

2001 Year in Review

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January 15, 2001



BROWN NICOLLET COTTONWOOD
WATER QUALITY BOARD

2001 Update Contents:

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Little Cottonwood River Watershed Project Moves into Implementation Phase

With the direct support of the Cottonwood and Brown County Soil and Water Conservation Districts, Water Planning, and Clean Water Partnership funding (CWP) several cooperative initiatives to accelerate conservation practices within the Little Cottonwood Watershed have taken place this past year. One of the most successful programs has been the CREP program. (See insert for more details on the CREP marketing initiative). Due to the large amount of cultivated acres within the active floodplain of the LCR, the CREP program has proved to be a very impor-

tant conservation tool for watershed producers. In fact nearly half of the CREP easements in Brown county have taken place in the marginal areas of the Little Cottonwood River Watershed.

Other water quality initiatives:

- Tile Intake Alternatives. About 25 open tile intakes have been replaced with rock inlets or close pattern tile drainage in the headwaters of the watershed at a cost of \$6,000 to the CWP.
- Nutrient Management- Project staff are working with livestock producers to de-



Scott MacLean installing a sign on a CREP easement along the Little Cottonwood River this past fall.



Little Cottonwood River Implementation Continued....



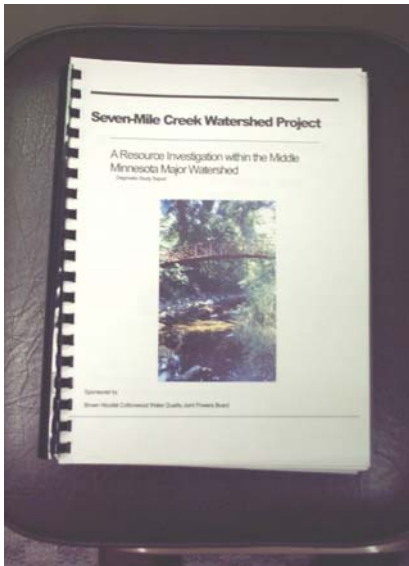
Manure Management Demonstration at the Leland Haugen Farm near Comfrey.

velop field record keeping systems and procedures for properly crediting nutrients found in manure and soil and demonstrating ways to increase profits while protecting water quality.

- Two producers have signed up to participate in the Center for Agricultural Partnerships on farm N-rate demonstration. With the use of yield monitors and GPS units the corn producers will be able to conduct a small-scale, statistically valid field trial to help them determine which nitrogen rate is the most profitable for their farm.
- Low interest loan money for septic system upgrades was made available to watershed residents. Eight septic systems have been installed this past fall, and more are planned for installation this spring.
- Feedlot relocation and feedlot buffer strip-LCR project is assisting Steve Hoffman Dairy Farm with relocation of a feedlot from a nearby creek and installation of a filter strip.

Three-Year Water Quality Study in Seven Mile Creek Watershed is Completed

As part of a Resource Investigation grant for the Middle MN River Major Watershed, Seven Mile Creek Watershed was chosen for a three-year water quality study. Intensive water quality monitoring and land use assessments have taken place in the watershed over the past several years. Results of the water quality study have recently been published. The report entitled "Seven Mile Creek Watershed Project, A Middle Minnesota Resource Investigation" was completed in October of 2001. The 200 page report contains a summary of the water quality study findings, and a three year water quality improvement implementation plan. The report was submitted to the MPCA along with an application through Minnesota's Clean Water Partnership to fund best management practice acceleration within the watershed. BNC staff are working to create a watershed based web page that will contain a link to the water quality report and other watershed news.



The 200 page report summarizes three years of water quality monitoring, and provides an implementation plan to help improve water quality for the Seven Mile Creek Watershed.
<http://mrbdc.mankato.msus.edu/>

Other 2001 watershed activities:

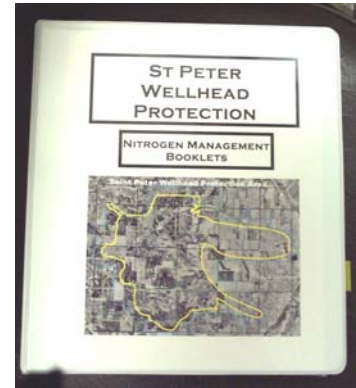
- Water quality and watershed assessment tool developed
- Watershed field day showcasing Red Top Farms research fields and Seven Mile Creek watershed held in September.



September Watershed Field Day. Paul Wotzka of Minnesota Department of Agriculture speaks about the loss of nitrates through drainage tile lines at a Red Top Farms research field.

St Peter Wellhead Protection Nitrogen Management Booklets

In 2000, the board received federal section 319 funding to continue protecting drinking water for the city of St. Peter. One of the major components of the work plan was to develop nutrient management handbooks for each producer within the protection area. The booklets will showcase maps of the wellhead area, soil interpretations, best management practices, variable rate technology and results from water quality and agronomic research in the wellhead area. Within the booklet, results of the two-year nitrogen demonstrations can be found. Results indicate that between 90 and 120 lbs. of nitrogen was the most profitable rate for the nine cooperating producers. This indicates producers could save six to seven dollars per acre while reducing potential nutrient losses. Another year of demonstrations are planned to validate the results collected the past two-years. The information within the booklet will be yet another tool producers can use to help protect the groundwater resources and at the same time help increase the efficiency of their farming business. The booklets will be mailed and delivered to all producers, landowners, and fertilizer dealers within the protection zone this winter.



Wellhead Protection and Nitrogen Management Booklet

Newly Acquired Water Quality Grants

Several new grants were written to help accelerate water quality improvements within area watersheds this past year.

- DNR Environmental Partnership Grant-The \$15,000 grant will help fund monitoring and educational outreach within the Seven Mile Creek Watershed.
- McKnight Foundation. This highly competitive grant was recently funded to the water quality board. The \$200,000 pilot demonstration project will utilize wetlands and in stream techniques to reduce nitrate loads to the MN River. Focus will be in Seven Mile Creek and Little Cottonwood River Watersheds.
- Paired Watershed Study on Seven Mile Creek and Huelskamp Creek. Watershed staff will assist with this newly created project headed by the Extension Service and University of MN.
- A request for \$200,000 in grant and \$550,000 in septic loan money was applied for through Minnesota's CWP program to fund water quality improvements within the Seven Mile Creek Watershed over three years. Notice of funding should occur sometime this winter, depending on state legislative actions.



Several water quality grants were written in 2001 for Brown, Nicollet and Cottonwood Counties. Currently the BNC water board is administrating \$725,000 in grant money directly related to water resource protection. That amount could increase to \$1.5 million if Seven Mile Creek Watershed is funded this spring.

Conservation Reserve Enhancement Program A Watershed Conservation Success Story

As part of the implementation phase of the Little Cottonwood River Clean Water Partnership, Soil and Water Conservation Districts, Farm Service Agencies, NRCS staff, watershed coordinators, water planners and other local and state agencies promoted the Conservation Reserve Enhancement Program (CREP). CREP is a combination of the federal CRP and state RIM programs which pay landowners within the Minnesota River watershed to retire marginal and frequently flooded crop land. The CREP program increases wildlife habitat, improves water quality, and can actually improve a producer's bottom line by paying competitive rates for marginal crop land. Promotion of the CREP program by watershed staff



began in January of 2001. Landowners with eligible land were sent proposals with an aerial photo showing the proposed easement and actual dollar figures for the agreement. Many landowners also received follow-up phone calls and/or on site visits to answer questions about the program. The program officially expires in September of 2002. However, based on the current rate of applications, it is expected that the Minnesota River basin-wide program will be completed by later this spring.

Prior to promotion of the CREP program, the watershed had:

- 11 easements.
- 381.1 enrolled acres.

Since promotion of the program began (current as of Feb. 2002):

- 200 landowners in the watershed have been contacted and supplied with dollar proposals and/or aerial photos showing the proposed easement area.
- 35 easements have been signed with more expected in the near future.
- 1,556 acres have been enrolled in CREP, bringing the watershed total to 1,937 acres. This exceeds the original goal of 1,500 acres. Over 80% of the easements occurred on marginal farmland within the active floodplain of the Little Cottonwood River.

Staff erected CREP signs on some of the easements in the watershed. These signs identify the areas as CREP land and private property. More signs will be put in place upon request of participating landowners.



Groundwater Vulnerability Project

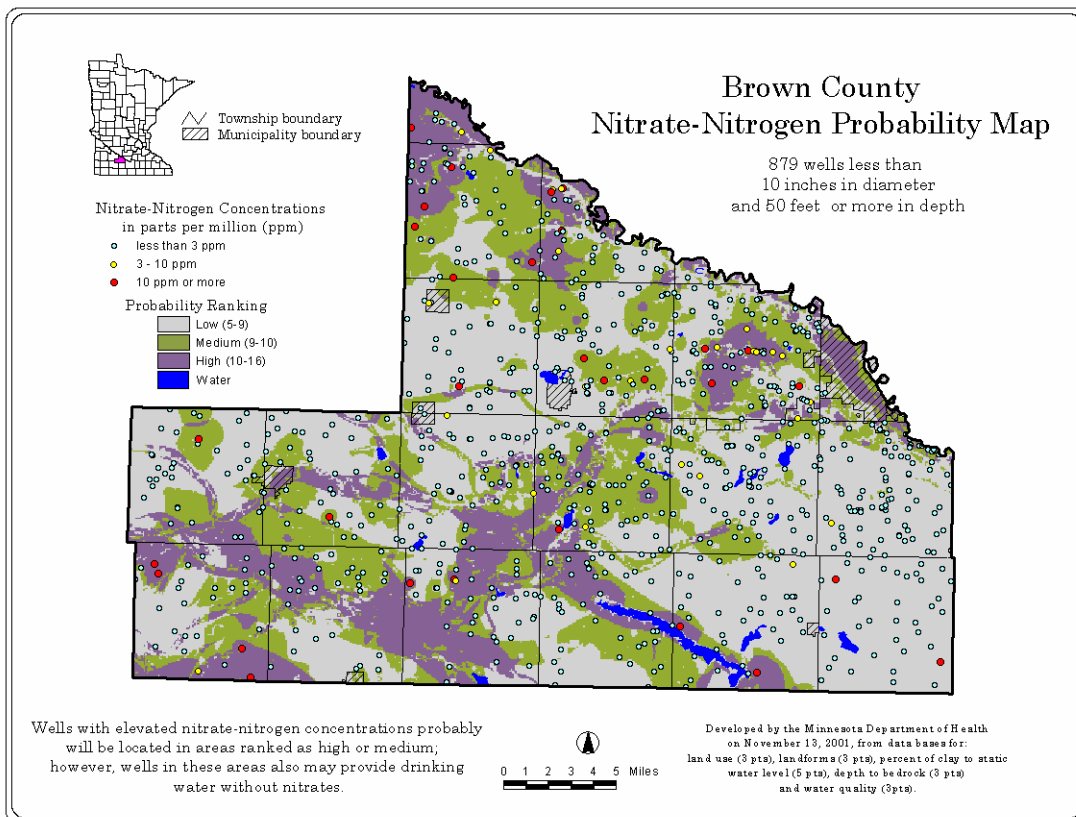
A Water Resource Protection Management Tool

The Groundwater Vulnerability Project is designed to provide county planning and zoning commissions with groundwater information for land management and zoning decisions. The lead agencies for the project are:

- ◆ Brown Nicollet Cottonwood Water Quality Board
- ◆ Minnesota Department of Health
- ◆ Minnesota Pollution Control Agency
- ◆ County Agencies:
 - SWCD, Water Planning, Environmental Health, Environmental Services, Planning and Zoning, Minnesota Extension Office

The goal of the project is to use 12 years of groundwater monitoring data, the County Well Index and Geographic Information Systems (GIS) instruments to provide guidance in land management decisions with a focus on long-term protection of ground water resources.

- ◆ County wide maps have been developed showing groundwater vulnerability to nitrates (See example below). Township level maps will be developed soon for each of the three counties.
- ◆ Bonnie Holz completed Water Quality Reports for Nicollet, Brown and Cottonwood counties. The reports are under final review before distribution.
- ◆ Scott MacLean joined the project this fall and will serve as an intermediary between the groundwater technical committee and county Planning and Zoning Commissions.



Nitrate Probability map for Brown County. Dark purple areas on the map indicate areas where nitrate contamination to groundwater is more probable. Maps were created using township testing water quality, landforms, land use, % clay above groundwater, and depth to bedrock.

Headlines

- Steve Stauff of Gustavus Adolphus College is hired as January intern to help accelerate CREP promotion. Blake Honetshlager a senior at St. Peter high school assists BNC staff for the spring semester as part of a science outreach class.
- Spring flooding is comparable to 1997 levels in area tributaries and the Minnesota River.
- Governor Ventura visits office and hears about local watershed efforts to promote the CREP program.
- Little Cottonwood River Project starts phase II of a Clean Water Partnership.



- Intensive water quality monitoring continues in Seven Mile Creek Watershed.
- LCR Project hires Scott McLean as watershed technician.
- Paul Davis of Brown Co. Water Planning nominated as coordinator of Middle MN Major Watershed.
- BNC Water Board partners with Blue Earth Agronomics and Center for Agricultural Partnerships to develop nitrogen rate on-farm demonstrations.
- Nicollet County Paired Watershed study is funded. Huel-skamp Creek and Seven Mile Creek will be the focus for the next three years in this one of a kind, intensive research project.
- Staff develop computer modeling tool to better analyze water quality data and assist with watershed planning. Could be used in other watershed projects across the state.
- Groundwater vulnerability/planning and zoning project starts. Scott MacLean hired as coordinator of the project.
- BNC Water Board receives \$200,000 grant from the McKnight Foundation to reduce nitrates in surface water using wetlands and in stream techniques.
- Northern Plains Dairy receives permission from county and state to start construction of a 3,000 head jersey dairy in Seven Mile Creek Watershed. The dairy will be one of the largest in the state.

Water Resource Presentations and Related Educational Events 2001

	<u>Attendance</u>	<u>Month</u>
Children's Water Festival-Mankato	100+	March
MN River Joint Powers Board	60+	May
Lake Hanska Conservation Days	40+	May
Minnesota Environmental Health Assoc. Conf. presentation	45 +	May
Red Top Farms and Seven Mile Watershed field day presentation.	80+	September
St Peter Wellhead protection efforts	30+	September and November