



Nine Mile Creek Watershed District 2015 Annual Report



Prepared and submitted by:
Nine Mile Creek Watershed District
Nine Mile Creek Discovery Point
12800 Gerard Drive
Eden Prairie, MN 55346
(952) 835-2078

Table of Contents

1.	Nine Mile Creek Board of Managers	Page 2
2.	Citizen Advisory Committee Members	Page 3
3.	Technical Advisory Committee Members	Page 4
4.	Employees & Consultants	Page 6
5.	Introduction	Page 7
6.	2015 Highlights	Page 8
7.	Assessment of 2015 Work Plan	Page 9
	a. Implementation District Regulatory Program and Rules	
	b. Implementation Plan Review	
	c. Nine Mile Creek Office Discovery Point	
	d. UAA/Lake/Creek Studies	
	e. Cost Share Grant Program	
	f. Citizen-Assisted Monitoring Program (CAMP)	
	g. Citizen Advisory Committee	
	h. Technical Advisory Committee	
	i. Education and Outreach Program Activities	
	j. Capital Project Implementation	
	k. Centennial Lakes Storm Water Volume Reduction Project	
8.	Projected 2016 Work Plan	Page 19
	a. Implementation District Regulatory Program and Rules	
	b. Watershed Management Plan Update	
	c. Nine Mile Creek Discovery Point Management & Site Restoration Planning	
	d. Continue UAA/Lake/Creek Studies	
	e. Cost Share Grant Program	
	f. Citizen-Assisted Monitoring Program (CAMP)	
	g. Citizen Advisory Committee	
	h. Technical Advisory Committee	
	i. Education and Outreach Events & Activities	
	j. Capital Project Implementation	
9.	Permitting Activity	Page 23
	a. Summary of Permits and Variances Issued/Denied	
	b. Enforcement Activity	
10.	Summary of 2015 Water Quality Monitoring Program.....	Page 24
11.	Status of Local Plan Adoption and Implementation	Page 52
12.	Biennial Solicitation of Interest Proposals	Page 52
13.	Fund Balances for Specific Program Elements	Page 52
14.	Status of any Locally Adopted Wetland Banking Programs	Page 53
15.	Annual Written Communication to the Public	Page 53
16.	Annual Audited Financial Report and Audit Report	Page 53
17.	2016 Annual Budget	Page 53
18.	Appendix	Page 54

2015 Nine Mile Creek Board of Managers/Officers

Steve Kloiber, President
6528 Scandia Road
Edina, MN 55439
Appointing County: Hennepin
Term Expires: 9/29/16
Resident of Edina

Louise Segreto - Secretary
Appointing County: Hennepin
Term Expires: 09/29/16
Resident of Edina

Corrine D. Lynch, Manager
7400 Metro Blvd, Suite 450
Edina, MN 55439
(952) 893-6730
Appointing County: Hennepin
Term Expires: 9/29/17
Resident of Eden Prairie

Jodi Peterson – Vice-President
9508 Russell Avenue South
Bloomington, MN 55431
(651) 334-3857
Appointing County: Hennepin
Term Expires: 9/29/2017
Resident of Bloomington

Maressia Twele, Treasurer
PO Box 4209
Hopkins, MN 55343
Appointing County: Hennepin
Term Expires: 9/29/2015
Resident of Minnetonka

**Citizen Advisory Committee Members
2015**

Christine Peterson – **CAC Chair**
14333 Ferris Lane
Minnetonka, MN 55345
christine@christinepetersen.com

Peggy Kvam
13012 Jane Lane
Minnetonka, MN 55343
pk@peggykvam.com

Gary Evans
1407 South 7th Street
Hopkins, MN 55435
garyevensinc@yahoo.com

Bob Prince
13190 Beehive Court
Eden Prairie, MN 55346
robertfprince@comcast.net

Eric Gabrielson
6002 Timberglade Circle
Bloomington, MN 55438
egabrielson@landmarkenv.com

Jenifer Prince
13190 Beehive Court
Eden Prairie, MN 55346
princehive@comcast.net

John Helland
5720 McGuire Road
Edina, MN 55439
Johnhelland3@gmail.com

Craig Trenary
9629 Upton Avenue
Bloomington, MN 55431
craig@terraformadesign.com

Reet Kang
9066 Hyland Creek Rd
Bloomington, MN 55437
kangre63@gmail.com

Maressia Twele- **Board Liaison to CAC**
PO Box 4209
Hopkins, MN 55343

Ember Kapitan
12838 Gerard Dr
Eden Prairie, MN 55346
ember.kapitan@yahoo.com

Roger Willette
9901 Penn Ave S
Bloomington, MN 55431
rfwmaroco@aol.com

Technical Advisory Committee Members

Bryan Gruidl	City of Bloomington Water Resources Engineer	1700 West 98 th Street Bloomington, MN 55431 952-563-4557
Jim Gates	City of Bloomington Deputy Director of Public Works	1700 West 98 th Street Bloomington, MN 55431 952-563-8700
Leslie Stovring	City of Eden Prairie Environmental Coord.	8080 Mitchell Road Eden Prairie, MN 55434 952-949-8327
Ross Bintner	City of Edina Environmental Engineer	4801 West 50 th Street Edina, MN 55424 952-903-5713
Randy Anhorn	Hennepin County Environmental Services	Hennepin County Environmental Management Division 417 North 5 th Street Minneapolis, MN 55401
Nate Stanley	City of Hopkins Public Works Director	1010 South 1 st Street Hopkins, MN 55343 952-548-6350
Will Manchester	City of Minnetonka City Engineer	14600 Minnetonka Blvd. Minnetonka, MN 55343 952-939-8239
Tom Dietrich	City of Minnetonka Water Resources Coordinator	14600 Minnetonka Blvd. Minnetonka, MN 55343 952-939-8233
Kristin Asher	City of Richfield City Engineer	6700 Portland Avenue So. Richfield, MN 55423 612-861-9700

Judy Sventek	Metropolitan Council	Metropolitan Council Mears Park Center 230 East 5 th Street St. Paul, MN 55101
Kate Drewry	MN Department of Natural Resources Area Hydrologist	1200 Warner Road St. Paul, MN 55155
Chris Zadak	MN Pollution Control Agency	520 Lafayette Road St. Paul, MN 55155-4194
Nick Teideken	MN Department of Transportation	Metro District Water Resources Engineer 1500 W. County Rd B-2 Roseville, MN 55113
Steve Christopher	Board of Water & Soil Resources	520 Lafayette Road St. Paul, MN 55155

Employees and Consultants

The Nine Mile Creek Watershed District (District) employs three full-time employees. The District hired a full-time administrator in 2005. The administrator oversees daily operations of the District and represents the District on numerous state-wide committees. In 2009, the District hired a full-time education/outreach coordinator to develop and implement the District's education/outreach programs. In 2015, the District hired a full-time education/outreach specialist to assist with the implementation of the District's education and outreach programs. The District retains the services of an engineering consultant, a legal advisor, and an accountant to assist with District activities. The District contracts with another accounting firm to perform its annual financial audit.

District Administrator:

Kevin Bigalke
Nine Mile Creek Watershed District
12800 Gerard Drive
Eden Prairie, MN 55346
kbigalke@ninemilecreek.org
(952) 835-2078

Education/Outreach Coordinator:

Erica Sniegowski
Nine Mile Creek Watershed District
12800 Gerard Drive
Eden Prairie, MN 55346
esniegowski@ninemilecreek.org
(952) 358-2276

Engineering Advisor:

Robert C. Obermeyer
Barr Engineering Co.
4700 W. 77th St.
Minneapolis, MN 55435
952-832-2600
bobermeyer@barr.com

Education/Outreach Specialist:

Gael Zembal
Nine Mile Creek Watershed District
12800 Gerard Drive
Eden Prairie, MN 55346
gzembal@ninemilecreek.org
(952) 204-9691

Legal Advisor:

Louis Smith
Smith Partners, PLLP
400 2nd Avenue South, Ste. 1200
Minneapolis, MN 55401
612-344-1400
smith@smithpartners.com

Accountant:

Dan Cavanaugh
JMSC Futurity
5000 West 36th Street
#240
St. Louis Park, MN 55401
(952) 697-4522

Auditor:

HLB Tautges Redpath, Ltd.
4810 White Bear Parkway
White Bear Lake, MN 55110
(651) 426-7000

Introduction

Established in 1959, the Nine Mile Creek Watershed District was the state's first urban watershed district. Despite its name, Nine Mile Creek's main branch actually travels 15.5 miles from its headwaters to its confluence with the Minnesota River. The Creek's name came from the fact that it is nine (9) miles from Fort Snelling following an early cart path that is now Old Shakopee Road. The Creek winds through the southwestern suburbs of the Twin Cities, with a 50 square mile watershed consisting of a largely developed urban landscape, and encompassing portions of Bloomington, Edina, Minnetonka, Eden Prairie, Hopkins, and Richfield. Appointed by the Hennepin County Commissioners, each of the District's five Managers serve three-year terms.

Consistent with its statutory and regulatory obligations under Minn. Stat. § 103D.351 and Minnesota Rules § 8410.0150, the Board of Managers has prepared this Annual Report of the Nine Mile Creek Watershed District's financial status, its yearly activities and projects, its 2015 permitting and enforcement program, and its 2016 goals and objectives. The Managers invite comments and suggestions concerning this report. The 2015 Annual Report is available on the Nine Mile Creek Watershed District website – www.ninemilecreek.org. Copies are also available by contacting Kevin Bigalke, District Administrator, Nine Mile Creek Watershed District, Nine Mile Creek Discovery Point, 12800 Gerard Drive, Eden Prairie, MN 55346, (952) 835-2078.

Highlights and Accomplishments of 2015

2015 highlights include:

- Implementation of the District's Regulatory Program and Rules
- Implementation Plan Review
- Nine Mile Creek Discovery Point Facility Planning
- Continue UAA/Lake/Creek Studies
- Cost Share Grant Program
- Capital Project Implementation
- Implementation of Education & Outreach Programming

2015 was a busy and exciting year for the Nine Mile Creek Watershed District (District). The District finished the construction of the external features of its new facility in June 2015. The features completed include the construction of the parking lot and storm water management facilities.

The District continued the growth and implementation of its education and outreach programs, with ongoing focus on chloride reduction efforts as well as citizen engagement through the District's Citizen Advisory Committee, the Cost Share Grant Program and summer education series. In addition to these established education programs, the District developed and implemented programming at Discovery Point- its new office and educational facility. To assist with the growing programs, the District hired an education/outreach specialist in June.

Assessment of the 2015 Work Plan

In its 2014 Report, the District identified several broad goals and objectives for 2015, including:

1. Implementation of District Regulatory Program and Rules
2. Implementation Plan Review
3. Nine Mile Creek Discovery Point
4. UAA/Lake/Creek Studies
5. Cost Share Grant Program
6. Citizen Assisted Lake Monitoring Programs (CAMP)
7. Citizen Advisory Committee
8. Technical Advisory Committee
9. Education and Outreach Program Activities
10. Capital Project Implementation

In 2015, the District completed or made substantial progress toward all of these goals and objectives, as described below.

1. Implementation of Watershed District Regulatory Program & Rules

In March 2008, the Nine Mile Creek Watershed adopted new District rules. The rules have been well received and the District has not had any significant issues implementing the rules. In 2015, the NMCWD continued to review projects and permit applications under the rules adopted in 2008. 2015 was a busy year with the NMCWD reviewing and approving 132 permit applications. In October, 2015, the NMCWD Board of Managers amended its rule

requirements for single family homes in regard to the requirements for storm water volume retention and wetland buffers.

2. **Implementation Plan Review**

In 2015, the District continued a review of the implementation plan of its Water Management Plan. Staff identified programs that could be combined and a few new programs or projects that should be included in the implementation plan. The District decided not to do a plan amendment in 2015 because the District will begin the development of a new Watershed Management Plan in 2016.

3. **Nine Mile Creek Discovery Point**

The District Board and staff continued to identify potential programs and other uses for the donated property.

Following a public input process and several meetings, the District announced the name for its new facility, Nine Mile Creek Discovery Point.

With assistance from the marketing and branding consultant, the District also designed and selected a new logo and created a new tagline – “Understanding Our Urban Watershed.”



Photos by: Dana Wheelock of Wheelock Photography

The District also completed the construction of its parking lot and storm water management facilities. The storm water management includes multiple rain gardens, porous paver parking lot, a re-enforced turf overflow parking area, porous paver walk way, and a cistern.

4. **Use Attainability Analyses & Lake and Creek studies**

In 2015, the District entered the twelfth year of its Watershed Outlet Monitoring Program. Since 2004, the Nine Mile Creek has been on the Minnesota Pollution Control Agency's "Impaired Water" lists for turbidity, chloride and fish community Index of Biotic Integrity (IBI). In response to this listing, the District undertook an enhanced monitoring program, which includes additional water quality monitoring at three Watershed Outlet Monitoring Program (WOMP) stations on the creek, and ecological health monitoring of the Creek (see Figure 1 on page 39). The District began working with the MPCA in 2007 to get funding for TMDL studies for chlorides and fish IBI. The District initiated the TMDL studies for chlorides and fish IBI in 2008 and continued to develop the TMDL Reports for these impairments in 2009. In 2010, the Chloride TMDL Report was approved by the MPCA and the Environmental Protection Agency. The District continued its implementation and education efforts to reduce chlorides in 2015. The District is working with the Minnesota Pollution Control Agency on the possible reclassification or delisting of the fish IBI impairment.

The District continued to partner with the Metropolitan Council to monitor continuous turbidity at the Metropolitan Council WOMP station. Continuous turbidity monitoring began at this station in 2008 and continued in 2015.

5. **Cost Share Grant Program**

In 2015, the District solicited applications and awarded 16 cost share grants totaling \$115,398.25. Awarded grants by applicant type:

- 11 Residential
- 3 Nonprofit
- 2 City

The Cost Share Program has been a successful way for the District to have storm water runoff reduction projects, shoreline stabilization, and habitat restoration project installed throughout the watershed. The program also provides awareness of the District's mission and goals of protecting and restoring our water resources.

6. **Citizen-Assisted Monitoring Program (CAMP)**

The District partnered with the Metropolitan Council in 2015 to support the Citizen-Assisted Monitoring Program on five lakes in the District. Dedicated volunteers with a strong interest in the health of our local water bodies collect water quality data on several of our lakes bi-weekly from April through October. The lakes included in the citizen monitoring program were: Lake Minnetoga & Wing Lake in Minnetonka, Lower Penn Lake & Bush Lake in Bloomington, and Lake Cornelia in Edina.

7. **Citizen Advisory Committee**

In 2015 the CAC assisted staff on developing new education and outreach opportunities, including organizing and hosting the annual Summer Education Series. For the first time, the CAC also assisted in the review of residential Cost Share grants. The CAC review was used along with staff review to make grant funding recommendations to the Nine Mile Creek Watershed Board of Managers. The CAC meets quarterly at Nine Mile Creek Discovery Point (the District office). Meeting dates and times are posted on the District's webpage and are open to the public.

8. **Technical Advisory Committee**

In 2015, the District's Technical Advisory Committee did not meet.

9. **Education and Outreach Program Activities**

Communications

The District used its electronic newsletter as a main form of communication with residents and the public in 2015 in an effort to keep watershed constituents better informed about District projects and events, along with highlighting the natural resources of the District and providing clean water tips. The number of people subscribed to the newsletter grew in 2015. The District also joined Facebook in 2015 to connect with new audiences and facilitate information sharing.

A Request for Proposals was issued in 2015 for website design services. Windmill Design was selected to design a new District website optimized for user experience and using responsive design. While the new website is being designed, the current website is being updated with current events and information. The new website is slated to launch in 2016.

A 2016 Year at a Glance Calendar was printed in conjunction with our 2015 Annual Communication. The District printed 1,750 copies of the calendar/annual communication and distributed them throughout the District, along with mailing approximately 400 copies to District residents and elected officials. The annual communication was also posted on our website and included in our electronic newsletter.

Summer Education Series

The District hosted its ninth year of the Summer Education Series (SES). The SES is designed to encourage adults and children to get outside to explore and experience the natural resources in the District, in addition to providing District residents with hands-on learning opportunities about District resources and ways to protect and enhance the District's water and natural resources. In 2015, the SES included a shoreline restoration workshop held in partnership with Riley Purgatory Bluff Creek Watershed District, a family fishing event, a seminar given by local watershed resident and author Heather Holm, and the Grand Opening of our new office and educational facility, Nine Mile Creek Discovery Point. The seminar given by Heather Holm on Pollinators and Water Quality was particularly successful, attracting a crowd that filled our new Board room. The Grand Opening of Nine Mile Creek Discovery Point was another successful event, with activities for adults and families. Around 100 people came out on a rainy September day to tour the building, the storm water best practices implemented at Discovery Point, and enjoy the seminar and activities. The Summer Education Series is a good opportunity to partner with a number of local organizations including cities, the Minnesota Department of Natural Resources, non-profit organizations, and other watershed organizations.

NEMO (Nonpoint Education for Municipal Officials)

The District continued as a member of Northland NEMO in 2015. NEMO, NMCWD, and other local partners offered three programs in 2015 for elected and appointed city officials and other local leaders. The workshops offered in 2015 included: NEMO Workshop on the Water; Salt, Sand, and Snow: Winter Road and Parking Lot Management; and partnering on the Clean Water Summit. Workshops focused on the links between land use and water quality, how to address water quality in project planning, and water quantity challenges during redevelopment. Approximately 285 people participated across the three programs.

Trainings/Workshops

The District hosted one Winter Road Maintenance workshops targeted at public road authorities in 2015. We provided training for MNDOT, Hennepin County, and city plow drivers. The Winter Road Maintenance workshop addresses approaches that will result in reduced chloride loading to Nine Mile Creek. The District also hosted two Winter Parking Lot and Sidewalk Maintenance workshops, in partnership with the Riley Purgatory Bluff Creek Watershed District (RPBCWD). The workshops targeted commercial snow removal businesses, school districts, and park maintenance staff. Over 100 people were trained through these winter maintenance trainings sponsored by the District in 2015. The District did not hold any Winter Maintenance on School Grounds workshops in 2015, instead targeting school districts through the established Winter Parking Lot and Sidewalk Maintenance workshops. A workshop for residents on chloride reduction was held, in place of the December CAC meeting. The workshop's title was *10,000 Salty Lakes: A Seminar for Residents*. Greg Wilson from Barr Engineering Company presented on the Nine Mile Creek Chloride TMDL, and Nine Mile

Creek's Education and Outreach Manager presented on steps residents can take to reduce salt use.

In addition, the District partnered with RPBCWD to host a Turf grass Maintenance Training Workshop. This training offers information about best practices for managing turf grass (mowing, seeding, fertilizer and pesticide application, and more) with reduced environmental impacts. There were 27 attendees at the trainings.

Also in partnership with RPBCWD, a Turf grass Maintenance for Seasonal Employees class was developed. This 45 minute training targets the actions seasonal employees take that impact the quality of our surface waters, such as management of grass clippings and proper fertilizer application. One pilot class was held and a train the trainer class, so that the materials can be used by other watersheds and cities.

Other workshops the District held included a Metro Blooms Raingarden workshop for residents, and, working with Alliance for Sustainability, a Greening Your Congregation: Being Water Wise workshop.

Discovery Point Programming

With the opening of Discovery Point came the opportunity for many education and outreach opportunities. Interpretive signs were created and installed to allow visitors to understand the storm water management practices onsite. A floor map was installed in the lobby of the building showing the entirety of the watershed, and allowing visitors to find where they live, work, or play in the District. Two backpack kits were also created for visitors to checkout to explore the five acre grounds of Discovery Point. One focuses on discovering bugs, and the other on birds.

Master Water Stewards

The District participated in the expansion of the Master Water Stewards program in 2015, and recruited a cohort of stewards to begin the training program in 2016.

Shallow Lakes Forum

In 2015 the NMCWD, in conjunction with several local partners, planned and implemented a Shallow Lakes Forum targeted at a residential audience. The forum focused on the role of plants in shallow lake management. The evaluations from the event were positive, with over 60 people attending. Feedback from the evaluations will be used to plan a 2016 event.

Outreach

The Nine Mile Creek Watershed District staff and managers attended and participated in several Environmental Fairs hosted by cities in 2015. The District had its display at the fairs and distributed information about the District, its events, chloride reduction, and the District's cost share grant program. The fairs provided an opportunity for the District to meet with residents of the District and discuss their concerns about the water quality and overall health of the Watershed.

The District developed a partnership with SEA LIFE Minnesota and organized a storm drain marking and trash clean up event at West Bush Lake Park in partnership with the City of Bloomington. Many bags of trash were picked up and 43 storm drains were marked in three hours.

As part of its education and outreach program in 2015, District staff gave presentations to multiple groups, organizations, and schools. Presentation topics included the District's efforts to improve and protect the water resources of the Nine Mile Creek Watershed and alternative landscaping options to protect water quality. The District also led a fieldtrip for students at

Bethany Academy in Bloomington. The students sampled for macroinvertebrates in Nine Mile Creek and did water quality testing with District staff.

Logo and New Facility Naming

The District's new logo and tagline (Understanding Our Urban Watershed) was unveiled in 2015. The name of the District's office and educational facility was also selected- Nine Mile Creek Discovery Point.

10. Capital Project Implementation

Normandale Lake Water Quality Improvement Project

The District accepted a petition from the City of Bloomington to develop a water quality improvement project to address curly leaf pondweed and internal phosphorus loading in Normandale Lake and to identify watershed best management practices to reduce nutrient loading into the lake. The District started a feasibility report in 2009 and submitted options for the project to the U.S. Army Corps of Engineers for their preliminary review. Water quality monitoring in 2009 revealed an improvement in water quality. The District delayed implementation of the project to conduct additional water quality monitoring in 2010 and 2011. The District continued to identify potential project to address the water quality of the Normandale Lake project in 2015.

Edina Creek Restoration Project

The District continued to work throughout 2015 on the Edina Creek Restoration Project Engineer's Report. District staff worked with effected property owners to inform them about the project and to begin negotiations on necessary easements to complete the project. The Board of Managers ordered the project in December 2015. The District completed field assessments of

the condition of Nine Mile Creek through Edina and the final designs for the bank stabilization project.

Projected 2016 Work Plan

Implementation of Watershed District Regulatory Program and Rules

The District will continue implementing its rules and regulatory program in 2016. The District will begin reviewing its rules in 2016 while the District updates its Watershed Management Plan.

Watershed Management Plan Update

The District will finalize its review of the activities implemented to date and the future projects and activities identified in the Implementation Plan of the District's 2007 Water Management Plan. The District will evaluate the effectiveness and success of the projects completed. The District will determine if the future projects and activities identified in the District's Implementation Plan are still relevant and still a priority. The District will also begin the planning process for its 4th generation Water Management Plan which needs to be completed and adopted by March, 2017. The Watershed Management Plan update process will include a public input meeting, monthly meetings with the District's Technical Advisory Committee, and regular meetings of the Board of Managers to identify and prioritize issues, goals, and implementation activities.

Nine Mile Creek Discovery Point Management and Site Restoration Planning

In 2016, the District will develop a landscape restoration plan for the 5.3 acre property. Once completed, the District will begin implementation of the restoration plan which includes management of invasive species, terrestrial habitat restoration, and ongoing management of the

storm water management features. The District will also continue to develop education and outreach programming for the new facility.

Continue UAA /Lake /Creek Studies

In 2016, the District will continue to monitor Nine Mile Creek with the WOMP stations. The District will continue use of the continuous turbidity monitoring transducers at each of its WOMP stations. The District will also continue its lake monitoring program, collecting data on Normandale Lake, Southwest Anderson Lake, Penn Lake, & North and South Cornelia Lake.

The District will also continue its stream monitoring program collecting water quality data and ecological data.

Cost Share Grant Program

The District will solicit applications for the tenth year of its Cost Share Grant Program in 2016. The District makes over \$100,000 available to residents, associations, non-profits, businesses, and local governments in the District for this grant program.

Citizen-Assisted Monitoring Program (CAMP)

In 2016, the District will continue to support citizen monitoring through the Metropolitan Council's Citizen-Assisted Monitoring Program (CAMP). Trained volunteer monitoring teams will collect water quality samples from District lakes enrolled in the program.

Citizen Advisory Committee

The Nine Mile Creek Watershed District will continue to support the role of the Citizen Advisory Committee (CAC). New members will be recruited to replace members that chose not to be re-appointed in 2016. The CAC will assist with education and outreach planning and events, in addition to reviewing residential Cost Share Grant applications, and reviewing photo contest picture submissions.

Technical Advisory Committee

In 2016, the District will work extensively with the Technical Advisory Committee during the planning and development of for the District's 4th Generation Watershed Management Plan.

Education and Outreach Events and Activities

In 2016, the District will host a number of workshops and events targeting key audiences including local leaders, professionals, and residents.

Local Leaders

NEMO workshops will be developed and offered targeting elected and appointed officials and other local leaders. These programs typically focus on the connection between land use and water quality and the influence that local leaders can have on planning, policy and practices.

Professionals

The District will host workshops targeting winter maintenance professionals aimed at reducing the amount of road salt applied in the District. This is to address the chloride TMDL on Nine Mile Creek.

Residents

The District will offer a number of opportunities to engage residents (adults, families, K12 students, and teachers) in learning about and connecting with District natural resources, storm water management, habitat restoration, and other topics related to the mission of the District and guided by the District's Ten Year Water Management Plan.

Planned events include collaborating with the Citizen Advisory Committee to host the Summer Education Series, developing a homeowner's workshop series, and working with local

partners to develop and host a half-day Urban Waters Forum. The District will continue to partner with cities to have displays at fairs and give presentations for groups, such as schools, upon request.

The development of programming for Discovery Point will continue, including hosting educational events at the facility and looking for new ways to engage visitors.

The District will continue to incorporate educational aspects into Capital Improvement Projects. These efforts will include public information meetings, informational flyer or brochures and signage of new project sites describing project goals and activities.

Communications

The District's new website will launch in 2016, which will improve access to public information and education materials. Water quality information will be added as part of the website redesign, along with project reports and photos. The District will continue using its electronic newsletter to communicate with the public and will strengthen its social media presence.

Capital Project Implementation

Normandale Lake Water Quality Improvement Project

The District accepted a petition from the City of Bloomington to develop a water quality improvement project to address curly leaf pondweed and internal phosphorus loading in Normandale Lake and to identify watershed best management practices to reduce nutrient loading into the lake. In 2009, water quality monitoring results indicated an improvement in water quality. In 2016, the District will continue to work with the City of Bloomington and the U.S. Army Corps of Engineers to determine the best approach to deal with the curly leaf

pondweed and water quality issues, develop a communication strategy for the project and meet with State and Federal agencies on the project.

Edina Creek Restoration Project

In 2016, the District will begin implementation of the Edina Nine Mile Creek Restoration Project. District staff will finalize the necessary easements on private property to complete the project. The District will solicit bids to construct the project and construction is anticipated to begin in the fall of 2016.

Permitting Activity

Summary of Permits Issued

In 2008, the Nine Mile Creek Watershed District adopted and began implementing new rules. The Board of Managers, with the assistance from the District Engineer and District Administrator, reviews permit applications and imposes various conditions for approval as appropriate. In 2015, the District reviewed and granted 132 permits for sediment & erosion control, storm water management, wetland management, and shoreline projects. The District issued permits in the following cities: Bloomington – 45; Edina – 62; Eden Prairie – 9; Hopkins – 11; Minnetonka – 4; Richfield - 1.

The District subjects projects to a preliminary review so that it can issue permits simultaneously, or shortly after, municipal permits.

Enforcement Activity

The District's engineer regularly inspects permitted work to ensure compliance with permit conditions. If violations are found, the District attorney typically will notify permittees and seek voluntary abatement or correction before resorting to formal legal action. In 2015, no enforcement actions were necessary.

Summary of 2015 Water Quality Monitoring Programs

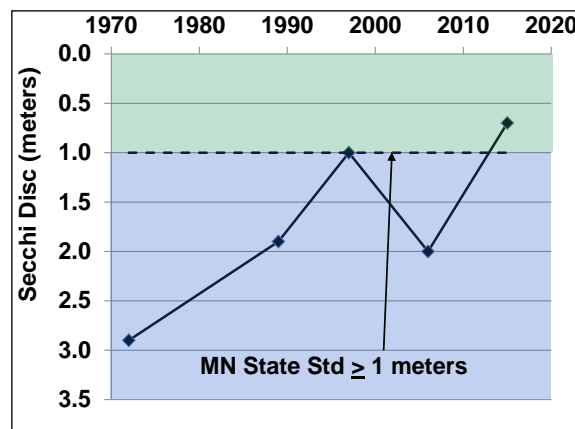
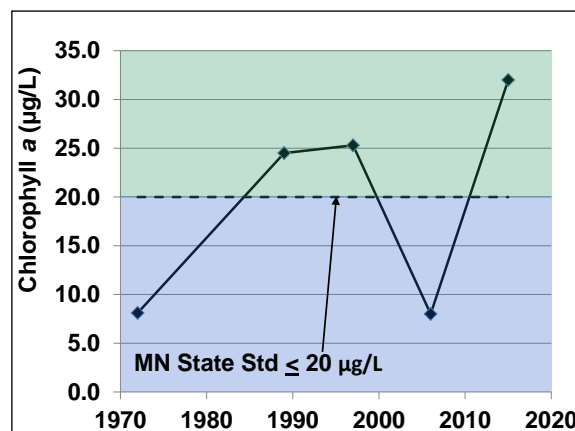
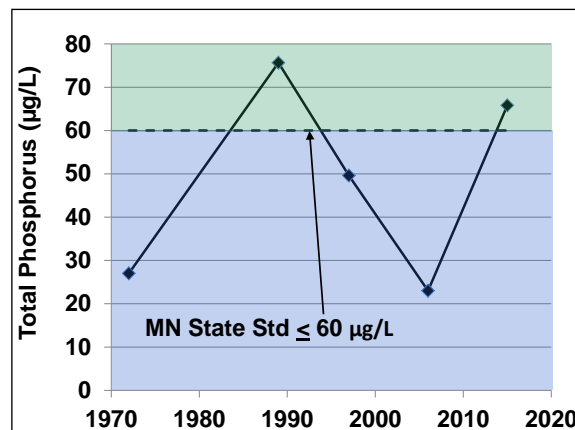
The 2015 Nine Mile Creek Watershed District (NMCWD) water quality monitoring programs included monitoring four lakes (Birch Island, Bryant, Cornelia, and Edina) and Nine Mile Creek.

Nine Mile Lake Monitoring

The 2015 NMCWD lake water quality monitoring program included monitoring four lakes (Birch Island, Bryant, Cornelia, and Edina). Each lake was monitored on six occasions for selected parameters including: total phosphorus, soluble reactive phosphorus (ortho phosphorus), pH, chlorophyll *a*, chloride, dissolved oxygen, temperature, specific conductance, turbidity, oxidation reduction potential (ORP), phytoplankton, and zooplankton. Aquatic plant (macrophyte) surveys were performed during June and August. Results of the 2015 lake monitoring program follow.

Birch Island Lake

Birch Island Lake is a small lake with a surface area of 25 acres, a maximum depth of 14 feet, and a mean depth of 3.4 feet at a normal surface elevation of 880.6 M.S.L. The estimated natural overflow elevation is 898.0 M.S.L. The lake is shallow enough for aquatic plants to grow over

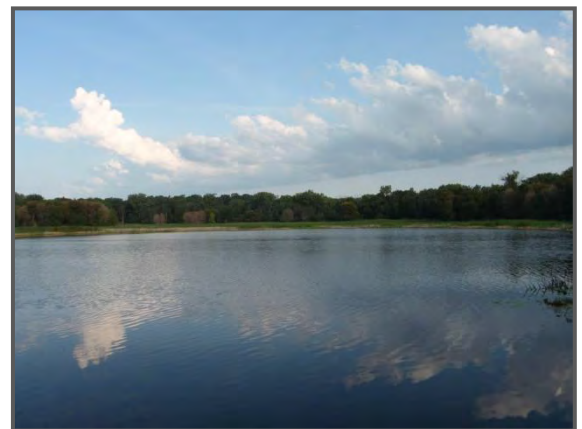


Birch Island Lake average summer total phosphorus (top), chlorophyll *a* (middle), and Secchi disc (bottom) values during 1972-2015.

the entire lake bed. In addition, it is also a polymictic lake (mixing many times per year).

In 2015, water quality was poor. The lake's average summer total phosphorus and chlorophyll *a* concentrations were 66 µg/L and 32 µg/L, respectively. The lake's average summer Secchi disc transparency was 0.7 meters. The lake's average summer total phosphorus and chlorophyll *a* concentrations and Secchi disc transparency failed to meet the Minnesota State Water Quality Standards for shallow lakes in the North Central Hardwood Forest Ecoregion published in Minnesota Rules 7050 (Minn. R. Ch. 7050.0222 Subp. 4) which are ≤ 60 µg/L, ≤ 20 µg/L, and ≥ 1 meter, respectively.

In 2015, Birch Island Lake observed the poorest water quality to date - highest average summer chlorophyll *a* concentration and lowest Secchi disc transparency. In previous years, average summer chlorophyll *a* concentrations ranged from 8 to 25 µg/L, compared with 32 µg/L in 2015. Secchi disc transparencies have ranged from 1.0 to 2.9 meters compared with 0.7 meters in 2015. The 2015 average summer total phosphorus concentration of 66 µg/L was within the historical range of 23 to 76 µg/L, but was the second highest to date.



Birch Island Lake, pictured above, observed poor water quality in 2015.

A total of 12 aquatic plant species, including a healthy mixture of submerged, floating leaf, and emergent species were observed. Submerged aquatic plants were observed to a relative depth of 7 feet. Plant species observed in 2015 were consistent with species observed in previous years.



As pictured above, most of the lake's cattails in 2015 were dead cattails from a 2014 die-off that was preceded by a rapid rise in water levels.

Typically the plant community in the western two thirds of the lake is primarily comprised of cattails (*Typha sp.*) and other wetland vegetation.

However, heavy rainfall during June of 2014 raised the water level in the lake by 6 feet (i.e., from

877.06 in May to 883.82 M.S.L in June), causing cattails to die off. In 2015, some sporadic new

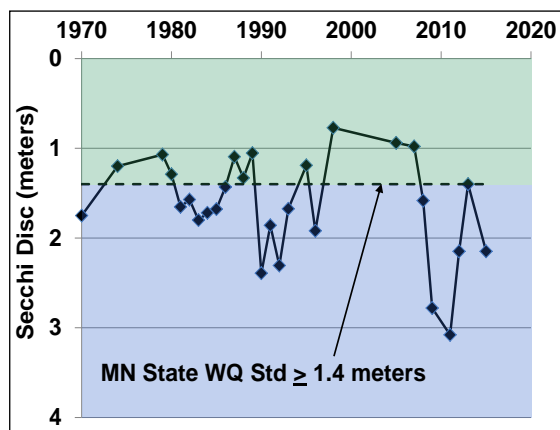
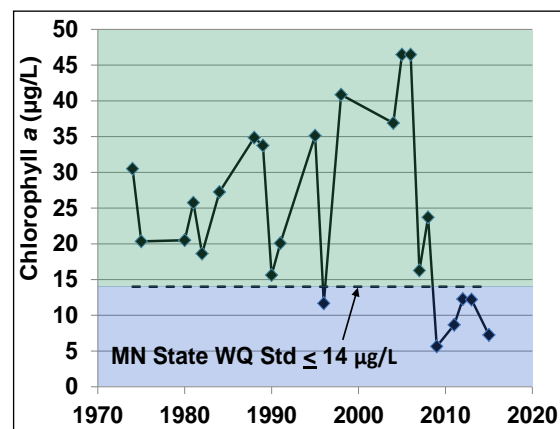
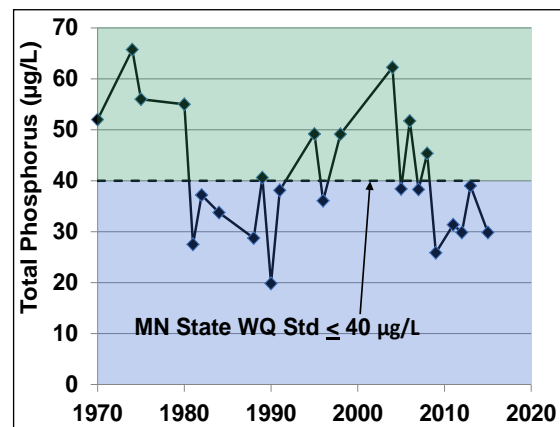
growths of cattails were observed, but most of the lake's cattails were remains from the 2014 die-off.

The 2015 plant community included one invasive species, purple loosestrife (*Lythrum salicaria*), observed along the east side during June, but not observed during August.

Bryant Lake

Bryant Lake has a surface area of approximately 170 acres, a maximum depth of approximately 45 feet, and a mean depth of 15 feet. The surface outlet of Bryant Lake is the South Fork of Nine Mile Creek, located in the southeastern corner. Outflow is controlled by two 35-foot long 42-inch span corrugated metal arch culverts beneath Willow Creek Road. The surface outlet control level of the lake is Elevation 850.5 M.S.L.

In 2015, Bryant Lake water quality was good. The lake's average summer total phosphorus and chlorophyll *a* concentrations were 14 µg/L and 7.3 µg/L, respectively. The lake's average summer Secchi disc transparency was 2.6 meters. The lake's average summer total phosphorus and chlorophyll *a* concentrations and Secchi disc transparency met the Minnesota State Water Quality Standards for lakes in the North Central Hardwood Forest Ecoregion published in Minnesota Rules 7050 (Minn. R. Ch. 7050.0222 Subp. 4) which are ≤ 40 µg/L, ≤ 14 µg/L, and ≥ 1.4 meters, respectively.



Bryant Lake average summer total phosphorus (top), chlorophyll *a* (middle), and Secchi disc (bottom) values during 1970-2015.

An alum treatment during late fall of 2008 substantially improved the lake's water quality.

- **28 percent decline in total phosphorus** - The lake's pre-treatment average summer total phosphorus concentration (i.e., average of 1970-2008) was 43 µg/L compared with a post-treatment concentration (i.e., average of 2009-2015) of 31 µg/L.
- **68 percent decline in chlorophyll *a*** - The lake's pre-treatment average summer chlorophyll *a* concentration (i.e., average of 1974-2008) was 28 µg/L compared with a post-treatment concentration (i.e., average of 2009-2015) of 9 µg/L.
- **53 percent increase in Secchi disc transparency** - The lake's pre-treatment average summer Secchi disc transparency (i.e., average of 1970-2008) was 1.5 meters compared with a post-treatment transparency (i.e., average of 2009-2015) of 2.3 meters.

In 2015, a total of 18 aquatic plant species, including a healthy mixture of submerged, floating leaf, and emergent species were observed in Bryant Lake. The plant community included three invasive species – Eurasian watermilfoil, curly-leaf pondweed, and purple loosestrife. Eurasian watermilfoil has been documented in the lake since 1995 and dense problematic growths have occurred since 1998. In 2015, Eurasian watermilfoil was

present throughout the littoral area and dense growths were observed in the 2-to 6-foot depth range. Mechanical harvesting of Eurasian watermilfoil was conducted by Three Rivers Park



The water quality of Bryant Lake, pictured above, improved substantially following alum treatment in late fall of 2008.

District in June of 2015. In August, Eurasian watermilfoil was present, but was below the surface.

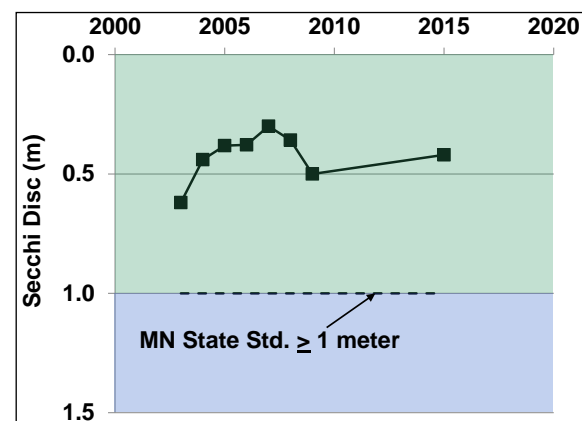
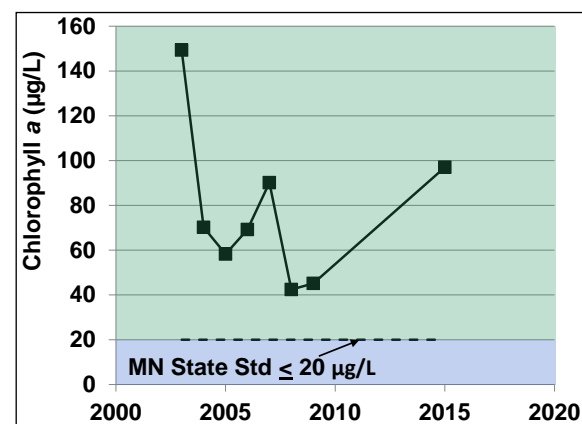
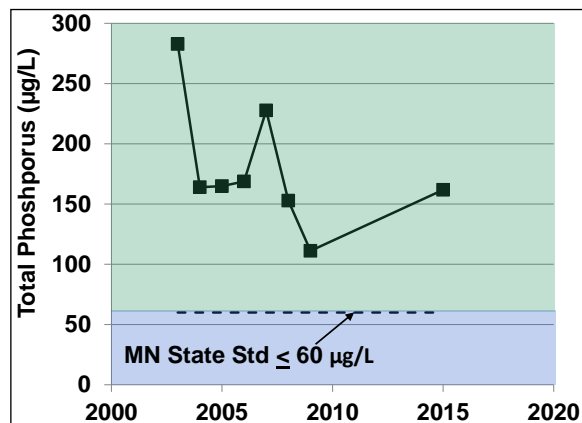
Curly-leaf pondweed has been documented in Bryant Lake since 1998. Although not problematic in 1998, dense problematic growths of curly-leaf pondweed were observed throughout the 2- to 6-foot depth range of the lake during June of 2015. Because curly-leaf pondweed dies off in late June and begins a new growing season in fall, curly-leaf pondweed was not present in August. In 2015, purple loosestrife was observed at the north and south ends of the lake during June and August.



In 2015, dense growths of Eurasian watermilfoil and curly-leaf pondweed were observed in Bryant Lake, pictured above.

Lake Cornelia

Lake Cornelia is located in the north central portion of Edina. The lake is a natural marsh area. Lake Cornelia is comprised of North (North Cornelia) and South (South Cornelia) basins, connected by a 12-inch culvert under 66th Street (with an invert elevation of 859.0 feet MSL) on the south side of North Cornelia, and a secondary 12-inch pipe located on the southeast side of North Cornelia (with an invert elevation of 860.22 feet MSL). Ultimately the water levels in North Cornelia are controlled by the outlet structure at South Cornelia. The outflow from South Cornelia discharges directly over a 14-foot long weir structure with a control elevation of 859.1 feet MSL. Discharges from South Cornelia are conveyed to Lake Edina through an extensive storm sewer network. Due to limited stormsewer capacity downstream of Lake Cornelia, stormwater runoff backs-up into the lake during large storm events which provides temporary storage of the flood volumes. Lake Cornelia is a Level 4 classification level, which is generally intended for runoff management and has no



North Cornelia average summer total phosphorus (top), chlorophyll *a* (middle), and Secchi disc (bottom) values during 2003-2015.

significant recreational value. However, the Minnesota Department of Natural Resources stocks the lake annually with approximately 350 bluegills for the Kids Fishing Program and is therefore used for recreation.

North Cornelia

North Cornelia has a water surface of approximately 19 acres, a maximum depth of 5 feet, and a mean depth of approximately 3 feet at a normal water surface elevation of 859.1. The water level in the lake is controlled mainly by weather conditions (snowmelt, rainfall, and evaporation), by the outlet capacity of the pipe on North Cornelia, and by the elevation of the outlet structure located on South Cornelia. The lake is shallow enough for aquatic plants to grow over the entire lake bed. In addition, it is also a polymictic lake (mixing many times per year).

In 2015, North Cornelia water quality was very poor. The lake's average summer total phosphorus and chlorophyll *a* concentrations were 162 µg/L and 97 µg/L, respectively. The lake's average summer Secchi disc transparency was 0.4 meters. The lake's average summer total phosphorus and chlorophyll *a* concentrations and Secchi disc transparency failed to meet the Minnesota State Water Quality Standards for shallow lakes in the North Central Hardwood Forest Ecoregion published in Minnesota Rules 7050 (Minn. R. Ch. 7050.0222 Subp. 4) which are ≤ 60 µg/L, ≤ 20 µg/L, and ≥ 1 meter, respectively.



In 2015, water quality was very poor in North Cornelia, pictured above.

The very poor water quality observed in North Cornelia during 2015 was consistent with previous data. During 2003 through 2009, the lake's average summer total phosphorus concentrations ranged from 111 µg/L to 283 µg/L, average summer chlorophyll *a* concentrations ranged from 42 µg/L to 149 µg/L, and average summer Secchi disc transparency ranged from 0.3 to 0.6 meters.

In 2015, a total of 9 aquatic plant species, including a healthy mixture of submerged and emergent species were observed. The plant community included two invasive species – purple loosestrife and curly-leaf pondweed. Purple loosestrife, also observed in 2008, was present along the northwest shoreline in June of 2015. In August of 2015, purple loosestrife was again present along the northwest shoreline and was also observed along the southeast shoreline.



In 2015, curly-leaf pondweed in North Cornelia, pictured above, was dense and problematic along the southern, eastern, and northern shore.

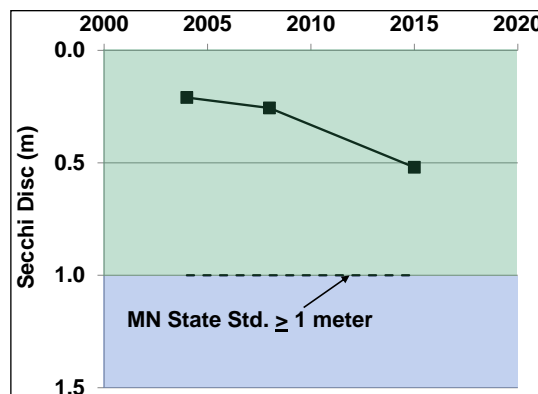
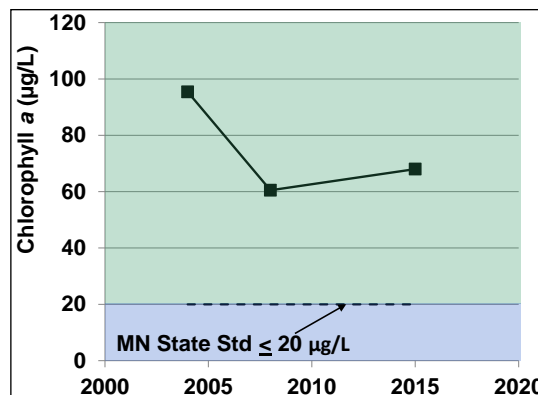
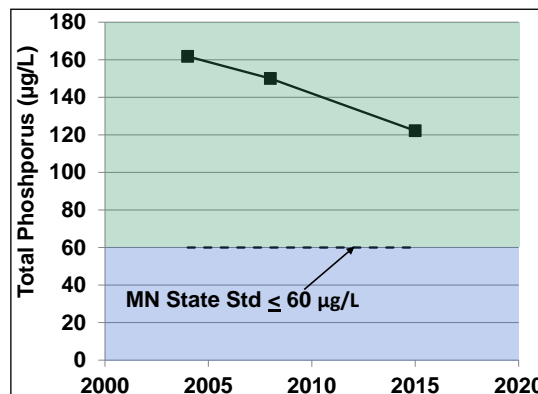
Curly-leaf pondweed was not observed North Cornelia during 2004 and was present in a few small patches in 2008. In 2015, curly-leaf pondweed was present throughout the lake and was problematic. In June, density was light in the center of the lake, but was problematic along the northern, eastern, and southern shore. Curly-leaf pondweed was found throughout the lake in August. Although less dense than in June, a moderate to heavy density

was observed near shore and a light density at the lake's center in August.

South Cornelia

South Cornelia has a water surface of approximately 31 acres, a maximum depth of 7 feet, and a mean depth of 4.2 feet at a normal surface elevation of 859.1. The water level in the lake is controlled by the elevation of the weir structure at the south side of the lake. The lake is shallow enough for aquatic plants to grow over the entire lake bed. In addition, it is also a polymictic lake (mixing many times per year).

In 2015, South Cornelia water quality was very poor. The lake's average summer total phosphorus and chlorophyll *a* concentrations were 122 µg/L and 68 µg/L, respectively. The lake's average summer Secchi disc transparency was 0.5 meters. The lake's average summer total phosphorus and chlorophyll *a* concentrations and Secchi disc transparency failed to meet the Minnesota State Water Quality Standards for shallow lakes in the North Central Hardwood Forest Ecoregion published in Minnesota Rules 7050 (Minn. R. Ch. 7050.0222 Subp. 4) which are ≤60 µg/L, ≤20 µg/L, and ≥1 meter, respectively.



South Cornelia average summer total phosphorus (top), chlorophyll *a* (middle), and Secchi disc (bottom) values during 2004-2015.

Although very poor water quality was observed in 2015, water quality was better than previous years - the total phosphorus concentration was lower (better) and the Secchi disc transparency was higher (better). Previous average summer total phosphorus concentrations ranged from 150 µg/L to 162 µg/L compared with 122 µg/L in 2015. Previous average summer Secchi disc transparencies ranged from 0.2 to 0.3 meters compared with 0.5 meters in 2015. The 2015 chlorophyll *a* concentration (68 µg/L) was within the range of previous years (61 µg/L to 95 µg/L).

In 2015, a total of 15 aquatic plant species, including a healthy mixture of submergent and emergent species were observed. The plant community included two invasive species – purple loosestrife and curly-leaf pondweed. Purple loosestrife, observed in the lake since 2004, was found sporadically along the entire shore during 2015. Curly-leaf pondweed was



In 2015, curly-leaf pondweed was problematic throughout South Cornelia, pictured above.



In 2015, water quality in South Cornelia, pictured above, was very poor, but better than previous years.

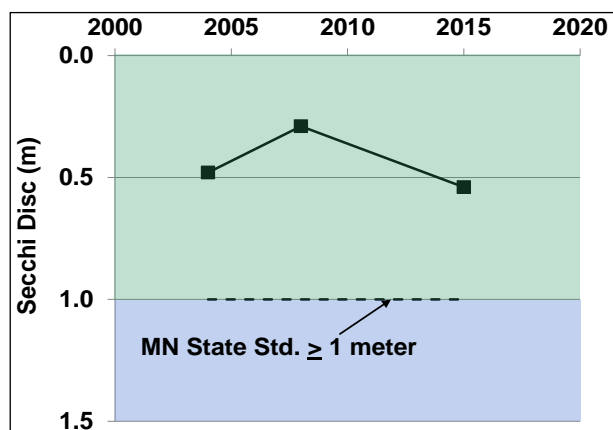
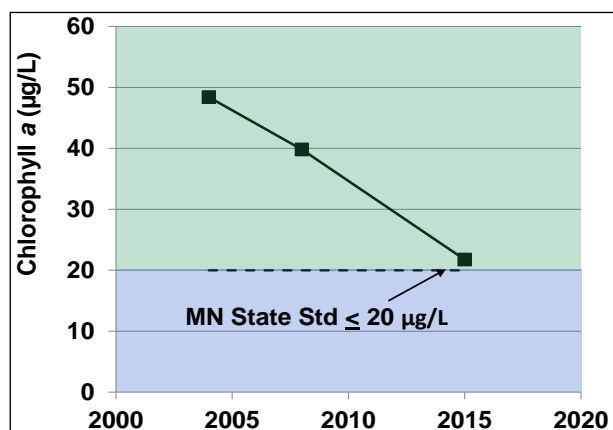
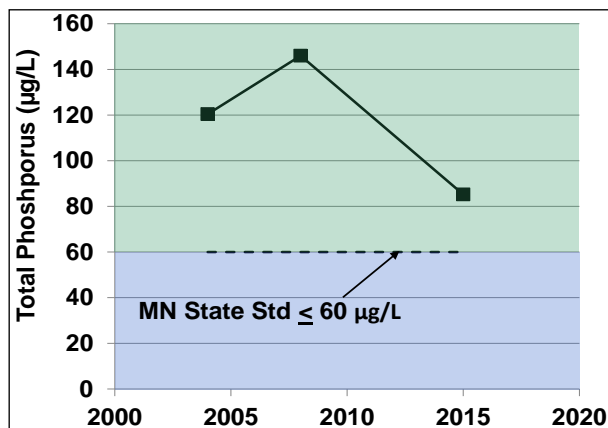
not observed in South Cornelia in 2004, but a small patch was observed in 2008. In 2015, curly-leaf pondweed was observed throughout the lake in both June and August. Densities were problematic throughout the lake in June. In August, curly-leaf pondweed was significantly less dense and the plants were dying off.

Lake Edina

Lake Edina is a small shallow lake with a surface area of 24 acres and a maximum depth of 1.2 meters.

The lake is shallow enough for aquatic plants to grow over the entire lake bed. In addition, it is also a polymictic lake (mixing many times per year).

In 2015, water quality was poor. The lake's average summer total phosphorus and chlorophyll *a* concentrations were 85 µg/L and 22 µg/L, respectively. The lake's average summer Secchi disc transparency was 0.5 meters. The lake's average summer total phosphorus and chlorophyll *a* concentrations and Secchi disc transparency failed to meet the Minnesota State Water Quality Standards for shallow lakes in the North Central Hardwood Forest Ecoregion published in Minnesota Rules 7050 (Minn. R. Ch. 7050.0222 Subp. 4) which are ≤ 60 µg/L, ≤ 20 µg/L, and ≥ 1 meter, respectively. Although very poor water quality was observed in 2015, water quality was better than previous years - the total phosphorus and chlorophyll concentrations were lower (better) and the Secchi disc transparency was higher (better) or the same. Previous average summer total phosphorus concentrations



Lake Edina average summer total phosphorus (top) chlorophyll *a* (middle) and Secchi disc (bottom) values during 2004-2015.

ranged from 120 µg/L to 146 µg/L compared with 85 µg/L in 2015. Previous average summer chlorophyll *a* concentrations ranged from 40 µg/L to 48 µg/L compared with 22 µg/L in 2015. Previous average summer Secchi disc transparencies ranged from 0.3 to 0.5 meters compared with 0.5 meters in 2015.



In 2015, the water quality of Lake Edina, pictured above and below, was better than previous years.



In 2015, a total of 10 aquatic plant species, including a healthy mixture of submerged, floating leaf, and emergent species were observed. Plants were found throughout the entire lake during 2015. The Lake Edina plant community is stable. Plant species observed in 2015 were generally consistent with species observed previously during 2012. However, two additional plant species were present in 2015 – water stargrass and water smartweed. Both are good plants that provide value to the aquatic community.

In 2015, the plant community included three invasive species – purple loosestrife, yellow iris, and curly-leaf pondweed. All three species were observed in Lake Edina previously. During both 2012 and 2015, purple loosestrife and yellow

iris were found along the lake perimeter, but were not problematic. Curlyleaf pondweed was found at one location in the lake at a light density during both 2012 and 2015 and was not problematic.

Nine Mile Creek

Because the primary use of Nine Mile Creek is ecological – a place for fish and aquatic life to live – the focus of the Nine Mile Creek monitoring program is evaluation of the stream’s fish and aquatic life community as well as the ecosystem components essential for the survival of fish and aquatic life. The 2015 Nine Mile Creek monitoring program included:

- Annual monitoring of the fish community during summer.
- Annual macroinvertebrate monitoring during October.
- Annual habitat monitoring during summer (i.e., stream substrate type, depth of fine sediment, percent embeddedness, and length of eroded streambank).
- March through October monthly measurements of specific conductance, dissolved oxygen, pH, temperature, turbidity, and flow.



The primary use of Nine Mile Creek is a place for fish and aquatic life to live, such as the shorthead redhorse fish swimming in the Main Stem of Nine Mile Creek at Station ECU-7C, pictured above.

Monitoring locations are shown in Figure 1.

Data collected during 2015 were evaluated to determine whether:

- Specific conductance, dissolved oxygen, pH, temperature, and turbidity levels met Minnesota Pollution Control Agency (MPCA) standards and were consistent with historical values.
- 2015 fish and aquatic life communities were consistent with the stream's ecological use determined from assessments completed in 1997 and 2003.
- The 2015 fish community met the MPCA Fish IBI standard for Nine Mile Creek.
- 2015 macroinvertebrate communities, assessed by biological indices, were consistent with historical data.

Evaluation results follow.

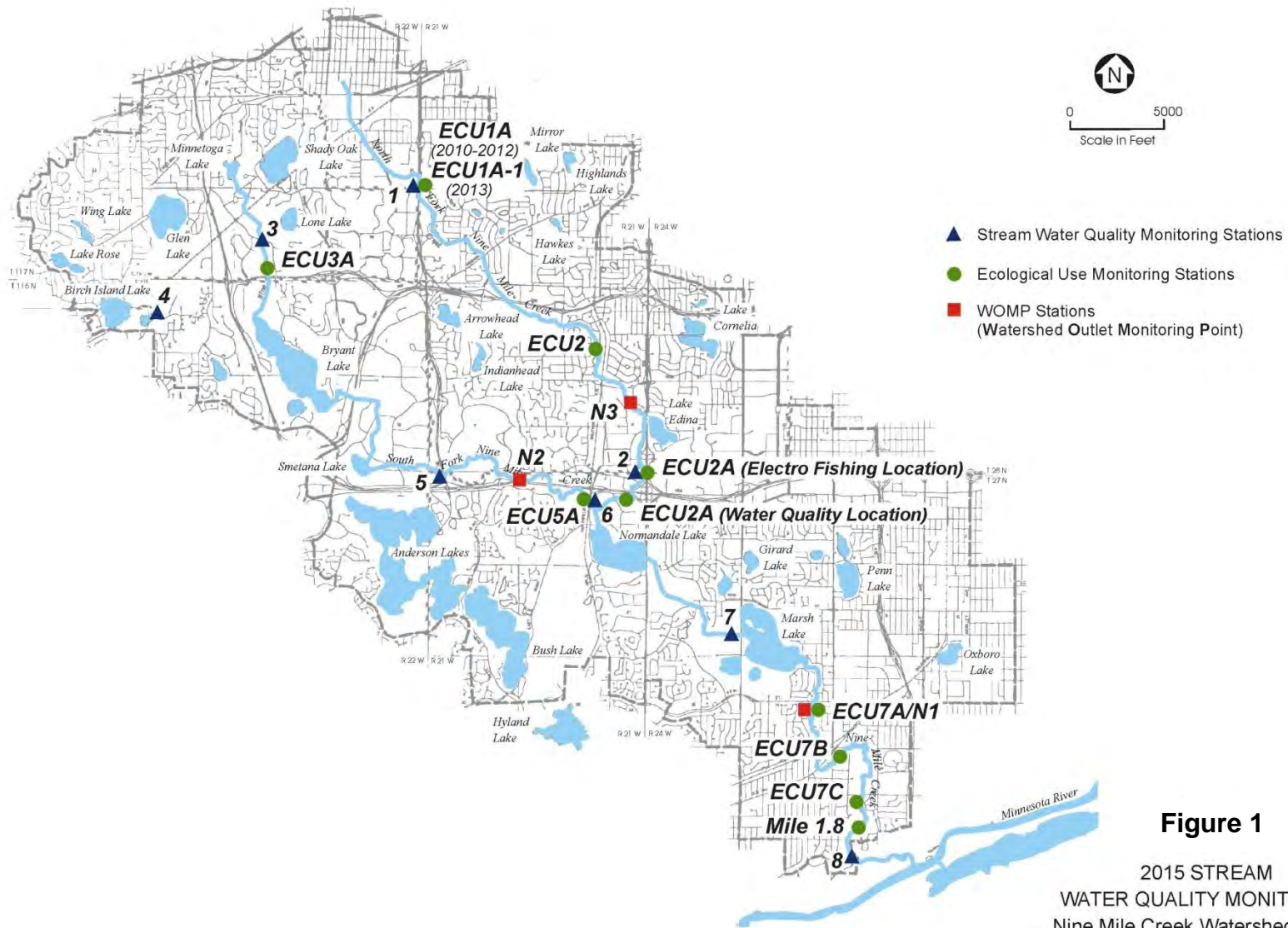


Figure 1

2015 STREAM
WATER QUALITY MONITORING
Nine Mile Creek Watershed District
(Updated 2016)

2015 Nine Mile Creek specific conductance, dissolved oxygen, pH, temperature, and turbidity levels generally met MPCA criteria. Overall, 85 percent of 2015 values were within MPCA criteria. The South Fork met MPCA criteria most frequently (91 percent) followed by the Main Stem (89 percent) and North Fork (79 percent).

In 2015, the specific conductance criterion was met less frequently than other MPCA criteria.

All temperature, pH, and turbidity measurements, 93 percent of dissolved oxygen measurements, and 50 percent of specific conductance measurements met MPCA criteria. As in previous years, the North Fork locations met the MPCA standard for specific conductance less frequently than other locations. Twenty one percent of North Fork measurements met the MPCA specific conductance standard in 2015 compared with 67 percent of Main Stem and 75 percent of South Fork measurements.

The North Fork of Nine Mile Creek met the dissolved oxygen standard more frequently than the Main Stem and South Fork locations in 2015—97 percent of North Fork dissolved oxygen



In 2015, North Fork locations, such as ECU-1A pictured above and ECU-2 pictured below, met the MPCA standard for specific conductance less frequently than South Fork and Main Stem locations on Nine Mile Creek.



measurements met the MPCA standard compared with 88 percent of Main Stem and South Fork measurements.

Water quality data collected from Nine Mile Creek in 2015 indicate the stream's water quality generally remained stable and most values (99 percent) were within the range of historical values.

The 2015 fish data indicate Nine Mile Creek is currently supporting the ecological use determined from assessments completed during 1997 and 2003. Ecological use is a term used to describe the fish community that the stream has the capacity to support per the stream's flow, water quality, and habitat characteristics. The data further indicate the current fish community is generally similar to or better than the stream's average long-term fish community. An exception occurred at ECU-7A/N1,

located downstream from Marsh Lake, where the current fish community is poorer than the stream's long term fish community. The fish community at ECU-7A/N1 fluctuates widely from year to year. The 2015 fish community at this location was similar to the 2014 fish

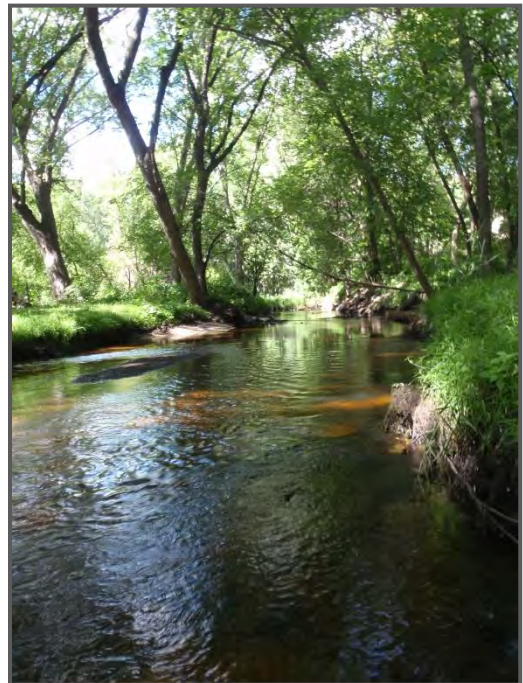


In 2015, three locations met the MPCA biological standard for fish, including the most downstream North Fork location, ECU-2A, pictured above, and the most downstream Main Stem location, ECU-7C, pictured below.

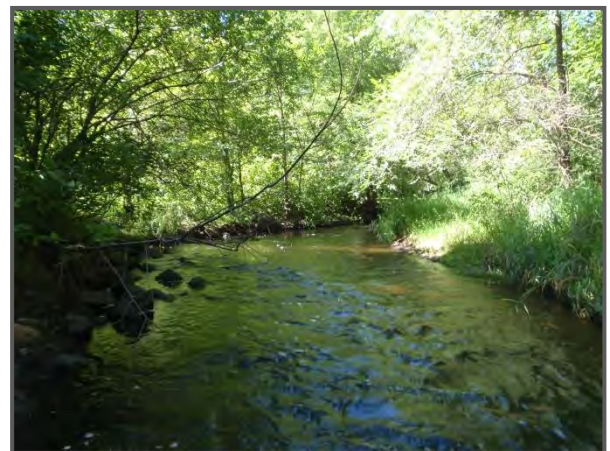


community (tolerant forage fish), which is also the stream's expected fish community per the stream's flow, water quality, and habitat characteristics. However, over the past 40 years, the average fish community at this location has been better than expected (intolerant forage fish), and hence, better than the 2015 fish community. The data indicate the stream has generally remained stable and confirm that the ecological use designations for Nine Mile Creek are appropriate. Fish collected from Nine Mile Creek in 2015 were assessed to determine whether the stream met the MPCA biological standard for fish. In Minnesota, biological impairment for fish in streams located within the Minnesota River Basin, including Nine Mile Creek, is defined as failing to meet the Minnesota River Assessment Project (MRAP) Index of Biotic Integrity (IBI) impairment threshold score of 30 or greater out of a possible score of 60. Only streams with a watershed area of at least 5 square miles are obligated to meet the IBI impairment threshold.

In 2015 three of the six Nine Mile Creek monitoring locations with a watershed area of at least five square miles met the MPCA biological standard for fish—North Fork locations ECU-2 and ECU-2A



The most upstream Main Stem location, ECU-7A, pictured above, and middle Main Stem location, ECU-7B, pictured below, met the MPCA biological standard 54 percent of the time during 2003-2015.



and Main Stem location ECU-7C (Figure 2). Locations not meeting the MPCA biological standard for fish in 2015 include the downstream South Fork location ECU-5A and the upper and middle Main Stem locations ECU-7A and ECU-7B.

The most downstream location of Nine Mile Creek, ECU-7C, has met the MPCA biological standard for fish annually during 2003 through 2015. All other locations have met the standard during some years and have failed to meet the standard during other years. However, during 2006 and 2012, all Nine Mile Creek locations met the MPCA biological standard for fish (Figure 2).

During the 13 years of monitoring, 2003 through 2015:

- The most upstream North Fork location, ECU-2, met the standard 54 percent of the time
- The most downstream North Fork location, ECU-2A, met the standard 62 percent of the time
- The most downstream South Fork location, ECU-5A, met the standard 31 percent of the time
- The most upstream Main Stem location, ECU-7A, and the middle Main Stem location, ECU-7B, each met the standard 54 percent of the time
- The most downstream Main Stem location, ECU-7C, met the standard 100 percent of the time.

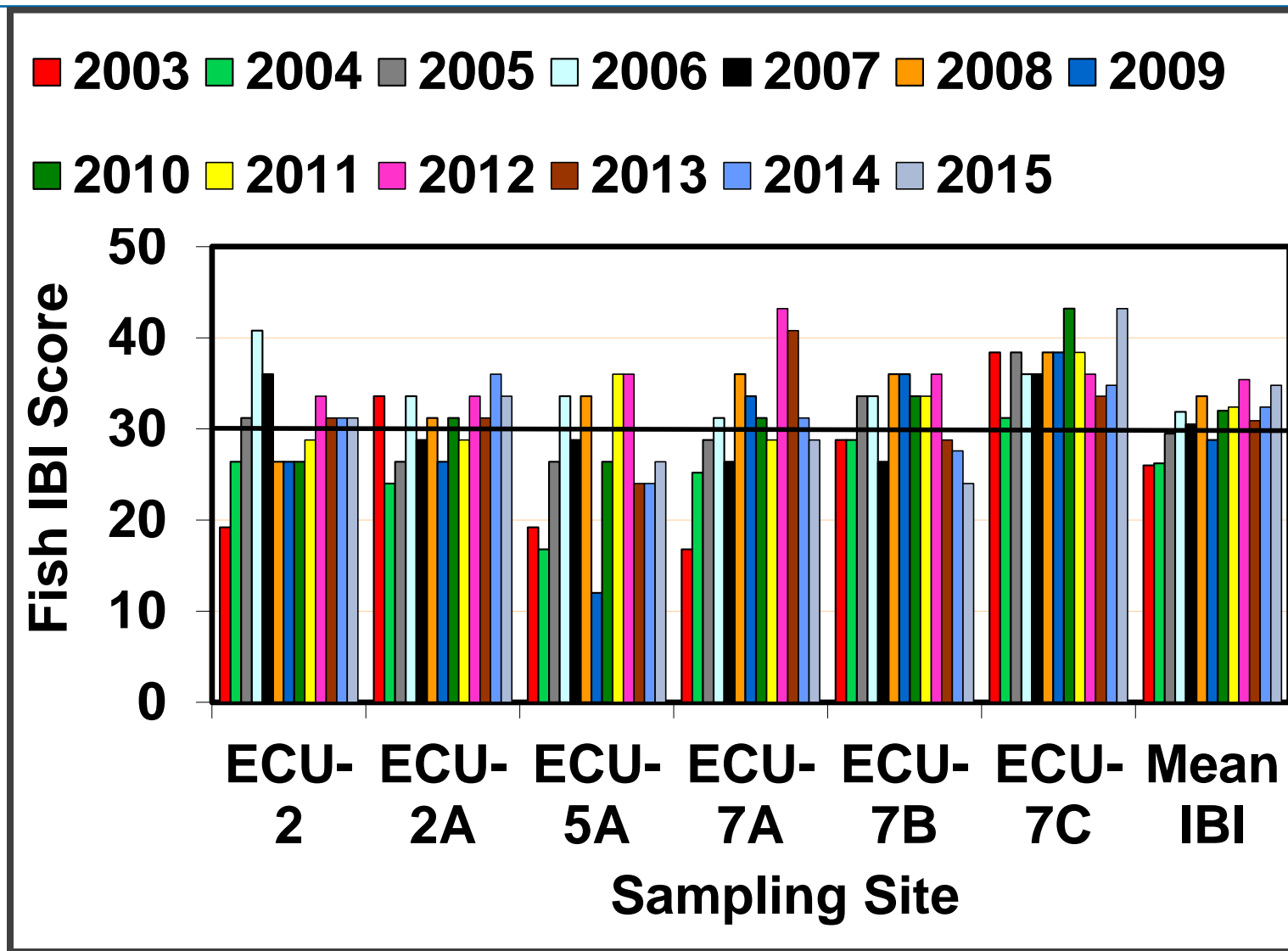


Figure 2 2003-2015 Nine Mile Creek Fish IBI Scores

The District's stream stabilization project in the upstream reaches of the North Fork Nine Mile Creek has significantly improved the fish community of ECU-1A. The improved fish community is attributed to improved habitat and water quality improvements resulting from the stream stabilization project. The number of fish collected from the most upstream North Fork location, ECU-1A (upstream of Highway 169), has increased from 55 during 2010 to 369 in 2014 and 231 in 2015 (Figure 3).

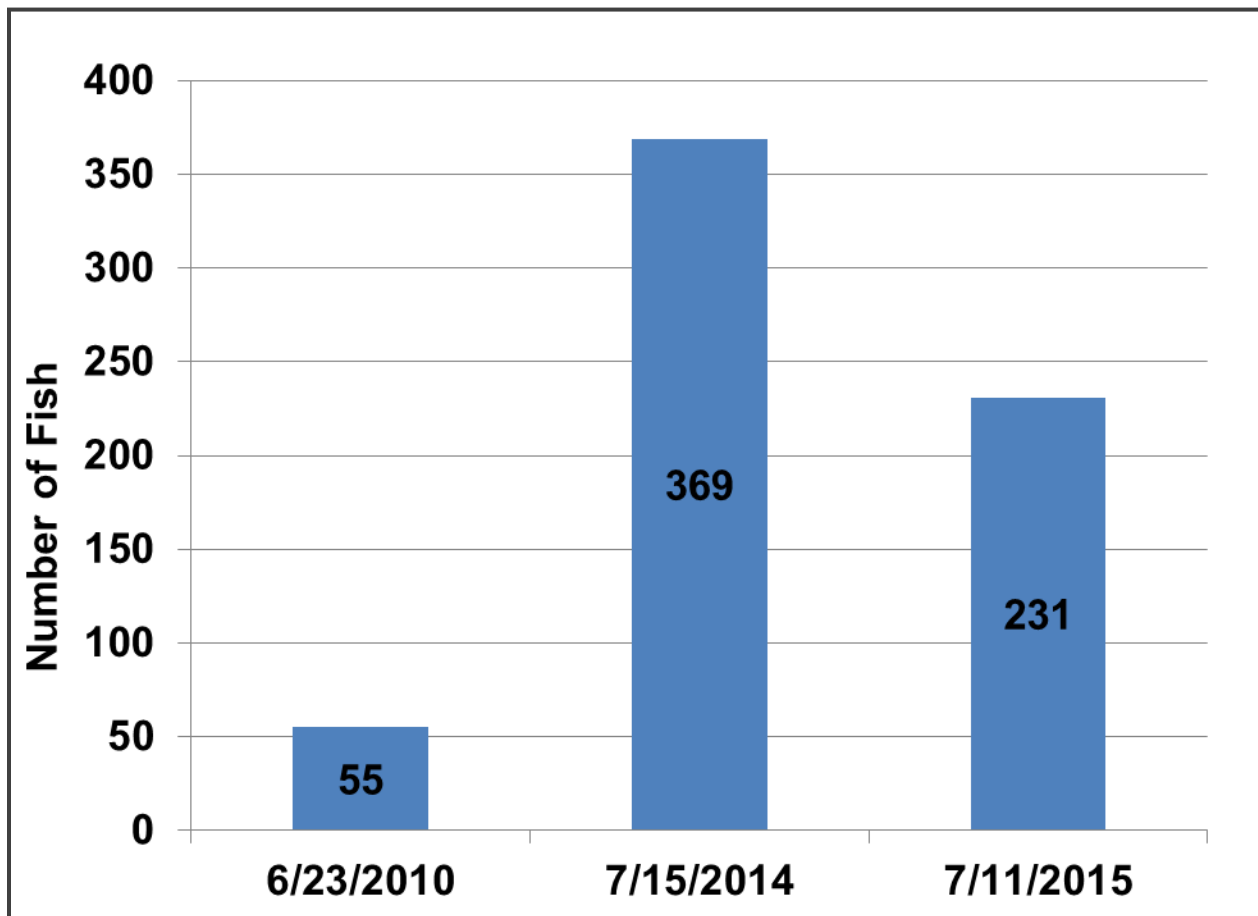


Figure 3 Number of Fish in Nine Mile Creek at Station ECU-1A (Upstream of Highway 169)

During 2010, 2014, and 2015

Habitat and water quality improvements from the North Fork stream stabilization project have not only increased the numbers of fish in the stream, but have also improved the quality of the fish community. Warm water sport fish (e.g., green sunfish) were not observed in 2010, but were

present during both 2014 (3 fish) and 2015 (2 fish) (Figure 4). The number of pollution intolerant forage fish increased from 11 in 2010 to 76 in 2014 and 17 in 2015 (Figure 4).

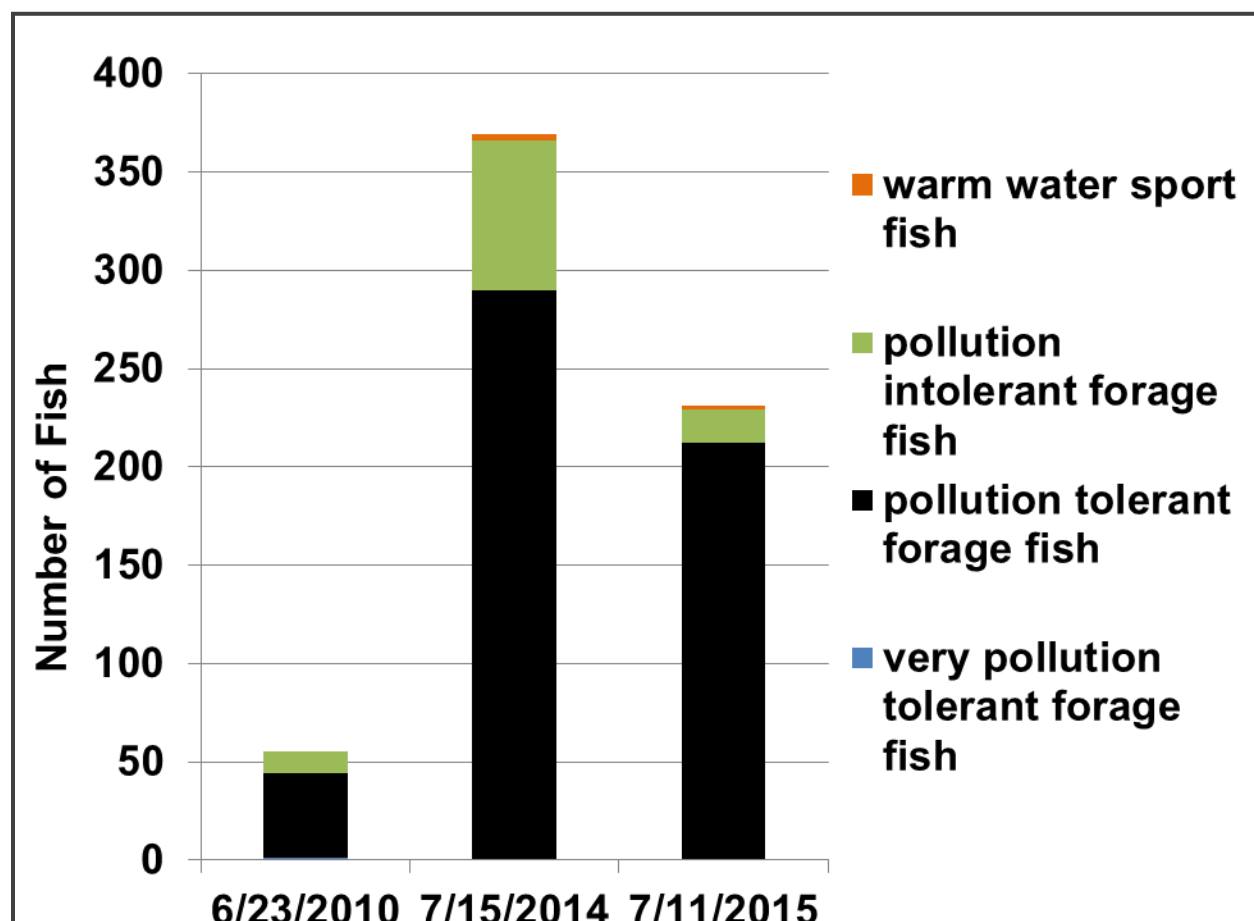


Figure 4 Number of Fish by Ecological Use in Nine Mile Creek at Station ECU-1A (Upstream of Highway 169) During 2010, 2014, and 2015

Habitat and water quality improvements from the North Fork stream stabilization project have improved fish IBI scores at North Fork location ECU-1A. Stream reaches with a watershed area of less than 5 square miles, including ECU-1A, are not obligated to meet the MPCA biological standard for fish, which is a Fish IBI score of at least 30 (Figure 5). The pre-project Fish IBI score from ECU-1A was 26.4, which did not meet the MPCA standard. Following completion of the North Fork stream stabilization project, Fish IBI scores from ECU-1A have consistently

improved – from 33.6 in 2014 to 36.0 in 2015 (Figure 5). Hence, Fish IBI scores at ECU-1A have consistently met the MPCA Standard since completion of the North Fork stream stabilization project.

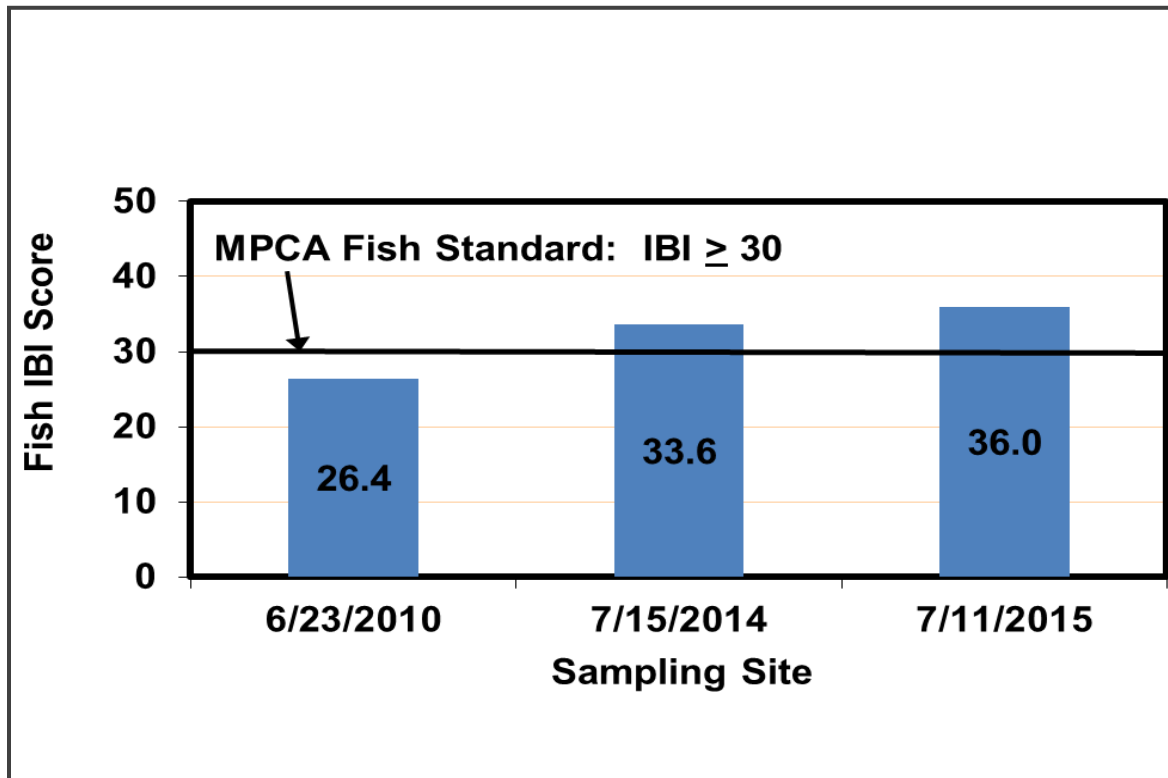


Figure 5 Fish IBI Scores for Nine Mile Creek Station ECU-1A (Upstream of Highway 169) During 2010, 2014, and 2015



The North Fork Nine Mile Creek stream stabilization project significantly improved the fish community at ECU-1A, pictured to the left, including increased numbers of fish, improved quality of the fish community, and increased Fish IBI scores such that the stream currently meets the MPCA Standard.

Nine Mile Creek macroinvertebrates (bugs that can be seen with the naked eye) were assessed using two biotic indices to evaluate the water quality of Nine Mile Creek. The Hilsenhoff Biotic Index (HBI) was used to assess the long-term oxygen content of the stream. HBI assesses stream oxygen by determining the average tolerance of the macroinvertebrate community to low oxygen conditions. A second index, the Invertebrate Community Index, provides a broader view of the stream's water quality than the HBI, determining the average tolerance of the macroinvertebrate community to a wide range of pollutants.

In 2015, the HBI and ICI values from the Main Stem of Nine Mile Creek (ECU-7A, ECU-7B, and ECU-7C), the most upstream North Fork location (ECU-1A), and most downstream South Fork location (ECU-5A) were similar to past values, indicating stream water quality, including oxygen conditions, have remained stable.

In 2015, North Fork locations ECU-2 and ECU-2A continued a trend toward improving water quality and oxygen conditions that began in 2013 following a rapid worsening of both HBI and ICI values. A rapid decline in caddisflies at ECU-2 and ECU-2A in 2013 resulted in the poorest biological index (i.e., Hilsenhoff Biotic Index and Invertebrate



In 2015, North Fork locations ECU-2, pictured above, and ECU-2A, pictured below continued a trend toward improving water quality and oxygen conditions that began in 2013.



Community Index) values since monitoring began. ICI values during 1997 through 2015 are shown in Figure 6.

Although the number of caddisflies observed at ECU-2 and ECU-2A were lower in 2015 than years prior to 2013, numbers have increased since 2014. In 2014, caddisflies remained absent from the downstream North Fork location (ECU-2A) and low numbers were observed at the upstream North Fork location (ECU-2). In 2015, caddisflies were present at both locations and higher numbers were observed at the upstream location (ECU-2) than the downstream location (ECU-2A). The trend toward increasing numbers of caddisflies indicates water quality conditions in the stream are improving.

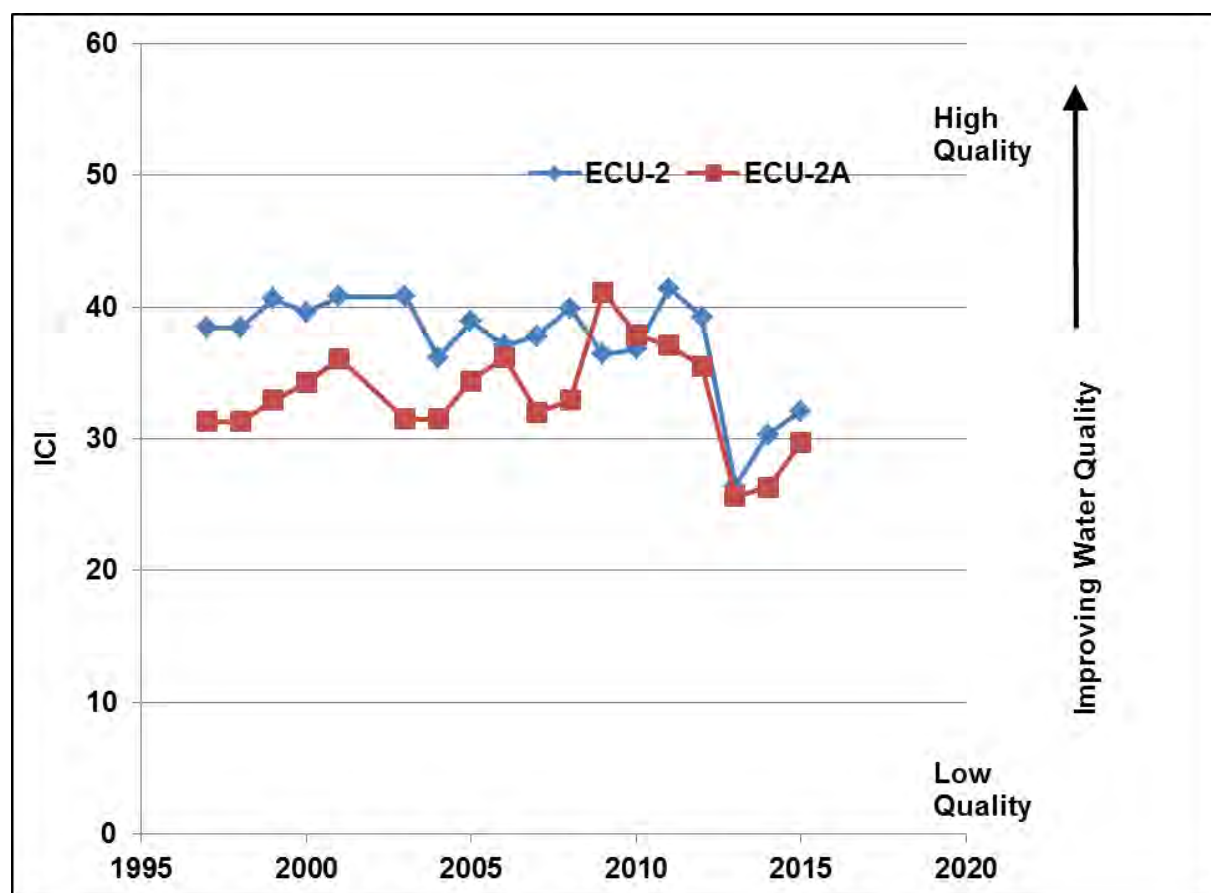


Figure 6 1997-2015 Nine Mile Creek ICI: North Fork Stations ECU-2 and ECU-2A

In 2015, the upstream location on the South Fork (ECU-3A) observed worsening HBI and ICI scores, compared with previous years. However, the worsening HBI and ICI scores coincided with increased numbers of fish and an improved quality of the fish community. The number of fish collected from this location has increased annually since 2012 – from 58 in 2012 to 75 in 2013 to 131 in 2014 to 315 in 2015. Because the watershed tributary to ECU-3A is less than 5 square miles, this location is not obligated to meet the MPCA biological standard for fish, which is a Fish IBI score of at least 30. However, this location has met the State standard annually since 2012 and the Fish IBI scores have consistently improved – from 31.2 in 2012 to 36.0 in 2013 to 40.8 in 2014 to 55.2 in 2015. The consistently improving fish community over the past few years indicates water quality conditions at this location are good. It is hypothesized that the changes in the macroinvertebrate community reflected by the worsening HBI and ICI scores in 2015 are due to fish predation which reduced the number of macroinvertebrates at this location. The number of macroinvertebrates collected in 2015 (394) was about 40 percent less than the number collected in 2014 (656).



During 2012 through 2015, the fish community at the upstream South Fork location, ECU-3A, pictured above, consistently improved and Fish IBI scores annually met the MPCA standard. However, increased numbers of fish reduced macroinvertebrate numbers due to fish predation.

The 2015 water quality, fish, and macroinvertebrate data indicate that despite urbanization impacts, water quality conditions in Nine Mile Creek during 1968 through 2015 have generally remained relatively stable over time. Monitoring will continue at the annual monitoring stations to maintain this long-term record of water quality and biota in Nine Mile Creek and to assess the biological community to determine changes in stream habitat or water quality that warrant further investigation or management measures.

Status of Local Plan Adoption and Implementation

The District monitors the plans of watershed districts and water management organizations that affect the District's cities and that have been approved by the Board of Soil and Water Resources. The District also reviews and approves the Comprehensive Surface Water Management Plans of each of the cities in the District. Currently, the cities of Bloomington, Eden Prairie, Edina, Minnetonka, and Richfield have approved local water plans.

Biennial Solicitation of Interest Proposals

Under M.S.A. 103B.227, subd. 5, the District must issue a biennial solicitation for legal, technical, and other professional services. The District issued a formal solicitation for accounting, engineering, and legal services in September 2013. The District selected Cavanaugh and Associates as its accountant, Barr Engineering as its engineer and Smith Partners, PLLP as its legal counsel in October 2013. The District selected HLB Tautges Redpath to conduct the District's annual financial audit. New proposals for engineering, legal, and other professional services will be solicited in 2016.

Fund Balances for Specific Program Elements.

The District's fund balances and financial status are included in the District's annual audit. The annual audit is included as an appendix to this report.

Status of any Locally Adopted Wetland Banking Program

Because of the inherent limitations of a fully urbanized watershed, the District has not developed a wetland-banking program. Instead, it uses the state wetland bank administered by the Minnesota Board of Water and Soil Resources.

Annual Written Communication to the Public

As required by Minn. R. 8410.0100, subp.4, the District prepared and disseminated its annual communication to the public that identified the Board members, the current CAC members, contact and public meeting information, and information concerning its role in watershed planning. In 2015, the District produced the 2016 Year-at-A-Glance/2015 Annual Communication. Copies of the Calendar/ Annual Communications are included in the Appendix.

Annual Audited Financial Report and Audit Report

The District's audited annual financial report was prepared by HLB Tautges Redpath, Ltd., a certified public accounting firm. As required by Minn. R. 8410.0150, subp. 2, the Audited Financial Report includes classification and reporting of revenues and expenditures, a balance sheet, an analysis of changes in final balances, and all additional statements necessary for full financial disclosure. The 2015 Audited Financial Report may be found in the appendix to this Annual Report.

2016 Annual Budget

The District adopted its 2016 Annual Budget in September 2015. The 2016 Budget may be found in the appendix to this Annual Report.

Appendix

- 1. 2015 Annual Financial Audit**
- 2. 2016 Approved Annual Budget**
- 3. Copy of 2015 Annual Communication & 2016 Year at a Glance Calendar**