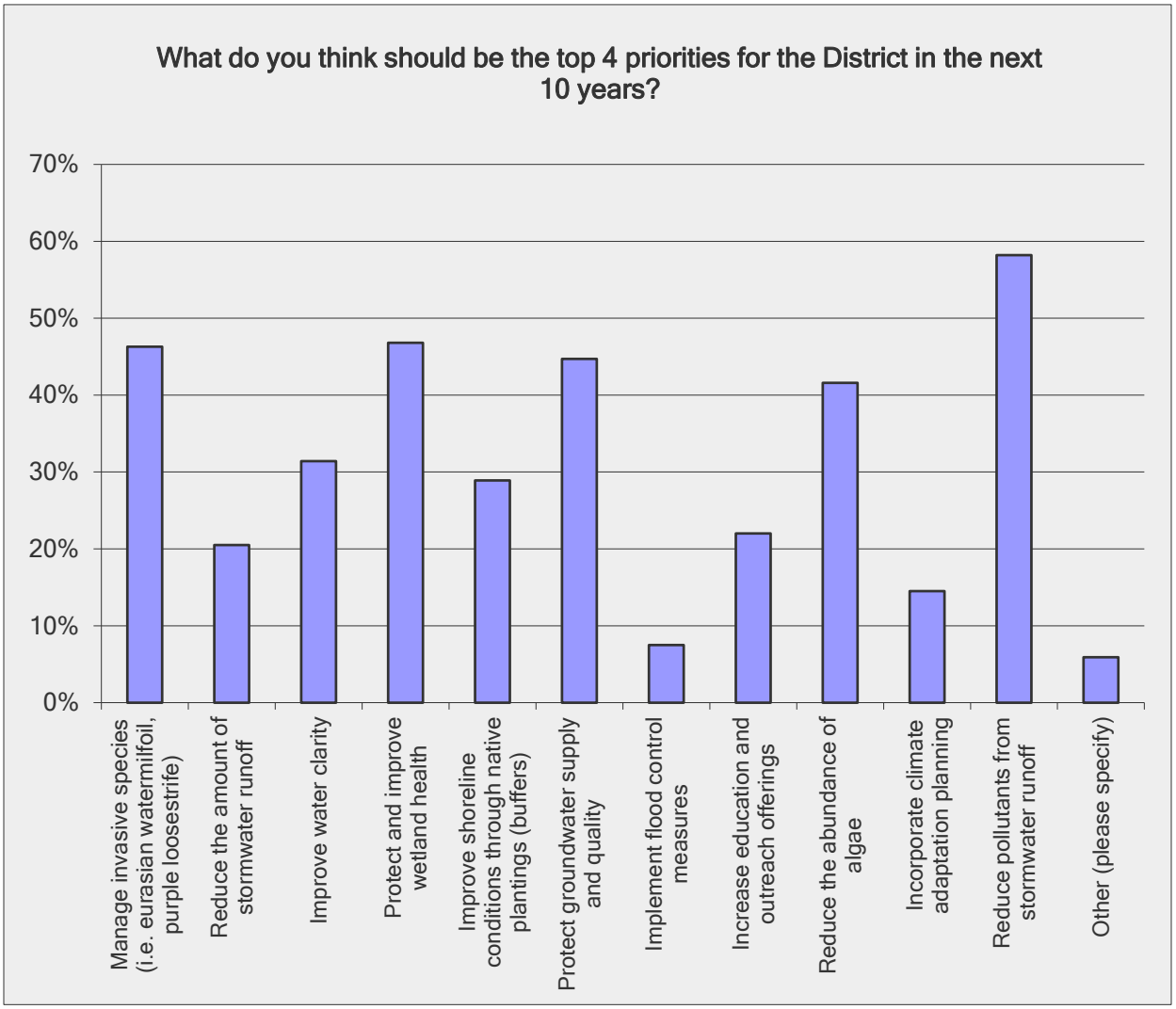
A complete list of the open-ended responses is attached to this memorandum.

Question 12: Thinking beyond lakes and creeks, what are your other top concerns that relate to water in your community? (662 responses)



Of the options included in question 12, groundwater contamination (56%), terrestrial invasive species (51%), and wildlife diversity (46%) were identified as concerns by the most respondents. Improving water access (9%), private property flooding (11%), and street flooding (15%) concerned the fewest respondents. Thirty respondents identified specific concerns in open-ended responses. Most of the open-ended responses may be categorized as one of the available categories in question 11 or question 12. The open-ended responses to question 12 are attached to this memo.

Question 13: What do you think should be the top 4 priorities for the District in the next 10 years? (615 responses)



From the options provided in question 13, the top District priority as identified by respondents should be:

1. Reduce pollutants from stormwater (58%)

After the top priority, there are four concerns rated with similar priority,

2. Protect and improve wetland health (47%)
3. Manage invasive species (46%)

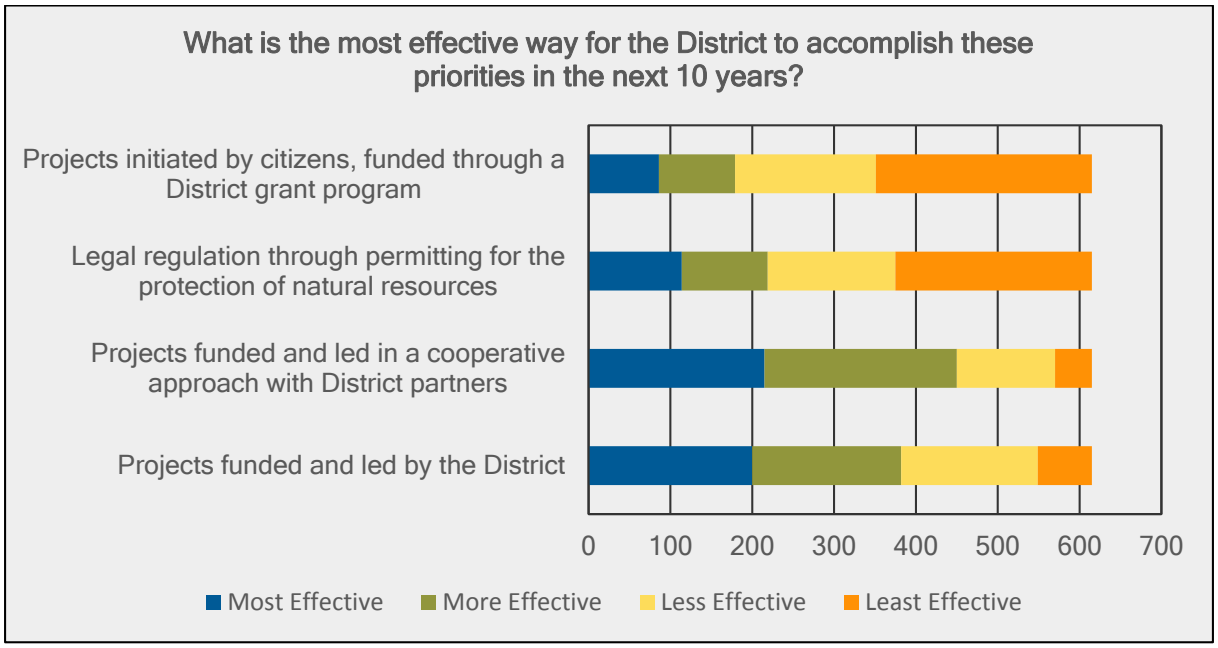
4. Protect groundwater supply and quality (45%)
5. Reduce the abundance of algae (42%)

Thirty-six respondents provided open-ended responses. Many of the responses are specific items falling into the provided categories (e.g., reduce buckthorn). Other priorities identified in the open-ended responses not included within the provided categories include:

- Improving waterbody access
- Reduce pollutants (road salt, fertilizer)
- Improving fisheries
- Conservation
- Education

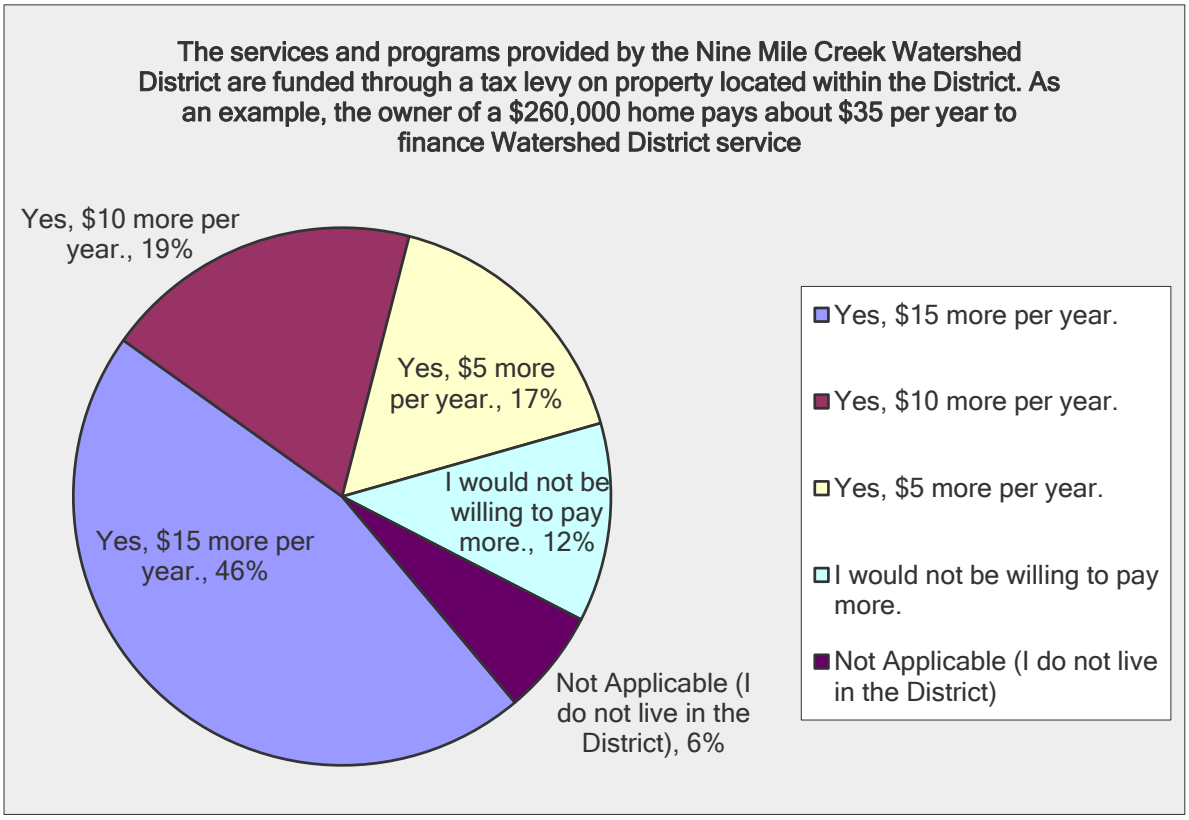
A complete list of the open-ended responses to question 13 is attached to this memo.

Question 14: What is the most effective way for the District to accomplish these priorities in the next 10 years? (615 responses)



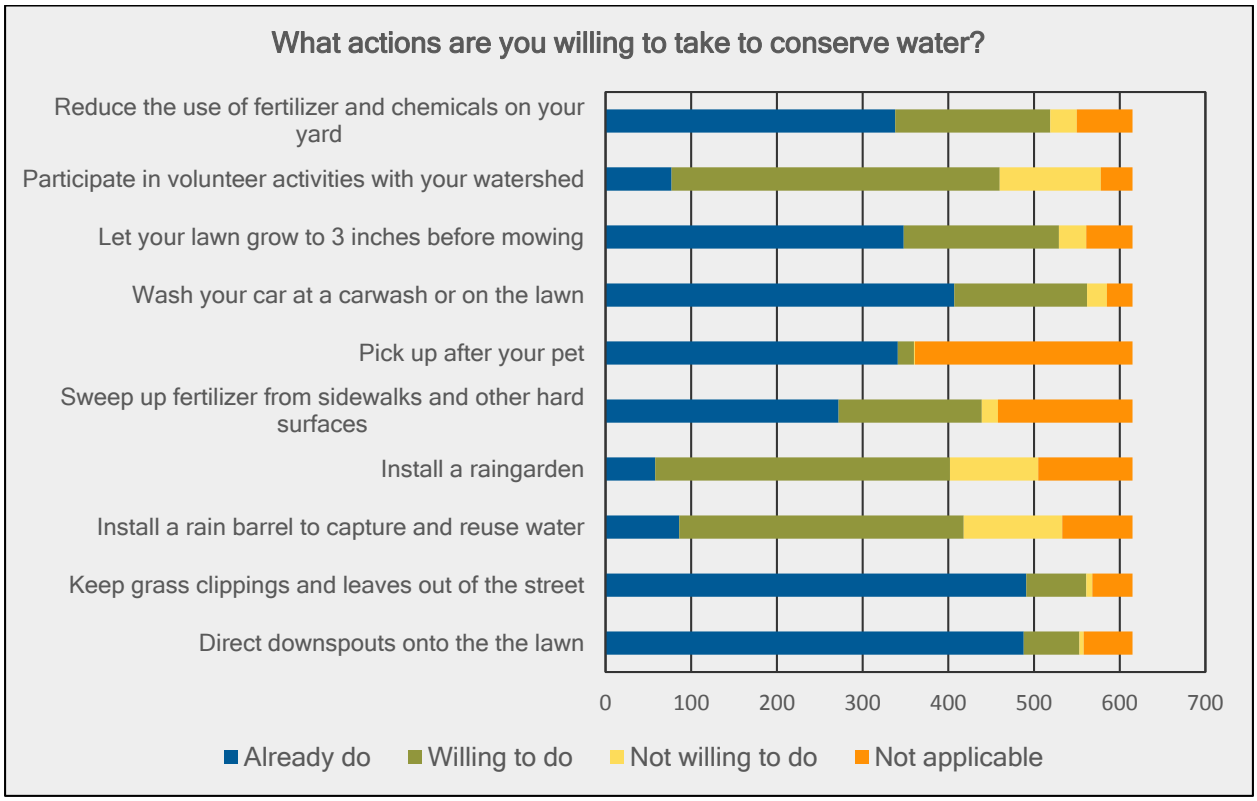
Most survey respondents see projects funded and led by the District or in cooperation with District partners as the most effective way to accomplish District priorities. Survey respondents generally consider the permitting program and citizen-led projects funded by District grants as less effective.

Question 15: The services and programs provided by the Nine Mile Creek Watershed District are funded through a tax levy on property located within the District. As an example, the owner of a $260,000 home pays about $35 per year to finance Watershed District services and programs, while the owner of a $360,000 home pays about $48 per year. Would you be willing to pay an additional amount to support clean water by funding additional water quality services and programs provided by the Nine Mile Creek Watershed District? (615 responses).



Survey results included 64 open-ended responses. Open-ended responses specifying a dollar amount (or no increase) were assigned to the appropriate existing category for reporting purposes (e.g., an open-response of $100/year was added to the $15/year category). Many open-ended responses stated that respondents would be willing to pay more only to perform specific projects/benefits (e.g., clean up Normandale Lake), or only if accomplishments could be demonstrated.

Question 16: What actions are you willing to take to protect water quality or conserve water? (615 responses).



The results indicate that many respondents are already taking action or would be willing to take action to conserve water. The most common practices already in place include directing downspouts onto lawns and keeping grass clippings out of the street. Few respondents have installed a raingarden, installed a rain barrel, or participated in watershed volunteer opportunities. Over half the respondents, however, would be willing to take these actions.

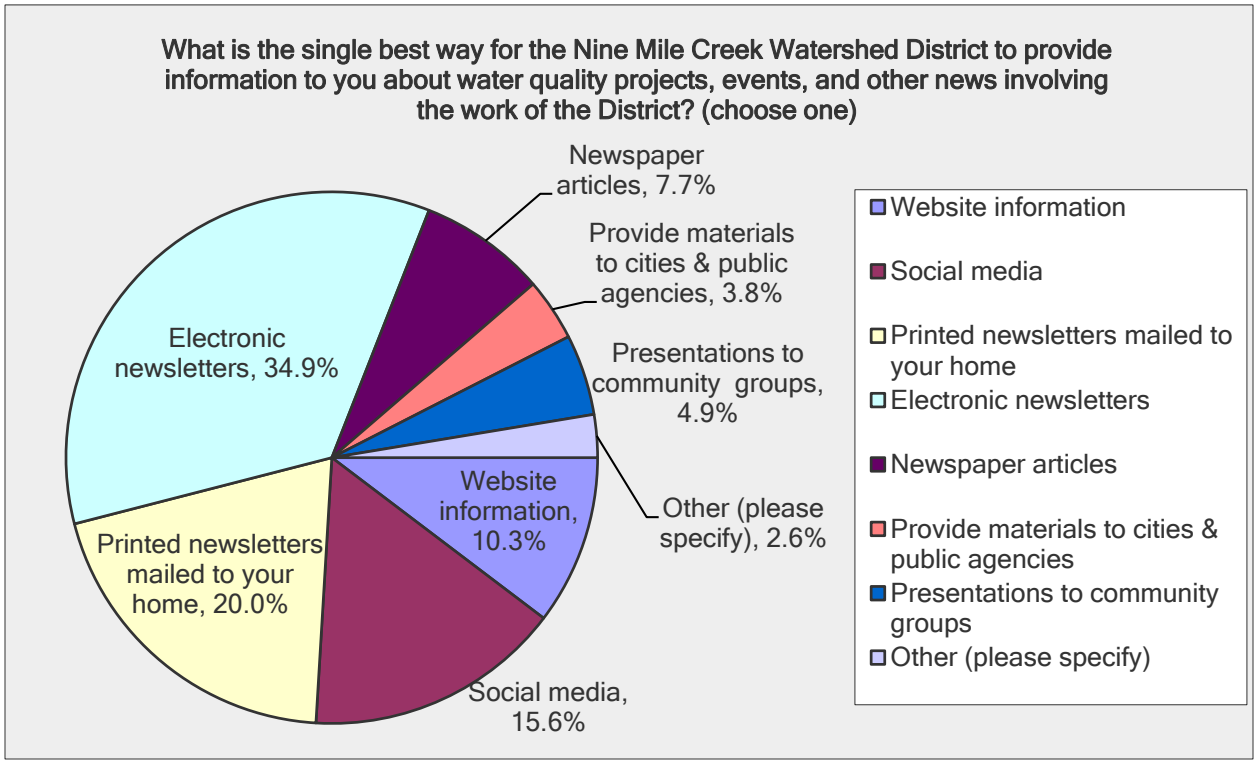
Question 17: Do you have any other comments, questions, or concerns? (152 responses)

Ninety-nine survey respondents provided a response (other than "No") to this question. Responses varied widely, but some common themes were present, including:

- Thanking for the District's efforts and opportunity to provide input
- Requesting action to address Normandale Lake water quality issues
- Continuing/increasing public awareness and education
- Reducing focus/efforts on trails

A complete list of the responses to question 17 is attached to this memo.

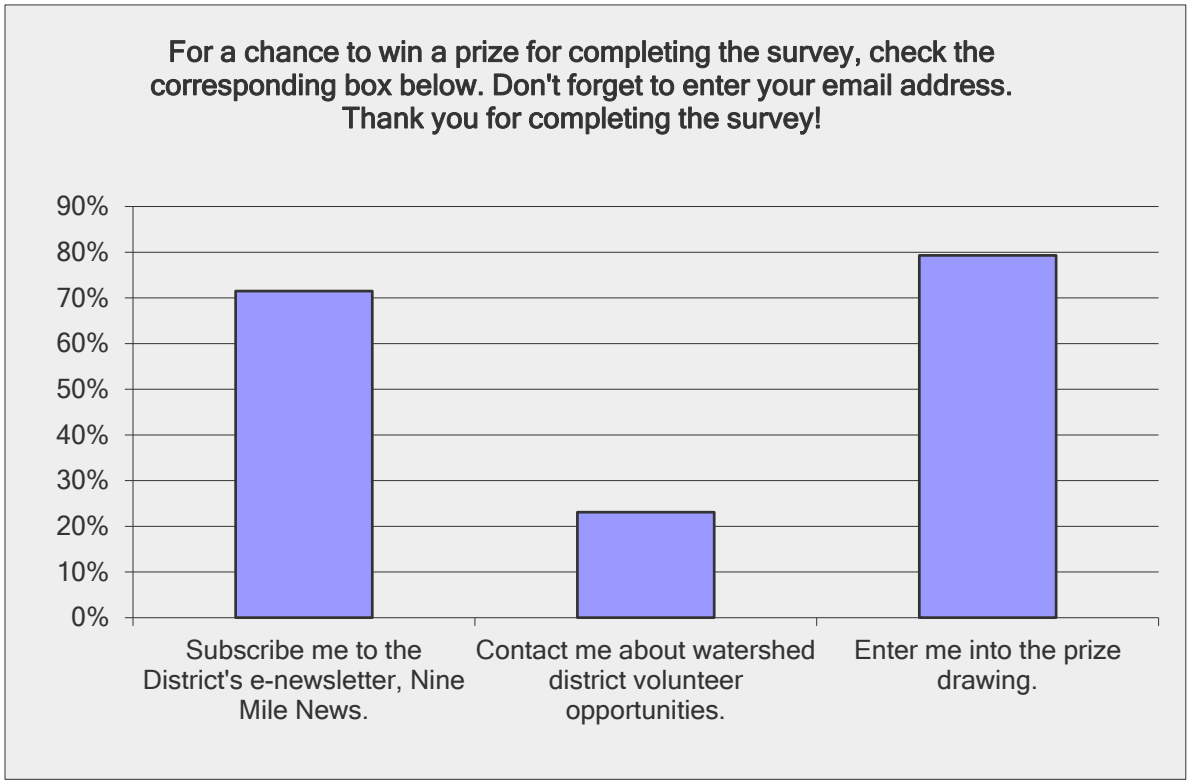
Question 18: What is the single best way for the Nine Mile Creek Watershed District to provide information to you about water quality projects, events, and other news involving the work of the District? (610 responses)



About 60% of respondents preferred electronic communication methods (e-newsletters, social media, website), while about 30% preferred printed media. Whether printed or electronic, over half of the respondents identified newsletters as the single best way to provide information. Only 5% of respondents preferred in-person communications. Sixteen respondents provided an open-ended response. Most open ended responses noted the need to use multiple media. The open-ended responses also cited:

- Telephone
- District inspectors
- Local television and Minnesota Public Radio

Question 19: For a chance to win a prize for completing the survey, check the corresponding box below. Don't forget to enter your email address. Thank you for completing the survey!



Over 70% of survey respondents (328) wanted to be subscribed to the District's e-newsletter, while 105 respondents wished to be contacted about District volunteer opportunities. The 106 survey respondents willing to be contacted about volunteer opportunities is less than the 383 respondents who identified themselves as willing to participate in watershed volunteer opportunities in question 16.

Nine Mile Creek Watershed District Community Survey

Question 2 Open Ended Responses

If you live adjacent to a creek, wetland or lake, what is the name or description of location of that water body?		
Number	**Response Date**	**Comments**
1	5/8/2016	Xerxes Pond
2	5/6/2016	Timberglade
3	5/5/2016	Lake Normandale
4	5/3/2016	lake minnetoga
5	5/1/2016	Bryant park
6	4/30/2016	lake minnetoga
7	4/29/2016	Eagle Lake & Eagle Creek
8	4/28/2016	Minnesota River
9	4/27/2016	Minnehaha Creek
10	4/27/2016	McGinty Pond
11	4/27/2016	9 mile creek
12	4/27/2016	Nine Mile Creek
13	4/27/2016	Hyland Lake Park Res.
14	4/27/2016	Nine Mile Creek
15	4/27/2016	Nine Mile Creek
16	4/26/2016	9 Mile Creek
17	4/26/2016	9 mile creek
18	4/26/2016	Nine Mile Creek
19	4/26/2016	Nine Mile
20	4/26/2016	Hyland
21	4/26/2016	hyland lake
22	4/26/2016	Bush Lake and Hylands preserve
23	4/26/2016	Normandale Lake
24	4/26/2016	Across street from 9 mi creek
25	4/26/2016	Nine Mile Creek
26	4/26/2016	Minnesota River
27	4/26/2016	Hyland Lake Park Preserve
28	4/26/2016	Hyland Park Preserve
29	4/26/2016	the wetland/creek east of France Avenue
30	4/26/2016	Lake minnetoga
31	4/26/2016	Normandale lake
32	4/26/2016	on Nine Mile Creek at 98th street
33	4/26/2016	Long Meadow Lake
34	4/26/2016	Long Meadow Lake
35	4/26/2016	Lake 1, 2 or 3???
36	4/25/2016	Bush Lake, Hyland Lake
37	4/25/2016	South of 84th between oxborgh & Morris
38	4/25/2016	Minnesota River Valley and Lake Normandale
39	4/25/2016	Just east of Poplar Bridge
40	4/25/2016	bush lake and runoff pond on our property
41	4/25/2016	Canterbury Pond, SE corner of 102nd and France
42	4/25/2016	Ponds near Olson Elementary/Olson Middle School
43	4/25/2016	Bush
44	4/25/2016	Hyland Lake
45	4/25/2016	9 Mile Creek / Nord Myr Park
46	4/25/2016	Nine Mile Creek
47	4/25/2016	Lake Minnetoga
48	4/25/2016	Morris Road/Heritage Hills pond
49	4/25/2016	Anderson Lakes

50	4/25/2016	Normandale LAke
51	4/25/2016	MN River Valley
52	4/25/2016	98th and Dakota~ Hyland Lake, Ponds at 99th and Dakota, Ponds behind St Ed's Church, Normandale Lake, Nine Mile Creek
53	4/25/2016	Lake Girard
54	4/25/2016	9 mile
55	4/25/2016	Nine Mile Creek
56	4/25/2016	Marce bog between Yukon and Bush Lake
57	4/25/2016	Normandale Lake District
58	4/25/2016	Minnesota River
59	4/25/2016	We're on Auto Club by the River
60	4/25/2016	Minnesota
61	4/25/2016	Hawkes Lake
62	4/22/2016	Highland park lake
63	4/22/2016	Nine Mile Creek
64	4/22/2016	Bush Lake
65	4/22/2016	Arrowhead lake Edina
66	4/22/2016	Normandale Lake
67	4/21/2016	Nine Mile Creek
68	4/20/2016	Normandale Lake
69	4/20/2016	Bush Lake, Pond in Bill Warren Park
70	4/11/2016	Lake Locklear
71	4/11/2016	creek near 70th and Lake Cornelia - Edina Lk
72	4/7/2016	MN Valley National Wildlife Refuge
73	4/7/2016	Directly across from Creek Valley Elementary
74	4/5/2016	Glen Lake
75	4/4/2016	Glen Lake
76	3/31/2016	Prior Lake
77	3/29/2016	Lake Minnetoga
78	3/29/2016	Lake Minnetoga
79	3/28/2016	live in Lake Forest Development which is surrounded by several wetlands and abuts 9 Mile Creek
80	3/27/2016	Nine Mile Creek
81	3/25/2016	Nine mike
82	3/25/2016	Nine Mile Creek area
83	3/25/2016	Wetland adjacent to Butternut Circle, Minnetonka
84	3/25/2016	wetlands Forest Lake Townhomes
85	3/25/2016	Nine Mike Creek
86	3/25/2016	south branch of nine mile creek
87	3/24/2016	Lake Rose
88	3/22/2016	Lower Penn Lake
89	3/22/2016	arrowhead lake
90	3/22/2016	Nine Mile Creek on Westbrooke Way in Hopkins by the Community Garden
91	3/21/2016	Mirror Lake
92	3/21/2016	arrowhead lake
93	3/21/2016	Arrowhead Lake
94	3/21/2016	Arrowhead Lake
95	3/20/2016	Arrowhead Lake
96	3/20/2016	9 mile creek
97	3/19/2016	No name
98	3/19/2016	Lower Penn
99	3/18/2016	Lower Penn
100	3/18/2016	Dewey Hill condo ponds
101	3/18/2016	Dewey Hill South Condo. Private pond/marsh
102	3/18/2016	between 102nd st and Old Shakopee Rd

103	3/18/2016	Sandro Pond and Normadale Lake
104	3/17/2016	Normandale Lake
105	3/17/2016	Normandale Lake
106	3/17/2016	Edenbrook Preservation Area
107	3/17/2016	Normandale lake
108	3/17/2016	Normandale lake
109	3/17/2016	Penn Lake
110	3/17/2016	Red Rock Lake
111	3/17/2016	Nine Mile Ceeek
112	3/17/2016	Purgatory Creek
113	3/17/2016	Shady Oak Lake
114	3/17/2016	lower penn lake
115	3/17/2016	Red rock lake (marshy part)
116	3/17/2016	Creek and lake
117	3/16/2016	9 Mile Creek.
118	3/16/2016	Nine Mile Creek
119	3/16/2016	Nine Mile Creek
120	3/16/2016	Arrowhead Lake
121	3/16/2016	Nine Mile Creek
122	3/16/2016	Nine mile creek
123	3/16/2016	Nine Mile Creek
124	3/16/2016	Knoll Lake
125	3/16/2016	Carmel Pond at Fallbrook Rd & Thornhill Rd
126	3/16/2016	Swamp next to Nine Mile Creek
127	3/16/2016	Oak Pond
128	3/15/2016	Nine Mile Creek
129	3/15/2016	Nine Mile Creek
130	3/15/2016	Skriebakken Lake
131	3/15/2016	Nine Mile Creek
132	3/15/2016	I'm not certain actually ... Opus area off Bren Road.
133	3/15/2016	Bush Laje
134	3/15/2016	Live adjacent to drainage tunnel that feeds (eventually) into 9 mile creek
135	3/15/2016	bush lake
136	3/15/2016	North Branch of Nine Mile Creek
137	3/15/2016	9 mile creek, north fork
138	3/15/2016	nine mile creek runs along my backyard
139	3/15/2016	nine mile creek
140	3/15/2016	Nine Mile Creek
141	3/15/2016	bass ponds across the street from me
142	3/15/2016	Mirror Lake
143	3/15/2016	Nine Mile Creek
144	3/15/2016	Nine Mile Creek
145	3/15/2016	Lewis Park Pond
146	3/14/2016	Nine mile creek
147	3/14/2016	Nine mile creek is just behind our house(by the train tracks, on Abercrombie dr)
148	3/14/2016	unknown
149	3/14/2016	Nine Mile Creek
150	3/14/2016	Walnut ridge park wetland area
151	3/14/2016	Normandale Lake
152	3/14/2016	nine mile creek
153	3/14/2016	Nine Mile Creek at Lincoln Drive and Dovre Drive
154	3/14/2016	Nine Mile Creek
155	3/14/2016	Nine Mile Greek
156	3/14/2016	Arrowhead Lake
157	3/14/2016	Mirror lakes

158	3/14/2016	Nice Mile Creek and Marsh Lake
159	3/14/2016	Skriebakken Lake
160	3/14/2016	Normandale Lake
161	3/14/2016	shady oak lake
162	3/14/2016	Shady Oak Lake
163	3/13/2016	Shady Oak Lake
164	3/13/2016	Minnetoga lake (mud lake)
165	3/13/2016	Hawkes Lake
166	3/13/2016	Dewey Hills III Townhouse Association Pond
167	3/12/2016	Shady Oak Lake
168	3/12/2016	Normandale Lake
169	3/12/2016	Lake Normandale
170	3/12/2016	nine mile creek
171	3/11/2016	Arrowhead Lake
172	3/11/2016	Nine mile creek
173	3/9/2016	Minnetoga
174	3/9/2016	Lake Minnetoga
175	3/8/2016	Anderson Lakes
176	3/8/2016	Credit River
177	3/8/2016	Anderson Lake
178	3/8/2016	Normandale Lake
179	3/8/2016	Lake Normandale
180	3/7/2016	Normandale Lake
181	3/7/2016	Normandale Lake
182	3/7/2016	Parker's Lake
183	3/7/2016	2 miles from the creek, but walk with a friend within two blocks of creek
184	3/7/2016	Normandale Lake
185	3/7/2016	Nord Myr Park/Nine Mile Creek/Mt Normandale Lake
186	3/7/2016	Diamond Lake
187	3/7/2016	Sandro Pond
188	3/7/2016	Normandale Lake
189	3/7/2016	Nine mile creek
190	3/7/2016	Credit River
191	3/7/2016	Nine Mile creek and Normandale Lake
192	3/7/2016	Normandale Lake, wet land across Normandale Blvd
193	3/7/2016	Normandale Lake
194	3/7/2016	Normandale Lake
195	3/7/2016	Normandale Lake, Nine Mile Creek
196	3/7/2016	Creek, wetland that goes into Normandale Lake
197	3/7/2016	Pond behind long brake trail and Delaney boulevard
198	3/6/2016	Edenvale
199	3/6/2016	Nine mile creek
200	3/6/2016	Nine Mile Creek
201	3/6/2016	Nine Mile Creek
202	3/6/2016	Hyland Park
203	3/6/2016	Normandale Lake
204	3/6/2016	Normandale Lake
205	3/6/2016	Nine Mile Creek
206	3/6/2016	Nine Mile Creek
207	3/6/2016	Nine Mile Creek, Normandale Lake
208	3/6/2016	Normandale Lake
209	3/6/2016	Nord Myr Marsh
210	3/5/2016	Lake Minnetoga
211	3/5/2016	Unnamed
212	3/5/2016	Nine Mile Creek

213	3/5/2016	Outlet water pond?
214	3/4/2016	Lake Phalen
215	3/3/2016	Nine Mile Creek
216	3/2/2016	Minnetoga Lake
217	2/26/2016	Nine Mile Creek
218	2/20/2016	9 mile Creek
219	2/20/2016	Minnesota River
220	2/20/2016	Heritage lake plus storm water pond
221	2/20/2016	Penn lake
222	2/20/2016	9 mile creek
223	2/18/2016	Manor Homes of Edina

Nine Mile Creek Watershed District Community Survey

Question 6 Open Ended Responses

How important are the following water resources to the quality of life in your community?		
Number	**Response Date**	**Comments**
1	5/6/2016	The creek, river, lakes and ponds are all important. I hope others agree so we can begin to take care of them finally!
2	4/27/2016	Appreciate wild life habitat preservation
3	4/27/2016	We live near Terrace Oaks Park in Burnsville and appreciate the ponds and wetlands within it.
4	4/26/2016	Since 9 mile creek empties into normandale lake is it very important due to what it brings into the lake
5	4/26/2016	Ponds and wetlands add greatly to the beauty of Bloomington.
6	4/26/2016	afrail cattails and lily pads will completely enclose our lake
7	4/26/2016	Water = Life
8	4/26/2016	open space is important
9	4/25/2016	Even though I do not use these resources regularly, my husband and I are very aware of how critical they are to our environment. they add greatly to the quality of life in Bloomington, even as we drive by. Necessary for wildlife, to regulate run off, and for other environmental reasons.
10	4/25/2016	all are important to wildlife diversity
11	4/21/2016	Green space is diminishing due to over-building, so 9-mile creek is even more precious to mental health
12	4/9/2016	I live in apartment complex with no storm water mitigation
13	3/31/2016	With continual reduction of water quality and increasing hard cover of land, all water bodies are extremely important
14	3/22/2016	The sight of bald eagles, egrets, herons, geese and ducks, as well as the migratory wildfowl that fly through in the spring enhance our standard of living.
15	3/22/2016	Aren't they necessary to survive? Don't we need water?
16	3/17/2016	I am very concerned about pollution from properties along 9 mile creek.
17	3/17/2016	I think all these water resources are important for waterfowl reproduction
18	3/17/2016	Water quality is an issue in Edina; unfortunately Edina's development policies have done little to protect our water assets and, in fact, have harmed them.
19	3/16/2016	Nine Mile Creek is (was) a unique ribbon of wilderness in the middle of our city.
20	3/16/2016	I live on a pond
21	3/15/2016	Water is vital to life, ours and that of other species.
22	3/15/2016	I really can't think of anything more important to me and my family than the water.
23	3/15/2016	We're kidding ourselves to think any waterway isn't important in our lives, whether we have direct interaction or not.
24	3/14/2016	Nine mile creek feels very unclean around my house. It's not the kind of water I'd like to Swim in, and it's cluttered with litter
25	3/14/2016	Water sources are extremely important for both mind and body. It is also attractive to the city to have clean water sources for both play and visual interest.
26	3/14/2016	Nature is very important to me and my family
27	3/13/2016	These are the reasons we moved here and stay here
28	3/12/2016	R
29	3/9/2016	Something is causing the water quality to get progressive worse each year
30	3/8/2016	Water quality plus wildlife habitat
31	3/7/2016	I work in Bloomington but live in Apple Valley.
32	3/6/2016	Normandale Lake needs attention.
33	3/6/2016	The entire world of water is extremely important
34	3/5/2016	Too much fertilization in our neighborhood!
35	2/18/2016	Water resources are hugely important across the board!

Nine Mile Creek Watershed District Community Survey

Question 9 Open Ended Responses

How would you rate the overall water quality of the lakes, creeks, and wetlands that are located where you live?		
Number	**Response Date**	**Comments**
1	4/26/2016	Nine Mile Creek to the west of Hwy 169 between Lincoln/5th St. & Londonderry exits appears to be very polluted
2	4/26/2016	Normandale Lake gets very green and smelly during the warm months.
3	4/25/2016	Ponds not to good
4	4/25/2016	I really don't know , but I hope the water quality is somewhere between fair and good.
5	4/25/2016	Am always concerned when I read about ecoli in Bush Lake, etc.
6	4/25/2016	Lots of pond scum on Normandale Lake
7	4/21/2016	too much rubbish, trees and plants are cut down so animals don't have shelter, tires and junk are thrown in the water, not enough barrier (native/prairie grass) to protect wildlife habitat
8	4/11/2016	too many cattails
9	3/21/2016	In Arrowhead, I wish there was maybe more movement - not sure it's that fresh
10	3/17/2016	Normandale lake is an unsightly, smelly, green marsh in the summer
11	3/16/2016	Concerned about the weeds/algae blooms as it relates water quality.
12	3/16/2016	I am watching the creek fill in and get shallower
13	3/16/2016	It is a travesty that Nine Mile Creek Watershed District supports rather than challenges the pollution of NMC from runoff from yards and salt from local highways. The salt contamination is terrible - parts of the creek don't freeze over because of the salt runoff. WHERE IS 9MC Watershed District?
14	3/15/2016	I'm concerned because we've just taken it for granted for too many years.
15	3/15/2016	I'm right on the creek and I'd love to help clean it up. We try to fish out debris, but we can see how polluted it is and can't do much else to help ourselves.
16	3/14/2016	We clean up trash all the time. Nine Mile is just a highway for all the trash starting in Hopkins... and into the Minnesota River. Yes there is wildlife am constantly surprised its still there based on the excessive water intake after rains and drought in summer.
17	3/14/2016	Most are good, except Normandale Lake, which looks like it's in terrible shape. Completely covered in weekds.
18	3/14/2016	Very poor since the road construction on Shady Oak rd was completed. You can see the different algae around the drains coming into the lake. I have seen what looks like oil in the water near the drain on the south side of the big part of Shady Oak lake. Also having been on the lake for 15+ years the weeds are thicker.
19	3/9/2016	It was originally called mud lake- I believe this was done for a reason
20	3/7/2016	Normandale Lake is no longer a jewel in the neighborhood. It is unsightly and the smell is offensive.
21	3/7/2016	While they look great in the spring, they quickly clog up with algae and other growth that chokes the life of the water
22	3/7/2016	We have a tremendous amount of algae in Lake Normandale, the primary lake in Bloomington
23	3/7/2016	Lake Normandale is disgusting
24	3/6/2016	FAIR overall, some POOR like Normandale Lake especially
25	3/6/2016	Normandale and Hyland lakes are very concerning however!
26	3/5/2016	I WILL HAVE TO RESEARCH THIS... I CAN ONLY HOPE THE ANSWER IS EXCELLENT... WITH ALL THE SALT RUN OFF I QUESTION THE QUALITY. OUR STREET DRAINS RUN INTO THE CREEK.
27	2/20/2016	Algee

Nine Mile Creek Watershed District Community Survey

Question 11 Open Ended Responses

What concerns do you have about lakes, creeks and wetlands in your community?		
Number	**Response Date**	**Comments**
1	5/6/2016	Temperature of water. Nine mile used to be trout stream.
2	4/26/2016	No longer can fish or canoe on the lake. Just looking at it is disgusting - discourages using it as the primary walking area.
3	4/26/2016	Concerned about cattails and lily pads filling in lake
4	4/26/2016	state government draining to lower water levels which encourage invasive cat tails to explode and make havens for mosquitoes
5	4/26/2016	Got smelly last year
6	4/26/2016	Trees that are dying and falling in.
7	4/25/2016	Odor from algae, appearance of algae, invasive fish
8	4/25/2016	Growing weeds around the edge, no fertilizer is used in the area of water
9	4/25/2016	E. coli at beaches
10	4/25/2016	Dead trees surrounding Normandale Lake.
11	4/25/2016	I am concerned at the gas leakage from the pumps at the Cut Rate station on Old Shakopee and Xerxes in Bloomington. I think that gas is running directly into Nine Mile Creek. the station should be closed and the Brown Field cleaned up.
12	4/21/2016	neighbors raking leaves into the creek
13	4/21/2016	toxic waste (pet excrement) people don't pick up (they think it's "organic"
14	4/20/2016	algae level every summer is terrible and becomes smelly
15	4/7/2016	Lake Normandale is terrible!
16	4/5/2016	pet waste
17	3/25/2016	Addition of large apartment building on a small 3 acre plot surrounded by wetlands (on Rowland)
18	3/25/2016	concern on flood insurance and preserving nature
19	3/24/2016	Normandale lake is choked with weeds in the summer and literally stinks so bad sometimes its uncomfortable to be near
20	3/21/2016	Wish there were less reeds so that we could canoe, etc.
21	3/19/2016	Round lake
22	3/18/2016	The "rape" of 9 mile Creek in Heights Park for an unnecessary bike trail
23	3/18/2016	It doesn't even look like a lake by mid summer - it's all just green sludge.
24	3/18/2016	The Smell is terrible in the summer
25	3/17/2016	Mercury and phosphorus from ferlilizer runoff on 9 mile creek
26	3/17/2016	algae on waterbodies
27	3/17/2016	Over development, allowing developers to clear cut lots (no enforcement of tree preservation ordinance), use of chemicals all contribute to degradation of the water assets in our community
28	3/16/2016	Smell and algae
29	3/16/2016	You can see the impact of the Watershed District's failure to focus on pollution.
30	3/15/2016	Thank you for doing something about water quality. We care!!!
31	3/15/2016	mosquito control
32	3/15/2016	mosquitos
33	3/15/2016	the city clear cut all the trees along nine mile creek to make way for a stupid bike trail and walking path
34	3/15/2016	All checked
35	3/14/2016	invasive cat tails have taken over areas surrounding nine mile. beautiful wetlands have turned into grasslands.
36	3/14/2016	Normandale Lake turns green from alge - too ugly and often too smelly to walk around
37	3/13/2016	Draining of Storm water from salted streets into our ponds and the change (deterioration of water and shoreline) that is producing
38	3/12/2016	Portions of the lake are being overtaken by seaweed and muck, making those portions of the lake unusable to swimmers/boaters in the summer
39	3/12/2016	Smelly
40	3/12/2016	Smell and look of the lake

Nine Mile Creek Watershed District Community Survey

Question 11 Open Ended Responses

What concerns do you have about lakes, creeks and wetlands in your community?		
Number	**Response Date**	**Comments**
41	3/12/2016	Smelly plant growth
42	3/8/2016	Algae bad smell
43	3/7/2016	Summer algae bloom covers most of the lake. Can't we keep phosphates out of the lake?
44	3/7/2016	Mountain bike recreation damage to the trails which ultimately impact the lakes, creeks and wetlands.
45	3/7/2016	Odor coming off of the water due to sediment, storm runoff, etc.
46	3/7/2016	Smell
47	3/7/2016	the green gunk on the water and the smell
48	3/7/2016	Algae
49	3/6/2016	pollution from insecticides, herbicides
50	3/6/2016	Algae problem - the lake is covered 90% of the time
51	3/6/2016	excessive algae
52	3/6/2016	Odor from algae, appearance of algae, invasive fish
53	3/5/2016	Chlorinated water?
54	3/5/2016	Smells bad in summer
55	3/5/2016	Runoff
56	2/20/2016	Odor from water body
57	2/20/2016	Walking trail is flooded

Nine Mile Creek Watershed District Community Survey

Question 12 Open Ended Responses

Thinking beyond lakes and creeks, what are your other top concerns that relate to water in your community?		
Number	**Response Date**	**Comments**
1	5/1/2016	Want water quality buy-in from public?....Enable Access!
2	4/28/2016	Now you've got me worried about all of these!
3	4/28/2016	MN Big Agriculture factory farms that pollute the ecosystem of MN. Am also concerned about water quality for the animals that are confined and mistreated in these facilities
4	4/28/2016	generally concerned with many of these but none are "top" concerns
5	4/27/2016	Impermeable ground cover(buildings, garages,driveways, etc.) Rapid runoff after storms reducing groundwater recharge.
6	4/26/2016	cattail plants in lake
7	4/26/2016	When helping to pick up litter with my son's Scout Troop I chose to focus on the many tiny mint wrappers blown into & around the lake from TGIF's across the Hwy. to Normandake Lake
8	4/26/2016	incompetence of state government wrecking lake after lake throughout state by intentionally lowering water levels to help ducks and hurt everything else
9	4/25/2016	Should encourage traditional native plantings, non-fertilizers, native grasses
10	4/25/2016	Pollutants from fertilizer and road salt.
11	4/25/2016	Non point source water pollution is a major concern for this urban watershed. Catch basins such as the one on Upper Penn Lake and rain gardens throughout the watershed should lessen the effect of contaminants getting into the watershed.
12	4/25/2016	Of course, the Flint crisis makes us aware of the critical importance of allocating public tax funds to to upgrading pipes, treatment plants etc.
13	4/21/2016	LACK of abundance and diversity of wildlife, litter, erosion
14	3/24/2016	Normandale Lake is a Weed choked lake. It is filled with sediment and should be dredged
15	3/22/2016	If there is a lot of rain, there is flooding on the east side of the corner of Smetana and 11th Street.
16	3/20/2016	Sediment collection from run-off; pollutants from run-off
17	3/20/2016	I was in the hospital last week and was getting an IV that I thought had a painkiller added to the liquid. When they removed the IV they emptied the rest down the sink. As I was drowsy and anxious to get out of the hospital, I didn't say anything. Later I was wondering where that went? I will be asking the Dr. when I go in for my follow-up.
18	3/17/2016	Poor and illegal farming practices damaging watersheds
19	3/17/2016	Increased: density, size of homes, allowing tree removal, increase of impervious surfaces all contribute to degradation of the watershed in our community. Lack of policy and enforcement of policy contributes to the degradation of the watershed in our community.
20	3/17/2016	I am concerned that curb and gutters are a major contributor to pollutants and low ground water levels.
21	3/16/2016	The Watershed District chose to support the 3 Rivers Park District "trail" that will replace 39+ acres of wetland and wildlife habitat with pavement and gravel
22	3/15/2016	Thank you for caring. How can we all help?
23	3/15/2016	Not enough rain garden type filtering systems.
24	3/15/2016	Hhhshs
25	3/14/2016	The buckthorn in the Marsh Lake area is so thick that nothing else can grow.
26	3/13/2016	contamination from salting our roads and streets
27	3/8/2016	The number of coyotes has grown in our community; affecting the safety of our pets
28	3/7/2016	See above comment regarding mountain bike usage.
29	3/7/2016	Buckthorn and garlic mustard are destroying my neighborhood
30	3/5/2016	Yard-stuff going into storm sewers

Nine Mile Creek Watershed District Community Survey

Question 13 Open Ended Responses

What do you think should be the top 4 priorities for the District in the next 10 years?		
Number	**Response Date**	**Comments**
1	5/12/2016	Increase game fishing in Normandale lake
2	5/6/2016	Education of residents still necessary. They need to be bombarded with education and training!
3	5/3/2016	not sure?
4	5/1/2016	more access
5	4/27/2016	Reduce variability of stormwater runoff with rain gardens and other retention devices
6	4/27/2016	I don't feel adequately informed to enough select 4 main areas.
7	4/27/2016	Eliminating coyotes in the watershed district. They limit the enjoyment and use and are serious safety concerns.
8	4/26/2016	Underground water suppky
9	4/26/2016	Difficult to judge because I really don't know the "big picture" so can only respond to my area of concern.
10	4/26/2016	stop encouraging invasive species by artificially reducing water levels. This has been a disaster on many lakes. The science you're using is flawed!
11	4/26/2016	Buckthorn
12	4/25/2016	reduce odor
13	4/25/2016	Clean up the edges of creeks (9 mile-Minnehaha)as in general there are no fertilizers used on them. It used to be really nice to actually walk along a creek and actually see it and maybe sit on the bank and watch the water go by.
14	4/25/2016	make people (county and city) stop using chemicals on property
15	4/25/2016	Continue efforts to deepen and widen the areas of the creek especially through Edina. There will continue to be challenges with peak flow times and runoff, however I am of the opinion that continued stream stabilization to the Creek and putting in storm water retention ponds in areas could help. I recommend the board address any and all open spaces be utilized or sought after in order to control storm water. The next step would be to offer cost sharing for parking lot retrofits, etc that would allow for rain gardens.
16	4/25/2016	Stop use of road salt unless absolutely necessary. Only the steepest road grades should see it. Extra salt should be mechanically collected within 24 hours of application.
17	4/11/2016	have incomplete knowledge of needs from studies
18	4/7/2016	A war on Buckthorn
19	3/22/2016	Iwould think there could be a multi-focused effort to assure clean water and reduce invasive species.
20	3/18/2016	Reduce weeds - Huge Lily Pads/weeds that take over the Summer Months at Normandale Lake
21	3/17/2016	Force residents along 9 mile creek to not fertilize their yards within 50 feet of 9 mile creek. Investigate all possible pollution sources along 9 mile creek.
22	3/17/2016	Improve fisheries
23	3/17/2016	I really have no idea - the water clarity on Shady Oak Lake is excellent and I want to stay that way
24	3/17/2016	Turn the pump on at lower penn lake!!!
25	3/17/2016	All of the above could be achieved through stronger protection policies and enforcement of those policies especially with respect to development. The onus to protect the environment should be on the developers. That is not happening in our community. We have allowed examples such as getting rid of 30 year conservation easements so that individuals can build a house with a bigger footprint. That is ecologically irresponsible.
26	3/16/2016	I'm not an expert. You should prioritize :)
27	3/16/2016	The Watershed District's conservation mandate has been ignored in favor of development of "amenities" for bikers. Preserving wildlife habitat and wetland from contamination and development is the meaning of conservation.
28	3/15/2016	2,3,4 - street flooding is the only concern i have
29	3/15/2016	Really, everything is important.
30	3/15/2016	mosquito control

Nine Mile Creek Watershed District Community Survey

Question 13 Open Ended Responses

What do you think should be the top 4 priorities for the District in the next 10 years?		
Number	**Response Date**	**Comments**
31	3/15/2016	get rid of buckthorn
32	3/15/2016	keep government out and let private enterprise manage
33	3/15/2016	Getting businesses to chip in funds to help clean it up!
34	3/7/2016	Fixing Normandale Lake.
35	3/5/2016	Restrict fertilization
36	2/18/2016	Salt control on roads

Nine Mile Creek Watershed District Community Survey

Question 17 Open Ended Responses

Do you have any other comments, questions, or concerns?		
Number	**Response Date**	**Comments**
1	5/6/2016	I have no "lawn". I compost all of my yard waste. I use NO chemicals, even hose water. I have multiple rain barrels around the house for watering. It works and it's easy once you get started.
2	5/3/2016	Pollution, fertilizers, crap that effect wildlife
3	5/1/2016	Access,please.
4	4/28/2016	I have no idea how to answer #14.
5	4/28/2016	Thank you for your efforts at keeping this conversation alive.
6	4/27/2016	Looking forward to a decent bridge over 9-mile Creek on river path(I'm too old for boards-on-a-log). The new trail will attract more people and build interest in the Creek, which is largely invisible to most folks. I would like to see a more level bicycle route across the Creek and 35W south of Old Shakopee Rd. 106th Street is quite dangerous and difficult for bicycles. Best wishes to the District.
7	4/27/2016	Don't let climate change fanatics hijack our environmental programs.
8	4/27/2016	important work! thank you for asking!!
9	4/27/2016	My #1 concern is the expanding population of coyotes in the district. Need to control them.
10	4/26/2016	Would like to see an initiative to conduct yearly trash pick up around lakes and streams
11	4/26/2016	I appreciate all the hard work that already goes into the preservation of our natural resources
12	4/26/2016	while this lake was a manmade lake therefore not "natural" it serves the same purpose and is very important to bloomington and the surrounding area. The investment required to build the bandshell was intended to bring the community together and the lake is part of that.
13	4/26/2016	The rain sheets off our driveway to the curb & into the storm drain. I looked into it but it just costs too much for us to install a permeable driveway -- like $15,000. for pavers.
14	4/26/2016	Willing to do more and pay more as long as the money and efforts go directly to the issues at hand
15	4/26/2016	Glad you have programs during the week.
16	4/26/2016	Thank you! It was difficult to only pick 4 too priorities. I wish to add any climate change related planning. I would also love help or information concerning installing a rain garden.
17	4/26/2016	fallen trees in creek blocking proper creek flow
18	4/25/2016	Reduce codes that say you must cut lawn at certain length, encourage natural native plants and yards instead of water sucking and fertilizing extensive lawns.
19	4/25/2016	The proposed paved trail along the river in Bloomington must be blocked!
20	4/25/2016	people that live in managed developments do not have choices on what is put on the lawns or how runoff is handled. Education of townhome and apt. owners is needed.
21	4/25/2016	The watershed is pretty much developed and will continue to have challenges, however I have traveled quite a bit and the watershed is much much better than quite a bit of the older US cities. Much of our storm water is being diverted to infiltration areas as compared to other developed areas of the country. Continued work needs to be done in Edina and the Hopkins areas to stabilize and widen the stream, which will be hard but can be done with the cooperation of those Cities. One or two large storm water retension pond / wildlife areas could do wonders for those down stream.
22	4/25/2016	More education and awareness of contractors dumping in street drains as I hve witnessed this twice in the last 12 months
23	4/25/2016	The challenge is great and we all need to be involved to protect our natural resources. They make our lives and community great.
24	4/25/2016	I wonder about the management of the drainage ponds around our lake. Also, as many of our neighbors hire lawn services, I wonder if those companies are monitored for what they are putting on the lawns.
25	4/25/2016	I appreciate the opportunity to participate in this survey. Good luck managing the results!
26	4/25/2016	managers. A great example is the MN River Valley in Bloomington. Their is an existing natural trail that is used by tens of thousands of people that coexists with the flood plain. The DNR/Bloomington want to allow a polluting paved trail that will harm the natural area and send
27	4/25/2016	Would love to see regulations against chemical lawn care. No need for perfection especially at the risk of health to all of us, human, animals and plants!

Nine Mile Creek Watershed District Community Survey

Question 17 Open Ended Responses

Do you have any other comments, questions, or concerns?		
Number	**Response Date**	**Comments**
28	4/25/2016	A cleaner Normandale Lake would mean more aquatic activities there
29	4/25/2016	See previous comments.
30	4/22/2016	Thanks for your work.
31	4/22/2016	I have no lawn & only weed wack a couple times per year.
32	4/21/2016	I wish our district offered design help for rain gardens or shoreline erosion prevention. We're willing to do so much, but can't afford the cost of design work. We'll do our own labor and buy the plants!
33	4/21/2016	Unfortunately I live in a condo and the association is not willing to do ANYTHING! That would be a great place to start educating.
34	4/11/2016	ques 14 was difficult to answer.
35	4/9/2016	Apartment dweller. Cannot have rain barrel. Called city about regulation, none. As resident we pay % water.
36	4/1/2016	Hope for community involvement
37	3/31/2016	Water quality is rapidly approaching a crisis; delayed action will be very costly and difficult
38	3/25/2016	Concerned about new apt. building changing the water level behind my property. Lived here 26 years and have never experienced these high levels. Was told would not see any changes. We do. Very concerning.
39	3/25/2016	I think many Minnetonka residents do not realize they live in the Nine Mile creek district. Perhaps we should do signage at the borders as Minnehaha creek district does.
40	3/22/2016	I am pleased you are asking these questions. If you have a newsletter or website, please let me know.
41	3/22/2016	We need to educate. Especially the school system. Edina Schools are located on Nine Mile Creek and will harm the environment with the referendum.
42	3/20/2016	It is a crime that the district permitted the destruction of the wooded area for the Three Rivers bike trail. It is a travesty and 9 mile district failed to protect the pristine area just for a few bicyclists. People who live around the new bike freeway you are building were ignored and marginalized by bureaucrats. This was jammed down the throats of the neighborhoods and all buttoned up behind closed doors. No transparency at all. Shameful.
43	3/18/2016	Rain barrels/rain gardens will not reverse the irreparable damage that the District's bike trail along and even over 9 Mile Creek will inflict on this water course
44	3/18/2016	I live in a condo building.
45	3/18/2016	Please address Normandale Lake Community - its a beautiful area and I believe the Lake would benefit from serious TLC.
46	3/17/2016	Please do something about Normandale Lake. The watershed board should be embarrassed by the quality of water and the algae bloom.
47	3/17/2016	No more regulation.
48	3/17/2016	Raise the drain at the end of penn lake or turn on pump when it gets low!!!
49	3/17/2016	I would like more information on how the current funding is being allocated and what programs are executed today and at what cost to the district taxpayers?
50	3/17/2016	I appreciate the good work of 9 mile Creek and the grant programs that they offer!
51	3/17/2016	I am concerned that this survey does not ask any questions about the impact of development policies and enforcement on the watershed; I wonder why not.
52	3/16/2016	The District appears to move very slowly, and I'd like to see it do more projects and less studies and education/outreach. I would like to see more outreach communication about projects; I am not one to look for information and visit the website; I like to see stories in the newspaper and holding open house meetings at libraries, having a booth at city forums, etc. Overall, I understand you are a very small District (not like Minihaha), so you are doing what you can.
53	3/16/2016	The participation of the watershed district in the bike path that is destroying wetlands and wildlife habitat along the creek makes a travesty of of this survey's emphasis on water quality and conservation.
54	3/16/2016	I am hopeful that our church would be willing to put in a rain garden between the parking lot and the Hawke Lakes to reduce pollutant run off.

Nine Mile Creek Watershed District Community Survey

Question 17 Open Ended Responses

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Number	**Response Date**	**Comments**
55	3/16/2016	environment and clean water instead of surrendering to local development pressures and demands of the Bike Edina Task Force to put pavement ahead of wetlands and wildlife habitat.
56	3/16/2016	The cost of some of these is not feasible at this time for me. Such as downspouts. I have a significant amount of water that lands on my driveway.
57	3/16/2016	I hope 9 mile CWSD will do more outreach and education.
58	3/15/2016	More emphasis on educating public; less money and effort on providing recreational opportunities (leave that to park authorities)
59	3/15/2016	I get the impression that this was simply a sort of push poll to raise the taxes. We pay enough taxes in aggregate. Gov't needs to be better figure out how to allocate and be more efficient/resourceful with the current tax levels. Many residents are still hurting from the recession and haven't had a raise in a while. Gov't should do the same.
60	3/15/2016	Do NOT tax me more to pay for trails. Managing erosion or ground water contamination - OK. Trails or beatification - NO!!!
61	3/15/2016	quit spending our taxpayers money to benefit the government employees
62	3/15/2016	NMC water district needs to more visably make its value know to the community.
63	3/15/2016	Grassroots media advertising to get the youth to help. If you need help on this please contact me. I already do this for a living. Sarah@softbums.com
64	3/15/2016	In an apartment. Don't want landlords giving this as a reason to raise rents
65	3/15/2016	Tierneys Woods Curve was resurfaced a few years ago, this fall a crew came through and cut open the cracks then covered the cracks with a tar type thing. It is peeling off and there are pieces and strips of that tar stuff all over the streets. It's really disgusting to think that is flowing into the watershed as it rains today. Street cleaning can't happen soon enough, and the fix it method for the street should be looked at from an environmental perspective.
66	3/15/2016	I wish we had access to FREE planning of helpful landscapes. We'll do the work. We'll pay for the plants and trees, but to just have some assistance in how to plant and where to plant without the additional cost of $5K for ONLY an idea would be helpful.
67	3/15/2016	There is significant erosion of the banks of nine mile creek in Edina (i.e. Walnut Ridge Park).
68	3/15/2016	Is it possible to intern for this Board?
69	3/14/2016	Thank you for allowing us to give our input on this issue. Having grown up on nine mile creek, it's a shame to see the condition that it's in now
70	3/14/2016	Also putting the trail in the middle of a wetland doesn't curb water quality. There will be more trash, noise and wildlife disturbance. Why not clean up our water sources before we run/bike thru them. There's currently nothing to look at. Money would be better spent on water quality than on bikers who aren't paying the additional money to support enhancements and maintenance of our natural environments.
71	3/14/2016	Keep the bike path area off of the creek!
72	3/14/2016	We have no lawn and use fertilizer sparingly for flowers.
73	3/14/2016	I can't wash my car on the grass because I hardly have any grass. I can't install a rain barrel because my roof drain lines already go into rain gardens. Same thing for directing the drain lines on to the lawn.
74	3/14/2016	Beside projects related to water quality, I think it is important to prevent/fight back invasive plants like buckthorn.
75	3/13/2016	I would see the role of the Watershed District to publicize the volunteer projects they support to allow us willing workers (retirees) to actually plant, shovel, weed, etc.
76	3/11/2016	Living in a townhouse limits some of things that I can control.
77	3/9/2016	I don't have a good understanding of question 14 and my response isn't necessarily rigid.
78	3/9/2016	we have tried to work with the City of Edina to try to clean the ponds adjacent to our home but have been told since they run into nine mile creek there is nothing that can be done.
79	3/8/2016	We are now living in a large senior housing complex so the last questions didn't apply to us in most cases.

Nine Mile Creek Watershed District Community Survey

Question 17 Open Ended Responses

Do you have any other comments, questions, or concerns?		
Number	**Response Date**	**Comments**
80	3/8/2016	I am also very concerned about the chemicals that lawn care companies use on neighborhood lawns, that they spray on windy days and the smell goes everywhere. I have to take my toddler indoors some days, it is SO bad. There are laws for second hand smoke....why not laws against herbicides being breathed into our lungs?
81	3/8/2016	Need to be informed as to what concerns you have and what is happening
82	3/7/2016	Strongly encourage people to pick up trash in the streets that could get into the sewers. I can't believe the amount of junk I pick up while walking my dog.
83	3/7/2016	Your district is fully covered by MS4s. From a regulation standpoint, the NPDES general permits should largely have you covered. The best place to fill in is with TMDLs: take the lead on them, organize best practices training in relation to them, take on internal loading projects for waterbodies with intercommunity subwatersheds, partner with communities to put projects in, oversee subwatershed analysis to find the most cost effective projects. Try not to focus on the method of pollutant reduction (how a BMP functions) when making your choices for projects, but rather, what is most cost effective from a pounds reduction standpoint (sometimes big regional projects are better if not sexier). Get the word out about your organization better. Despite being within 2 blocks (ok, 2.5) of the creek itself, I can't think of one sign I have seen for your organization. They must be there, but I can't think of any. I also can't think of any organizations around me has have some sign or other indication that they have put in a project with your cost share funds. Your newsletter seems to indicate you have a lot of cool things going on, but how would I know that but for the fact that I am a water geek that sought out my watershed's website to sign up for their newsletter.
84	3/7/2016	Difficult to do the above things when you live in an apartment.
85	3/7/2016	Normandale Lake is covered with algae in the summer. It is very unsightly and smells when it gets hot/dry. We utilize the lake all year round with our small children and would like to see this improved. Thank you.
86	3/7/2016	Normandale Lake is a jewel of the Bloomington community and it looks horrible almost all of the ice-out days of the year
87	3/7/2016	Offer more aquatic activities at Normandale Lake (swimming, kayaking, etc.)
88	3/6/2016	Thanks for all you do for the district
89	3/6/2016	Bloomington recently approved the MN River Valley Strategic Plan. Identify opportunities once the natural resources review has been completed (2017) where the WD can fund structural and vegetative restorations that can impact the area near the outlet of NMC.
90	3/5/2016	HOW DOES THE SALT USED ON THE ROADS IN THE WINTER EFFECT THE WATER SHED?
91	3/5/2016	Yes, the aforementioned swimming pool water. We'd like to install a rain garden but think it may not work.
92	3/5/2016	People obsessed with 'perfect' grass!
93	3/3/2016	We live in a good watershed district.
94	2/26/2016	Keep up the good work!
95	2/20/2016	Thank you for all you do.
96	2/20/2016	I work in Bloomington
97	2/18/2016	From #18- ways to provide information: website information, printed newsletters mailed to your home, electronic newsletters, newspaper articles, provide materials to local cities and other public agencies, presentations to community and neighborhood groups
98	2/18/2016	From #1: Works in Bloomington From #18-ways to provide information: website information
99	2/18/2016	Other ways to provide information: Website information, Social media, printed newsletters mailed to your home

Appendix D

Relationship between topic categories from issue identification and prioritization and the goal/policy topic categories (Section 5)

Relationship between topic categories from issue identification and prioritization (Section 4) and the goal/policy topic categories (Section 5).