



## 2014 Activity Report



Greenfield • Independence • Loretto • Maple Plain • Medina • Minnetrista



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This report was prepared  
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*Cover Photograph:*  
*Bulrush Restoration, Lake Independence*  
*by Natural Shore Technologies*



**ANNUAL ACTIVITY REPORT**

This annual activity report has been prepared by the Pioneer-Sarah Creek Watershed Management Commission in accordance with the annual reporting requirements of Minnesota Rules Chapter 8410.0150, Subps. 2 and 3. It summarizes the activities undertaken by the Commission during calendar year 2014.

**PIONEER-SARAH CREEK WATERSHED MANAGEMENT COMMISSION**

**The Commission** was established to protect and manage the natural resources of the Pioneer and Sarah Creek watersheds. It is a joint powers watershed organization formed as required under MN Statutes 103B.201-103B.255 and MN Rules Chapter 8410. A Board of Commissioners comprised of representatives appointed by the member communities was established as the governing body of the Commission. Its current membership is comprised of the cities of Greenfield, Independence, Loretto, Maple Plain, Medina, and Minnetrista. The table in *Appendix 1* shows the names of the Commissioners appointed to serve in 2014.

**MEETINGS**

The Commission meets monthly on the third Thursday at Independence City Hall. The meetings are open to the public and visitors are welcome. Meeting notices, agendas, and approved minutes are posted on the Commission's website, [www.pioneersarahcreek.org](http://www.pioneersarahcreek.org).

**STAFF AND CONSULTANTS**

The Commission has no employees. Independent consultants perform technical, legal, administrative, and wetland services for the Commission and are selected biannually. The current staff and consultants are also listed in *Appendix 1*.

**THE WATERSHED**

Located entirely within western Hennepin County, the Pioneer-Sarah Creek watershed covers approximately 70.5 square miles and includes the watersheds of Pioneer Creek and Sarah Creek. The Crow River demarcates most of the northern boundary. Portions or all of the six member cities are within the legal boundaries of the Pioneer-Sarah Creek watershed and are listed in Table 1. A map of the watershed can be viewed on the Commission's website.

**Table 1**  
**Area of Members within the Pioneer-Sarah Creek Watershed**

Local Government Unit	Area Within Watershed (Square Miles)	Percent of Watershed
Greenfield	21.5	30%
Independence	29.7	42%
Loretto	0.3	0.4%
Maple Plain	0.8	1.1%
Medina	7.5	10%
Minnetrista	10.7	15%
<b>TOTAL:</b>	70.5	

### **WATERSHED MANAGEMENT PLAN**

The Pioneer-Sarah Creek Watershed Management Commission adopted its Second Generation Comprehensive Watershed Management Plan on December 16, 2004. The Plan identifies a number of goals and policies that conform to the overall purpose specified in Minnesota Statutes Section 103B.201. These goals and policies address issues related to water quantity, water quality, recreation, fish and wildlife, enhancement of public participation, information and education, and management of the public ditch system, groundwater, shorelands, wetlands, and soil erosion.

A major amendment to the Plan was approved by the Board of Water and Soil Resources (BWSR) on January 25, 2012, and adopted by the Commission on February 16, 2012. The amendment clarified the Commission's process for identifying and prioritizing capital improvements and the means by which the Commission intends to fund these projects. It also revised and updated its list of Capital Improvement Projects to meet existing conditions in the Pioneer-Sarah Creek watershed, adding projects identified in the Lake Independence and Lake Sarah TMDL Implementation Plans and anticipated in the upcoming Watershed-wide TMDL. Finally, it identified the studies necessary to identify the scope of projects identified in the TMDLs. The amended Plan can be viewed on the Commission's website.

### **THIRD GENERATION WATERSHED MANAGEMENT PLAN**

In 2013 the Commission contracted with Wenck Associates to develop its Third Generation Watershed Management Plan. Diane Spector serves as project manager. The planning process began with a kick-off meeting where the Commissioners received input from review agencies and member cities and began identifying water-resource issues and goals to be addressed in the Third Generation Plan. This was followed by a gaps analysis and visioning process to further shape goals for the upcoming ten years. From this the Commissioners developed the framework, guiding principles, and goals for the Third Generation Monitoring Program. This

program will include routine flow and water quality monitoring in the lakes and streams; volunteer monitoring; and periodic special monitoring to evaluate progress towards meeting TMDL or other goals. Annually the Commission will evaluate the program and make modifications as necessary based on the most current data needs.

A Citizens Advisory Committee (CAC) met to develop the Third Generation Plan Education and Public Outreach Program. The goal of program is to *educate and engage everyone in the watershed by increasing awareness of water resources, and creating and supporting advocates willing to protect and preserve the resources in the watershed*. Six general stakeholder groups were identified: homeowners, lakeshore/streambank owners, elected officials, educators and students, agriculture (production), agriculture (hobby), and commercial. Multi-family housing and homeowner's associations are included in the commercial group. The CAC also identified education topics for each stakeholder group.

The Technical Advisory Committee (TAC) also met in 2013 to review and revise the Commission's existing Rules and Standards for development and redevelopment projects in the watershed. Five of the six member cities are MS4s regulated under the State of Minnesota's General NPDES/SDS Permit, which was revised and reissued effective August 1, 2013. Development and redevelopment in those communities must enforce water quality, rate control, and volume management requirements that are more stringent than the Commission's current standards. In addition, the TMDLs in the WRAPS study now underway will likely require significant phosphorus load reductions.

Through the identification of issues in the watershed, the Commission developed the following priorities to guide water resources planning and management functions:

1. Educate the Commissioners and member City Councils and Planning Commissions regarding watershed and water resources management.
2. Undertake a monitoring program to monitor water quality trends and to track progress toward meeting TMDLs.
3. Partner with member cities and other parties to conduct subwatershed assessments and other studies to identify feasible and cost-effective Best Management Practices to protect and improve water quality.

The final stage of the planning process occurred in 2014 and involved developing an Implementation Plan and populating the Capital Improvement Program.

The draft Plan was sent out for review by the member cities and reviewing agencies on August 29, 2014, and a public hearing was held to receive comments on November 20, 2014. Upon completion of the hearing, a record of the hearing, the comments received and the Commission's responses to those comments, along with the updated draft of the Third

Generation Watershed Management Plan were forwarded to the Board of Water and Soil Resources (BWSR) for approval. BWSR approved the plan for a period of six years on January 28, 2015.

### LOCAL WATER MANAGEMENT PLANS

Member communities must prepare and adopt their own water management plans. Local plans must comply with MN Statutes, Sec. 103B.235 and MN Rules 8410.0160 and 8410.0170 regarding content. Under the statutes, member cities are required to revise their plans to conform to the Third Generation Plan within two years of adoption of the Commission Plan.

### 2014 OBJECTIVES

Following is a summary of the work undertaken by the Pioneer-Sarah Creek Watershed Management Commission in 2014 to meet the goals, objectives, and projected work plan outlined in its *2013 Annual Report*. The Commission identified the following activities in 2014.

(💧 = completed, ⚡ = not completed, ⚫ = not undertaken)

💧 Reviewed local development/redevelopment plans for conformance with the standards outlined in the Commission's second generation Watershed Management Plan. Projects are reviewed for erosion and sediment control, wetland, floodplain and stormwater management, as well as Department of Natural Resources (DNR) permits. *Eight projects were reviewed by the Commission in 2014. The Commission does not have a permit program. A list of each project showing its location and the critical areas reviewed, along with a location map, are attached as Appendix 2.*

💧 Served as the local government unit (LGU) for administering the Wetland Conservation Act (WCA) for the cities of Greenfield, Loretto and Maple Plain. *The Commission continues to serve as the LGU for those three cities. In 2014 the Commission reviewed eight plans involving wetlands, participated in one Technical Evaluation Panel (TEP), and received no wetland banking applications. Three new potential WCA violations were also investigated. The Commission does not have a wetland banking program.*

💧 Conducted lake monitoring programs to track water quality and quantity conditions. *In 2014 the Commission monitored Lake Independence, Lake Sarah, and both basins of Whaletail Lake in cooperation with Three Rivers Park District (TRPD). (Appendix 3) The Commission also funded the monitoring of Hafften Lake through Metropolitan Council's Citizen Assisted Monitoring Program (CAMP). Monitoring results for this lake will be available in the 2014 CAMP report, available in June 2015. A history of the Commission's lake monitoring program is also included in Appendix 3.*



◆ Conducted a stream monitoring program to track water quality and quantity conditions. *Conducted discharge monitoring at three stream reaches - Sarah Creek at County Road 92 and Pioneer Creek at Pagenkopf and at County Road 90 in cooperation with Three Rivers Park District. (Appendix 4)*

◆ Promoted river stewardship through the River Watch program. *Students from Rockford High School and their teacher Jason Hester monitored Dance Hall Creek in 2014. River Watch 2014, available from Hennepin County Dept. of Environment and Energy (HCEE), includes results from all the Hennepin County sites monitored in 2014. The report can be viewed at [http://www.hennepin.us/business/work-with-henn-co/environmentaleducation/River\\_Watch\\_2014Report.pdf](http://www.hennepin.us/business/work-with-henn-co/environmentaleducation/River_Watch_2014Report.pdf). (Appendix 4)*

The Rockford HS Monitoring Team



◆ Completed development of the Commission's Third Generation Watershed Management Plan. *The final stages of the planning process included development of an Implementation Plan and populating the Capital Improvement Program (CIP). At year-end the draft had been forwarded to the Board of Water and Soil Resources for final approval.*

◆ Sought grant funding to assist with the costs associated with projects identified on the CIP. *Grant funding will be sought to assist in payment of the costs of the projects as they are identified for implementation.*

◆ Reviewed and considered updates to the Commission's Joint Powers Agreement and Rules as part of the Third Generation Plan process. Considered adoption of personnel policies as recommended by BWSR during the Performance Review and Assistance Program (PRAP) process undertaken in 2008. *The JPA was reviewed as part of the Third Generation planning process. Adoption of personnel policies will be considered at a future time.*

◆ Continued to identify TMDL implementation projects and grants to assist with their funding. *TMDL implementation projects were identified for inclusion in the Commission's Third Generation watershed Management Plan. Grant funding will be sought to assist in payment of the costs of these projects.*

◆ Worked in partnership with Hennepin County's agriculture specialist to help build relationships with the agricultural community in the watershed in order to encourage TMDL implementation. *The specialist was invited to participate in the Community Conversation and as a member of the Commission's Professional Technical Advisory Committee.*



First Community Conversation – November 20, 2014

◆ Continued development of a Watershed Restoration and Protection Strategy (WRAPS) as part of the watershed-wide TMDL and implementation plan. *Project activities in 2014 consisted of refining a civic engagement strategy for the project, conducting the first Community Conversation, collection of additional information to support internal load estimates for impaired lakes, and organization and analysis of technical data to support modeling activities. Phase I will conclude in June 2015. Phase II will continue through December 2016.*

◆ Completed the Pioneer Creek Channel/Lake Independence Outlet Channel project. *A DNR permit was issued to allow the clearing of materials from the outlet channel, which occurred in 2013. The permit also requires the weir to be rebuilt. Additional investigative work on the condition of the existing weir and the extent of restoration work necessary to complete the DNR permit requirements continued in 2014.*

◆ Completed a Dance Hall Creek subwatershed assessment and identified BMPs for implementation. (The Lake Sarah TMDL study identified the Dance Hall Creek watershed as a major source of phosphorous, contributing 975 pounds [46%] of phosphorus/ year to Lake Sarah.) *The Dance Hall Creek Subwatershed Retrofit Assessment includes a stormwater analysis which identifies and prioritizes retrofit projects by performance and cost-effectiveness. Completed in December 2014, it will be presented to various stakeholder groups in 2015.*



◆ Continued to treat Lake Sarah for curlyleaf pondweed. *260 acres of Lake Sarah were treated by Lake Sarah Improvement Association (LSIA) volunteers on May 17, 2014. Three Rivers Park District and the Commission cost-shared this project.*

- ◆ Completed the Lake Independence Shoreline Bulrush Restoration Project. *Funded by a DNR grant and the Commission, this project established native plants and shrubs and installed biologists to stabilize 150 linear feet (2400 square feet), providing fish spawning habitat and dissipating wave energy, reducing a source of phosphorus into the system.*
- ◆ Continued to support city-sponsored projects as they are identified. *The Commission will continue to support cities as they undertake subwatershed assessments, identifying studies and projects which will benefit both the cities and the Commission.*
- ◆ Considered participating in collaborative education efforts such as the West Metro Water Alliance (WMWA). *The Commission will continue to consider education options as specific needs are identified.*
- ◆ Adopted a 2015 operating budget. *At its June 16, 2014 regular meeting, the Commission approved a 2015 operating budget totaling \$126,760. (Appendix 5)*
- ◆ Continued to maintain the Commission’s website to provide news to residents of the watershed. *Populating, updating and maintaining the website are ongoing tasks.*
- ◆ Published an Annual Activity Report summarizing the Commission’s yearly activities and financial reporting. *The 2013 Annual Activity Report was accepted by the Commission at its April 17, 2014 meeting.*

**FINANCIAL REPORTING**

Appendix 5 includes the Commission’s approved budget for 2014 and a report of actual revenues and expenditures for 2014. The Commission’s Joint Powers Agreement provides that each member community contributes toward the annual operating budget based on its share of the total market value of all property within the watershed. The 2014 cost allocations to the members are shown as part of the Operating Budget.

Of the \$125,060 operating budget approved by the Commission for 2014, revenue of \$1,500 was projected as proceeds from application fees, and \$20 from interest income, resulting in assessments to members totaling \$126,000.

The Pioneer-Sarah Creek Watershed Management Commission maintains a checking account at US Bank for current expenses and rolls uncommitted monies to its account in the 4M Fund, the Minnesota Municipal Money Market Fund. Amounts paid by the Commission per the 2014 Audit, prepared by Johnson & Company, Ltd., Certified Public Accountants, (Appendix 5) are as follows:

General engineering	14,291	General administration	42,854
Education	4,893	Programs	13,850
Projects	19,174	Planning	20,445
		Total	\$115,507

General engineering work includes review of local plans, review of development/redevelopment projects, attendance at meetings and other technical services. General administration includes support to technical staff, attendance at meetings, insurance premiums, annual audit, legal counsel, tracking grant opportunities, management plan amendments, and other non-engineering services.

## **2015 WORK PLAN**

Following is a summary of the work proposed to be undertaken by the Pioneer-Sarah Creek Watershed Management Commission in 2015:

### **A. ONGOING TECHNICAL AND ADMINISTRATIVE PROGRAMS**

- 1.** Continue to review local development/redevelopment plans for conformance with the standards outlined in the Commission's Third Generation Watershed Management Plan. Maintain the current flood profile of the creeks and their tributaries and develop a whole-watershed sustainable water budget.
  - a.** Maintain the post-development 2-year, 10-year, and 100-year peak rate of runoff at pre-development level for the critical duration precipitation event.
  - b.** Maintain the post-development annual runoff volume at pre-development volume.
  - c.** Prevent the loss of floodplain storage below the established 100-year elevation.
- 2.** Continue to serve as the local government unit (LGU) for administering the Wetland Conservation Act (WCA) for the cities of Greenfield, Loretto and Maple Plain. Preserve the existing functions and values of wetlands within the watershed. Promote enhancement or restoration of wetlands in the watershed.
- 3.** Adopt a 2016 operating budget. Search for grant and other funds to supplement the regular budget. Operate a capital improvement program and share in the cost of projects.
  - a.** Review and update the Commission's Cost Share Policy.
  - b.** Consider the use of ad valorem tax cost-share funding to implement CIPs.
- 4.** Solicit interest proposals for administrative, legal, technical and wetland consulting services.
- 5.** Publish a 2015 Annual Activity Report summarizing the Commission's yearly activities and financial reporting.
- 6.** Draft a 2016 Work Plan.

**B. WATER QUALITY AND QUANTITY**

1. Support the Commission's management goals for water quality. Continue to make progress to improve the lakes and streams in the watershed as well as protect those that are not impaired.

a. Improve water clarity in the impaired waters by 10% over the average of the previous ten years by 2023.

b. Maintain or improve water quality in the lakes and streams with no identified impairments.

2. Foster implementation of BMPs in the watershed through technical and financial assistance.

3. Develop and publish a model manure management ordinance within six months of the Plan's adoption or adopt standards and practices that will accomplish the objective of reducing phosphorus load from new livestock operations.

4. Operate a monitoring program sufficient to characterize water quantity and quality and biotic integrity in the watershed and evaluate progress toward TMDL goals. Partner with Three Rivers Park District (TRPD) to conduct water quality monitoring in the watershed. Bring stream and lake monitoring efforts into line with monitoring program outlined in approved Third Generation Watershed Plan.

a. Partner with Three Rivers Park District (TRPD) to conduct bi-weekly water quality monitoring of "sentinel lakes" – Independence, Sarah, Little Long, and Whaletail.

b. Partner with TRPD to conduct flow and water quality monitoring at three sites - on Pioneer Creek at Pagenkopf Road, Sarah Creek at County Road 92, and at County Road 90.

c. Participate in Metropolitan Council's Citizen Assisted Monitoring Program (CAMP). Due to the monitoring that occurred as part of the TMDL/WRAPS project, the Commission elected not to participate in CAMP in 2015 and 2016. They will resume participation in 2017.

**C. EDUCATION**

1. Evaluate the proposed Education and Outreach program and establish education and outreach activities for the coming year, including goals and strategies identified in the WRAPS study.

2. Educate Commissioners, member City Councils and Planning Commissions about watershed and water resources management. Sponsor watershed and water resources training opportunities such as NEMO (Nonpoint Education for Municipal Officials).

**3.** Convene Citizen Advisory Committees as necessary to make recommendations on education and outreach actions and assist the Commission with implementation.

**4.** Participate with collaborative groups to pool resources to undertake activities in a cost-effective manner, promote interagency cooperation and collaboration, and promote consistency of messages. Use the Commission's, member cities', and educational partners' websites and newsletters, social media, co-ops, local newspapers and cable TV to disseminate education materials to all stakeholders about actions they can take to protect and improve water quality.

**a.** Continue to maintain the Commission's website to provide news to residents of the watershed.

**5.** Provide opportunities for the public to learn about and participate in water quality activities. Enhance education opportunities for youth. Provide opportunities for bridge-building between stakeholders.

**a.** Promote river stewardship through the River Watch program. Encourage participation by local school students and their teachers. For 2015 the Commission has budgeted to monitor two sites in the watershed. These will be identified in spring 2015.

**b.** Work in partnership with Hennepin County's agriculture specialist to help build relationships with the agricultural community in the watershed in order to encourage TMDL implementation.

#### **D. STUDIES, PROJECTS AND CIPS**

**1.** Complete Phase 1 of PSC WRAPS project; develop work plan for Phase 2 and continue efforts to complete. Conduct the second Community Conversation, complete mobile phosphorus work to help estimate internal loading in impaired lakes, compile input data sets and conduct watershed modeling work for lakes, and compile TMDL and Protection Plan background report sections. Develop Phase 2 work plan and budget, modify contract accordingly, and begin work on executing the Phase 2 work plan.

**a.** Schedule the second Community Conversation with stakeholders.

**b.** Continue to identify TMDL implementation projects. Seek grant funding to assist with the costs associated with those projects.

**2.** Complete the Lake Independence Outlet Channel project. The DNR permit issued in 2013 to allow the clearing of materials from the outlet channel also requires the weir to be rebuilt. The condition of the weir will be examined when water conditions permit to determine if further work will be required.

- 3. Present the Dance Hall Creek Subwatershed Retrofit Assessment to various stakeholder groups. Prioritize BMPs identified in the assessment for implementation or further study.
- 4. Cost-share with the Lake Sarah Improvement Association (LSIA) to complete a third round of curlyleaf pondweed treatment in 2015.
- 5. Seek grant funding to assist with the costs associated with projects identified on the Commission's CIP.
- 6. Continue to support member cities as they identify studies and projects which benefit both the cities and the watershed.

#### E. PLANNING

- 1. Adopt the Third Generation Watershed Management Plan and transmit it to the member cities.
  - a. Following adoption of the Plan, member communities must prepare and adopt their own water management plans in compliance with MN Statutes, Sec. 103B.235 and MN Rules 8410.0160 and 8410.0170. Under the statutes, member cities are required to revise their plans to conform to the Commission's plan.
  - b. Local plans must be submitted to the Commission and the Metropolitan Council within two years after approval of the Commission's Watershed Management Plan by the Board of Water and Soil Resources (BWSR).
- 2. Begin to budget for the expense of writing the Fourth Generation Plan, due in 2020. Development should begin in 2018.

#### WHAT OUR CITIES HAVE BEEN DOING TO SUPPORT IMPROVED WATER QUALITY.

##### Greenfield

The Lake Sarah sewer system experienced considerable Inflow and Infiltration over the past several years during wet weather events, largely attributable to leaking septic tanks. The excessive flows during wet weather events resulted in added costs for emergency pumping of the lift station, higher flows into the Met Council Sewer System, added risk of sewer backups, and consequently higher costs to the City and customer. Leaking septic tanks also inevitably have a high potential for contaminating the lake, causing eutrophication.

The City Council approved moving ahead with a project in April of 2013 to permanently abandon these tanks and connect 53 homes directly to the sanitary sewer through a standard gravity connection. Funds in the Lake Sarah Sewer fund were enough to cover the cost of this project with little or no out-of-pocket costs to the customers.

Following completion of the project, only one rain event resulted in the need for emergency pumping at the lift station. It was determined that the downstream flows in Independence were

surcharging the lines such that there was nowhere for the sewer to go. As a result, the City of Greenfield installed a metering manhole, flowmeter, control panel in order to accurately measure flow going into Independence during these rain events. This project was completed in early 2015.

### **Independence**

- Completed Subwatershed Retrofit Assessment for Lake Sarah and Lake Independence.
- Reviewed ravines in Baker Park to determine potential BMPs; approximate cost, and appropriate cost-share opportunities
- Contacted landowners in Lake Sarah watershed for potential BMPs, determined approximate costs and appropriate cost-share opportunities
- Staff and council determined additional Water Quality BMPs during Plat Review process on property located in Lake Independence watershed
- Performed Lake Independence outlet clean-out to reduce shoreline erosion. Review the outlet weir in order to assess needed improvements (and a low water opportunity to complete the work).
- Provided additional opportunities to council members (i.e., Workshop on the Water) and additional general public education on City website. Joe Baker, as the newly appointed Commissioner in 2014, attended the NEMO watershed educational workshop, and three Lake Sarah Improvement Association meetings to educate them on the watershed related activities and initiatives – and to listen to their water quality and water level related concerns. Council Member Brad Spencer and Joe Baker attended the Metro Summit for Lakes and Rivers educational event.
- Completed the second year of “whole lake” curlyleaf pondweed treatments in Lake Sarah. The Lake Sarah Improvement Association performed the application process with volunteers.
- Developed manure management plan for landowner in Lake Independence watershed (Lake Independence Citizens Association).
- City Council approved a change to the Lake Independence No-Wake Zone ordinance to make it an “all lake” no-wake zone when in effect.
- Engaged applicant to reduce downstream impacts to water quality by reducing rate of storm events from site
- Compiled prioritized list of BMP’s and/or projects that will be the focus for the City over the next six years as part of the Commission’s Third Generation Plan.

### **Medina**

- Made successful application for Subwatershed Retrofit Assessment through Metro Conservation District and Hennepin County.
- Received preliminary findings on Lake Ardmore neighborhood filtration basin design and developed cost-share application.
- With PSWMC representatives, City and TRPD staff investigated ravines at Baker Park and determined potential water quality BMPs, costs and grant opportunities.
- Developed manure management plan for landowner in Lake Independence watershed (LICA).



- Completed Loretto Creek Sediment and Nutrient Removal Project, reducing sediment and phosphorus loads (140 lbs/yr) to Lake Sarah.
  - Provided timely information on water quality issues on City website and newsletter, including water-wise salt application, raingarden workshops and Water Steward opportunities.
  - Facilitated review by Met Council to close Loretto wastewater treatment ponds and extend service to a regional sanitary sewer in order to reduce phosphorus loads to Lake Independence.
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## **APPENDICES**

