Seven Mile Creek Watershed Project

Final Edition
March 2009

Seven Mile Sentinel

Final Historical Newsletter

Seven Mile Creek Project Timeline

Seven Mile Creek Watershed Groundwater/ Surface Water interconnection studied is part of "East Study Area" — **1989/ 1999**

Middle/Lower Minnesota River Basin Assessment Project — **1996**

- Established communications and networks with landowners
- Conducted by MPCA

Tornado ravages large part of watershed some projects and activities are postponed — **1998**

Phase I Application SMCW Diagnostic Study — **1999/ 2001**

You will understand from this final newsletter that The Seven Mile Creek Watershed is a showcase watershed in the Middle Minnesota River Basin because of the numerous partnerships established, water quality and assessment information available at various scales and the successful and continuing efforts to implement various conservation practices.

Beginning in 1989 areas of the Seven Mile Creek Watershed (SMCW) were monitored as part of a large scale groundwater study in the area. These studies led to funded examinations defining the connection between groundwater and surface water quality. The activities were led by Bonnie Holz (now with the Minnesota Department of Health (MDH)), Larry Gunderson (now with the Minnesota Pollution Control Agency (MPCA)), and Michael Hanson (now with Cottonwood County Environmental Services).

In 1996 monitoring in the SMCW intensified as part of the Middle/Lower Minnesota River Basin Assessment Project (MLAP). This project's goal was to help identify which area surface waters could negatively affect the Minnesota River. Activities were led by Kevin Bigalke (now Director of Nine Mile Creek Watershed District).

Because of the intense monitoring associated with earlier groundwater studies and the MLAP project in 1998 a Clean Water Partnership Phase I application was developed and awarded to the Brown-Nicollet- Cottonwood Water Quality Board as a diagnostic study entitled "Resource Investigation within the Middle Minnesota Major Watershed."

This project (after being postponed because of the 1998 tornado) resumed in 1999. Continuation of monitoring was temporarily funded by the Minnesota Department of Natural Resources, Environmental Partnership, Nicollet County Environmental Services and Nicollet County SWCD. These activities were led by Kevin Kuehner now with the Minnesota Department of Agriculture (MDA).

At the same time as the Phase I Diagnostic Study activities were taking place, in 1999 funding for a 319 Wellhead Protection/Area Nutrient Management Grant was received for the City of St. Peter Well Head Protection Area.

Seven Mile Creek Project Timeline Continued…

Well Head Protection / Nutrient Management Grant received
1999/ 2003

Partners Included:

- City of St. Peter
- MN Extension
- MN Dept of Health
- MN Pollution Control Agency
- MN Dept of Ag
- Nicollet County
  - SWCD
  - NRCS
- Area COOP's
- Area Landowners

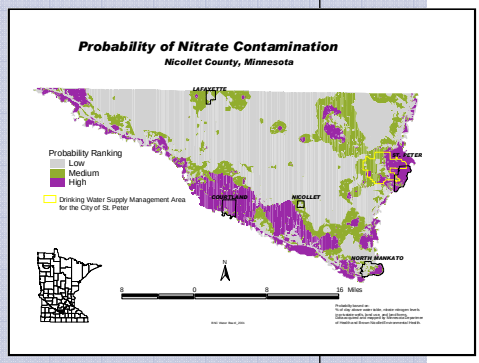
Activities included:

- Enrollment of area agricultural land into Federal/State conservation programs.
- Continually evaluating acceptance of Best Management Practices adoption
- Providing financial support for a Nutrient Manager to work one/one with agricultural community in the City of St. Peter Well Head Protection Area
- Provide funding for innovative demonstration projects (Nicollet County)
- Development/production of Farm Nutrient Management Handbook

Scott MacLean hired as Watershed Specialist Groundwater Vulnerability Zoning Pilot Project (GWVZPP)
2000/ 2004

Because of the continued success of other SMCW projects and the enormous amount of groundwater data available in the watershed, in 2000 the BNC WQB received funding for a Groundwater Vulnerability Zoning Pilot Project.

The project, led by Scott MacLean (now with the MPCA, Mankato Regional Office), used 16 years of well water data in conjunction with hydrogeologic land use, information and County Well Index data to develop County Nitrate Probability Maps.



These maps were developed and are used as a tool to:

- Identify areas with a higher probability for nitrate – nitrogen groundwater contamination
- Provide nitrate probability information for the land-use application process at the county level
- Alerting county Planning and Zoning staff of potential groundwater concerns that merit the addition of possible conditions to a land use permit to further protect or improve water quality.

Seven Mile Creek Phase II Implementation Project
2002/ 2004

In 2002, work began to accelerate the voluntary adoption of Best Management Practices (BMP's). This six year Clean Water Partnership Implementation Project consisted of two funding cycles: 2002-2004 and 2005-2008. This project focused on:

- education
- nutrient management
- septic system upgrades
- filter strip implementation
- wetland development / restoration
- stream bank erosion / stream bank erosion control
- stream trout habit creation
- watershed quality monitoring and watershed assessments

— Related Projects —

In 2002 a grant for $200,000 was received from the McKnight Foundation. This grant supported numerous activities in the SMCW, but primarily it allowed for the restoration of 300 acres of wetlands in 16 different locations. Using a combination of private and public programs and partnerships, water quality monitoring results showed that wetlands could be effective in the reduction of nitrates from tile outlets and reduction of peak flows, while increasing wildlife diversity.

In 2005 the BNCWQB received a grant from the Minnesota Board of Soil and Water Resources (BSWR) to digitally archive aging ditch maps and physically inventory the ditches in the SMCW. The inventory allowed us to ground truth and document location, size and condition of tile outlets in the system.

In 2006 in collaboration with the Minnesota Department of Agriculture, University of Minnesota, leveraging funding from various other projects, and with assistance from agency personnel a farm site in the Seven Mile Creek Watershed was selected as a demonstration site for a Conservation Innovations Grant (CIG). This project was developed to support quantifying the environmental benefits of conservation drainage practices and to help establish or reinforce cost share standards to help accelerate their adoption. This project is coming to the end and a final report is in process.

In 2007 an additional Demonstration Grant was received. This ongoing project is a collaborative effort among county and state government agencies and the University of Minnesota. The goal of this ongoing project is to use innovative sediment isotopic fingerprinting techniques to apportion suspended sediment in the creek to certain geologic source areas in the watershed. This information will provide input information into the Middle Minnesota Basin Model HSPF, which simulates pollutant transport from land segments to water bodies. This project will continue through September of 2010.

Additional Projects / Funding

2002/ 2005 — **McKnight Foundation Grant**

2005/ 2008 — **BWSR Drainage Mapping Project**

2006/ 2008 — **CIG / Conservation Innovations Grant**

2007/ 2010 — **Testing Assumptions of Sediment and Nutrient Supply by Fingerprinting Glacial Sediment Sources**

Seven Mile Creek Project Timeline Continued...

Future Projects

Monitoring in the Middle Minnesota Watershed Clean Water Partnership Grant — **2007/ 2010**

Reflecting on our success, analyzing our past & planning for the future.

What is in the future for the Brown–Nicollet–Cottonwood Water Quality Board?

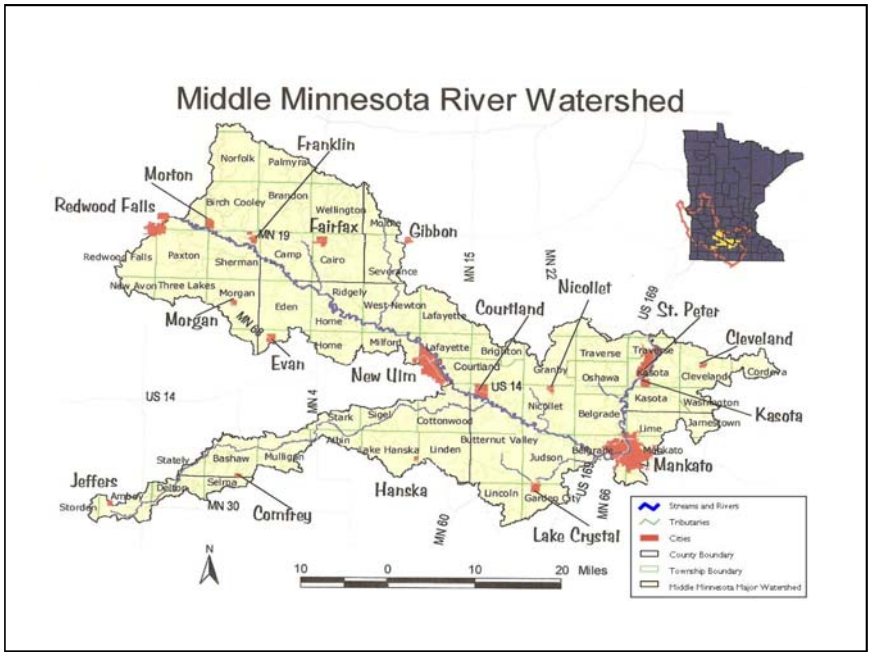
We are pleased and proud to announce that in **October 2007** the Brown–Nicollet–Cottonwood Water Quality Board and current staff Ed Hohenstein and Jack Bovee, were awarded funding to continue to implement and monitor the effectiveness of conservation practices in the Middle Minnesota Watershed focusing on the Little Cottonwood River Watershed and the Seven Mile Creek Watershed.

Middle Minnesota at a glance

Minnesota's Oddest Watershed...

- It is the only watershed basin in Minnesota without an identifiable and major tributary
- It has the most first- and second-order streams

The Middle Minnesota Watershed Project will build upon the foundation of success of past projects. It is our hope that coordination of efforts will positively influence water quality and continue to address TMDLs (Total Maximum Daily Loads) impairments listed in the watershed.



Additional Future Projects

In November 2008 BNC WQB was awarded Seven Mile Creek Watershed funding for an Agricultural Watershed Restoration (AWR) Project. This project, with the assistance of a contracted consulting firm, will continue to input data, evaluate and refine the model being developed for SM Creek.

Just this January BNC WQB was awarded funding from the Minnesota Pollution Control Agency (MPCA) for a Source Water Assessment Grant (SWAG). This project will continue monitoring activities and will assist the MPCA in assessing the chemical, physical and biological integrity of previously unassessed water bodies in Minnesota. This project will focus on 18 streams evenly distributed across the Middle Minnesota Watershed that represent watersheds larger than 10,000 acres.

Dec 2008 — **AWR Grant Awarded**

Jan 2009 — **SWAG Funding**

Please consider volunteering!

A large component of SWAG is the involvement of local volunteers to assist in the assessment of these streams. If you are interested please call Ed Hohenstein at out office 800-931-4140 or email him at hohenbnc@hickorytech.net.

Finally…

Thank you to everyone who has been involved in the Seven Mile Creek Projects; all of our friends, staff past and present, colleagues, technical advisors, landowners, and especially all of those who have made a commitment to protecting one of our most valuable resources... **W A T E R.**

Your contribution has been genuinely appreciated.

When completed the Seven Mile Creek Implementation Project Final Report will be posted at this website:

http://mrbdc.edu/org/bnc

BNC

Water Quality Board

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"We are made wise not by the recollection of the past, but by the responsibility of our future."

George Bernard Shaw

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