Seven Mile Creek Watershed Project

March 2003

Seven Mile Sentinel

Implementation Phase of Watershed Project Begins

For the next two years the Seven Mile Creek Watershed will be the focus of a water quality project. The project is a collaborative effort between the BNC Water Quality Board, Nicollet SWCD/NRCS, Environmental Services, crop consultants, and various state agencies. The main goal of the project is to increase soil and water conservation measures through the use of voluntary adoption Best Management Practices (BMPs). Through 2004 farmers and landowners within the 23,500 acre watershed will be eligible for special incentive programs to accelerate the adoption of BMPs. Major emphasis will be placed on three programs:

- Continuous Sign-up Conservation Reserve Program (CRP)—filter strips along drainage ditches, small wetland restorations, and field windbreaks/living snow fences.
- Upgrading non-complying septic systems
- Nutrient Management

Cost share to replace open tile intakes with rock inlets, nutrient management plan assistance, and other programs will be offered. In addition there will be a suite of other programs available through the USDA such as EQIP and possibly through the new Conservation Security Act of the Federal Farm Bill.

In the next few months landowners eligible for CRP, septic system upgrades, and other programs will be contacted by phone, letter, or visit. I ask that each landowner, homeowner, and producer of the watershed carefully review these options and opportunities and take advantage of the additional technical assistance. With state budget cuts in agriculture and conservation, and at the same time a growing push for environmental stewardship and accountability by taxpayers, the watershed project could not come at a better time. Please contact me or the NRCS/SWCD for more information. Be sure to attend the watershed information meeting March 13 to hear more about the programs and how the project can help you stay ahead of the curve.

As part of the new watershed project, work began in December of 2002 to help stabilize 1,000 feet of eroding stream bank in Seven Mile Creek Park. The project demonstrated alternative techniques to slow bank erosion while at the same time helping increase habitat for brown trout.

Kevin Kuehner-Watershed Coordinator

Water Quality Study Results

Since 2000, the watershed has been monitored at three locations for sediments, nutrients, and bacteria. The study indicated moderate levels of phosphorus and high levels of sediment, nitrates, and E. Coli bacteria were entering Seven Mile Creek. Major findings of the three year study are bulleted below. Intensive water quality monitoring of this watershed will continue through 2004. Fish survey results will be showcased in future newsletters. The water quality report can be downloaded at http://mrbdc.mnsu.edu/reports/midminn/sevenmile.html

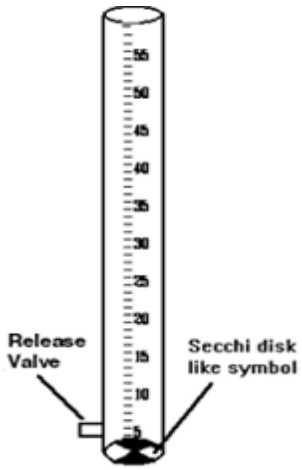
- **Sediment and Nutrient Loading:** The vast majority of sediment , phosphorus, and nitrate losses from the watershed take place in the spring months. More than 60% of the growing season load carried by Seven Mile Creek to the Minnesota River occurs in just three months-April, May and June.
- **Major Sediment Sources**: It is estimated that close to 50% of the sediment in the watershed is derived from bank erosion located in the lower portion of the watershed. Although stream bank erosion is a natural process, it is believed that changes in watershed hydrology--more efficient drainage systems and changes in vegetation cover and climate have accelerated that erosion. The other half is derived from open tile intakes (7%), upland (31%), and erosion prone areas closest to the drainage ditches (13%).
- **Major Phosphorus Sources:** Over 50% of the phosphorus is estimated to come from upland cultivated lands

WATER QUALITY STUDY RESULTS

CONTINUED……

with the remaining divided among open tile intakes (5%), non-complying septic systems (13%), stream bank erosion (17%), and that area closest to the drainage ditches (12%).

- **BMP Scenarios:** If BMPs were adopted on 50% of the watershed acres we could see 10-20% reduction in sediment and 20-40% reductions in phosphorus in Seven Mile Creek. BMPs that were selected include a 100 foot buffer of grass filter strips along the drainage ditches, applying phosphorus at agronomic rates, upgrading septic systems, and replacing open tile intakes with alternative designs. It appears upgrading septic systems and buffer strips would be the most effective for reducing phosphorus and soil losses to the creek.
- **Conservation Tillage:** About 40% of the fields within the watershed were meeting conservation tillage requirements. (greater than 30% or more residue after planting when the previous crop was corn and greater than 15% when the previous crop was soybeans) The majority of low conservation tillage levels were found on fields where the previous crop were soybeans.
- **Nitrate:** Nitrate losses found during the study were high. In 2000, 161 tons of nitrate came out of the watershed from April through September. This is about 14 lbs./acre. About 464 tons or 39 lbs/acre was tested in 2001. Flow weighted average concentrations range from 14 to 18 mg/l in the watershed. The federal drinking water standard is 10 mg/l. Nutrient management and routing drainage tile into small wetlands will be main BMPs used to help reduce nitrate losses in the water-



Transparency tube

CALL FOR CITIZEN STREAM MONITORS

Are you looking for a way to become more involved in the Seven Mile Creek Watershed Project? Watershed residents now have an exciting opportunity to participate in the Citizen Stream Monitoring Program. Volunteers will record observations of rainfall and stream clarity using rain gauges and transparency tubes between April and September. This will provide participants with interesting information and some hands-on ownership of the Seven Mile Creek Watershed Project. The watershed project will pick up half the cost of the materials so the cost to each volunteer will only be $10. Observations can be made bi-monthly and after major rain events so the program does not represent a major time commitment. Monitoring locations will be assigned so as to be convenient for the volunteers. The data that is collected will be used in our efforts to track and improve the water quality of Seven Mile Creek. Those people interested should contact Scott MacLean of the Seven Mile Creek Watershed Project for more details.

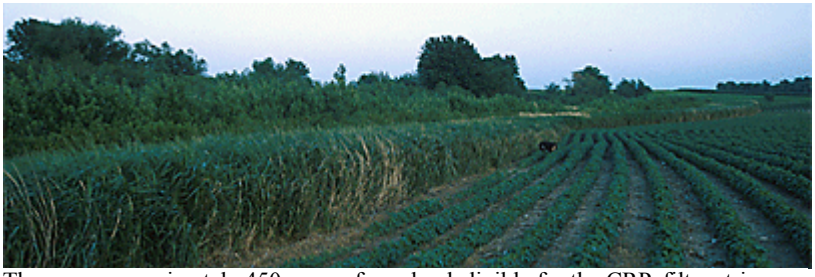
Aerial photograph taken in June of 2002 of frequently drowned out areas in the watershed. These areas will be targeted for the Farmable Wetland Program. There are approximately 700 acres eligible for this program in the watershed. Photo Brian Williams

USING WETLANDS AS A THIRD CROP TO FARM NITROGEN OUT OF THE SYSTEM

Instead of being paid to farm corn and soybeans how about raising a wetland? A new CRP program called the Farmable Wetlands Programs (FWP) now allows farmers to enroll cropped land which frequently drowns out into grass for 10-15 years. Through FWP you can enroll farmed wetlands up to five acres in size and receive annual CRP payments. A buffer around the wetland can also be enrolled in order to square off fields. Watershed annual CRP payments average around $132/acre/year based on soil type with signing bonus. And for a limited time, you might qualify for a $75/acre/year incentive payment through the Seven Mile Creek Watershed Project. This can mean up to $5,625 in addition to annual CRP payments or up to **$200/acre for marginal cropland!** See insert to learn more about this exciting program! If interested hurry since eligibility for the $5,625 payment is on a limited basis.

Eligible landowners will be contacted in the coming months through an air photo proposal estimating what they could receive if enrolled in the program.

Filter Strips along drainage ditches can be Finanically Rewarding and Effective



There are approximately 450 acres of cropland eligible for the CRP filter strip program in the watershed. Currently there are only about 3 acres enrolled in the program. Eligible widths range from 33-120 feet from drainage ditch.

Sediment and phosphorus are major pollutants in Seven Mile Creek causing water quality concerns not just for the creek, but the Minnesota River and Midwest. One way in which the pollutants enter the creek is through over land run-off that carries sediment and phosphorus into drainage ditches feeding Seven Mile. It is estimated that a simple 100 foot wide buffer strip of native grass along all the ditches in the watershed would reduce sediment and phosphorus loads from the watershed by 10-15%. Grass buffer strips effectively trap sediment and nutrients from a cropped field before they can enter the waterways. Compared to row cropped areas buffers can reduce sediment up to 90%, nitrogen and phosphorus in runoff up to 80%, groundwater nitrate up to 90% and stream bank erosion up to 80% (Iowa State University-Bear Creek Project).

You can receive lucrative payments by enrolling land along ditches into the CRP program. Payment rates average around $122/acre/year and a signing incentive payment can increase your payment even more. A maintenance and installation provision payment also helps offset the cost of establishment. Many of you will be receiving buffer strip proposals in the coming months. Please look at them closely, and contact the NRCS or watershed staff with any questions.

"Annual CRP payments average around **$132/acre/year** with signing bonus in the watershed. And for a limited time, you might qualify for a **$75/acre/year** incentive payment through the Seven Mile Creek Watershed Project."

Septic Program

Septic Loan Money Now Availiable

Are you in need of upgrading your failing septic system? The SMC watershed project can assist you financially by providing a low interest loan.

Minnesota's revolving loan program provides loans to individuals for planning, design, and construction of wastewater treatment systems. Through the program residents can obtain a loan to cover the costs of a septic system improvement at a reduced interest rate of 4.0 % and loans may be repaid over 10 years. The SMC Clean Water Partnership program has $550,000 available to watershed residents. This amount should cover the cost of most of the systems in the watershed.

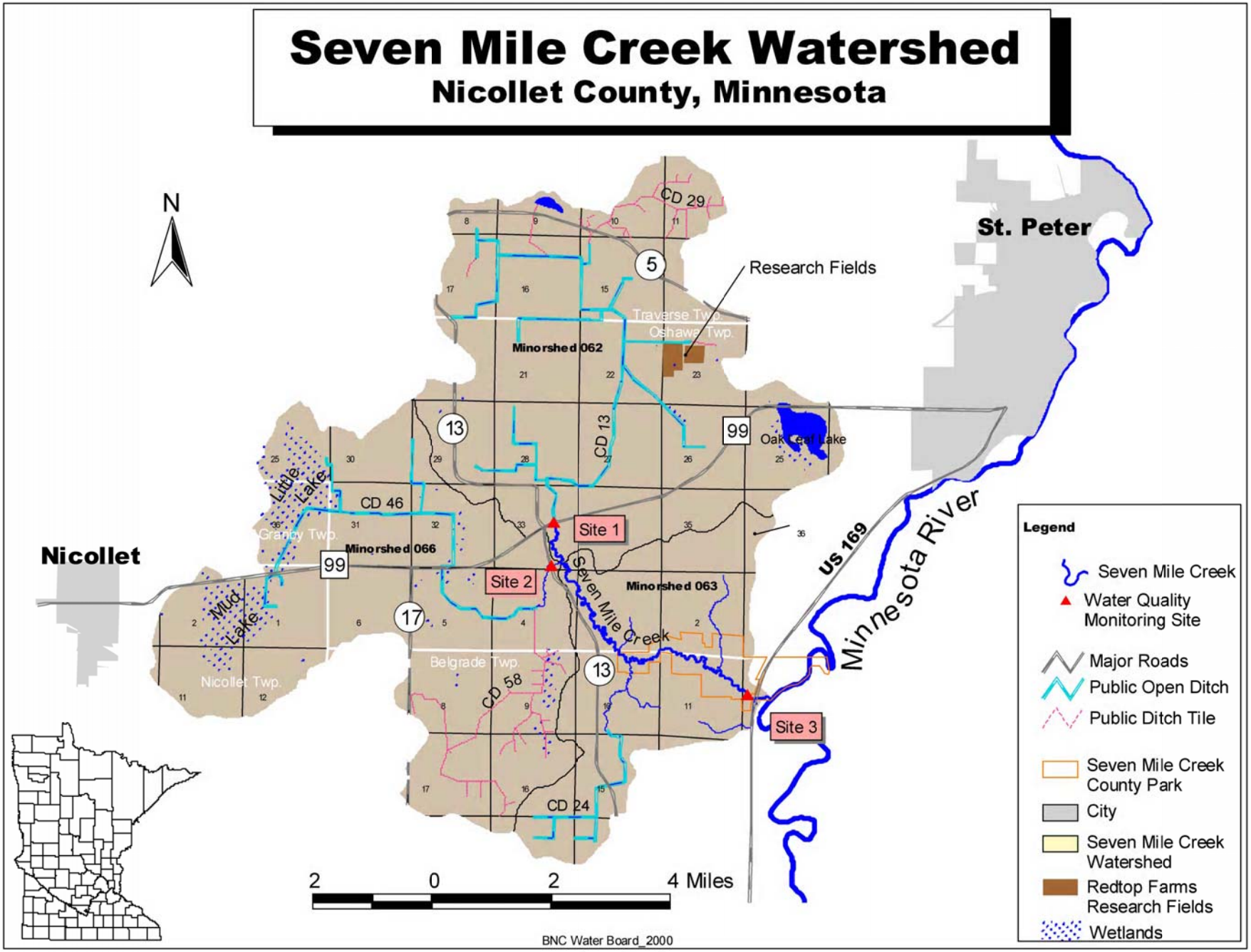
Don't miss this opportunity! Interested watershed residents should contact Norm Kuhlman of Environmental Services 931-6800 or Steve Stauff of the watershed project at 934-4140 for application instructions and questions.

Through the State Revolving Loan Program, homeowners needing septic system upgrades can receive reduced interest loans (4.0%) within the Seven Mile Creek watershed.

"Through the program residents can obtain a loan to cover the costs of a septic system improvement at a reduced interest rate of 4.0 % and loans may be repaid over 10 years."

Seven Mile Creek Watershed

Nicollet County, Minnesota



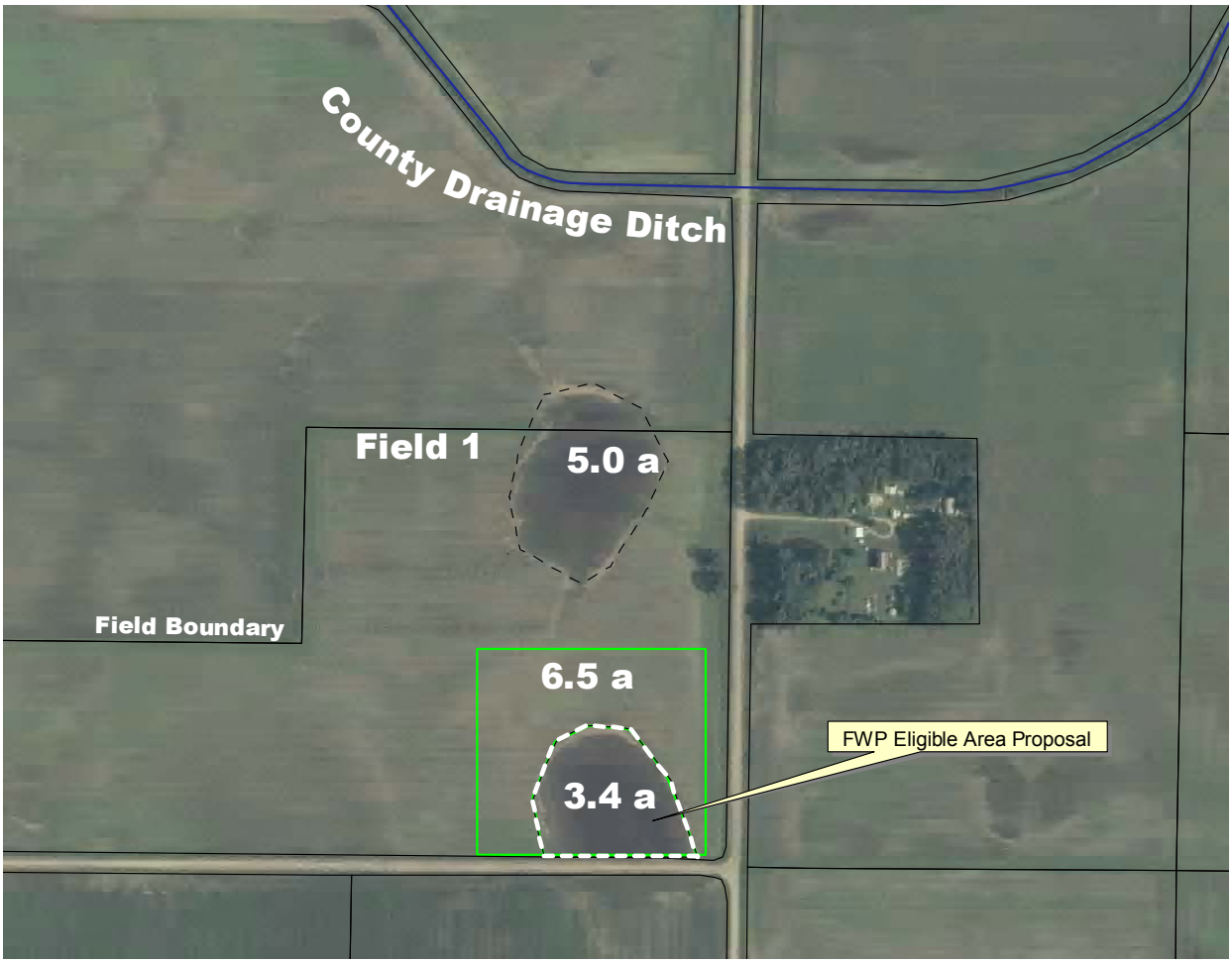
BNC Water Board_2000

Farmable Wetland Program
Continous Signup CRP

ATTENTION LANDOWNERS IN THE SEVEN MILE CREEK WATERSHED!

Are you tired of trying to farm drowned out areas in your fields? Now there is a great program for you. For a limited time you maybe eligible for a **$5,625.00** bonus payment incentive on top of CRP payments through the watershed project!

Call 507-934-4140 For More Information or Contact Bill Geary of NRCS



Example:

3.4 acre cropped wetland area + 6.5 acre area buffer to square off field= Total area =9.9 acres

+ Continuous Signup CRP Rate = $127.12/acre/year
+ Signing Bonus ($140-$150 acre) = $1,485
+ Seven Mile Creek Incentive (paid up front) ($75/acre/year for 15 years)* = $5,625
= Total Payment over 15 years = **$25,987.32 or $175.00/acre**

*Incentive payment up to 5 acres

Watershed Meeting

An informational meeting about the Seven Mile Creek water quality project will be held at the St. Peter Community Center. This will be a great opportunity to learn about the project, future activities, and new soil and water conservation programs. For further information contact Kevin Kuehner 507-934-4140.

What: Seven Mile Creek Watershed Information Meeting
When: Thursday March 13, 2003 7:00 to 9:00 p.m.
Where: St Peter Community Center, Senior Center Room

7:00 Slide show about watershed project and water quality -Kevin Kuehner
7:30 Nutrient BMP Insurance Program-Paul Brietzke Hiawatha Valley RC&D
8:00 USDA Conservation Programs, Bill Geary and Kevin Ostermann
Farming a different crop. Farmable Wetlands Program, Kevin Kuehner
8:30 Septic Program-Steve Stauff and Norm Kuhlman
8:45 Citizen Stream Monitoring Program-Scott MacLean

Nitrogen Rate Validation Meeting

Over the past two years the Midwestern Water Quality Project demonstrated new ways for farmers to make nitrogen decisions. On over 40 fields in MN and IA farmers, consultants and researchers have been using GIS/GPS and yield monitors to determine which nitrogen rate is the best for their farm. At this meeting you will be able to learn the results of these innovative plots. The project is sponsored by the Center for Agricultural Partnerships, MN Corn Growers, MN Soybean Growers, National Alliance of Independent Crop Consultants, Southern MN Corn Economics Group, and UM precision Ag Center. For further information contact 507-381-2290.

What: Nitrogen Rate Validation Plot Results
When : Tuesday March 11, 2003 9:00 a.m. to 3:00 p.m.
Where : Country Inn and Suites, Mankato, MN (Junction of Hwy 22 and 14)

Nutrient Management Workshop

Today manure management plans are recommended for all livestock producers, but are mandatory for producers with 300 animal units or more. Producers with 100 animal units or more are also required to have nutrient application records. By 2005, all livestock producers will be required to comply with a manure management plan. Learn about the rules and how to develop a plan according to state requirements. Workshop will be held April 2, 2003 at the Best Western in North Mankato. Registration is required. Contact Rob Redding at 507-934-0250.

Environmental Health

Testing Services

Got Radon?

Tests show radon levels are high in many homes in this area. Around 70% of homes tested through the Brown-Nicollet Environmental Health Program show radon levels above the safe level. The safe level set by the EPA is 4 pCi/L. (pico curries per liter of air)

What is Radon?
Radon is a colorless, odorless radioactive gas that causes an estimated 20,000 deaths in the U.S. from lung cancer.

When is it dangerous?
Radon occurs naturally in the soil. It enters our homes through cracks in the floors and walls, floor drains and crawl spaces. In winter radon levels can get high since the gas becomes trapped in our homes. Levels above 4 pCi/L are considered unsafe.

How can I find out if my home has radon in it?
The only way to know is to test. Every home should be tested for radon.

Where can I get a radon test kit?
Easy to use kits are available for only $3.00 at the Brown Nicollet Environmental Health Office in St. Peter. 507-934-4140. Long-term test kits are also available at a reduced cost. Radon doesn't have to be a problem in our homes. Contact Carol Johnson with any questions at 507-934-4140.

Water Testing Services

Interested in knowing if your well water is safe? The Brown Nicollet Environmental Health Office offers well water testing.

What should I test for? The three most common tests that should tested for once a year include:
Nitrates, Bacteria, and Arsenic.

Test Prices: Nitrates-$12.50 Bacteria-$12.50 Arsenic-$15.00 Nitrates and Bacteria-$20.00

Call 507-934-4140 to receive a test container, and instructions on how to take a sample. Samples can be dropped off at the Brown Nicollet Environmental Health Office in St. Peter.

BROWN NICOLLET COTTONWOOD WATER QUALITY BOARD

Seven Mile Creek Project
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BNC Water Quality Board Members

Nicollet County
Judy Hanson
David Dehan

Brown County
Charles Guggisberg
Donald Wellner

Cottonwood County
John Oeltjenbruns
Norm Holmen

Staff
Bill Geary -NRCS
Kevin Ostermann-SWCD Environmental Services Staff
Kevin Kuehner—Watershed Coordinator
Scott MacLean—Watershed Technician
Steve Stauff—Septic Program Coordinator

The BNC Water Quality Board is a multi-county alliance, which coordinates watershed based projects with an interest and commitment toward the long-term protection and improvement of water quality. The board has a long history of supporting and protecting rural watersheds, river corridors, and source water protection through voluntary cost-share assistance programs. The Board educates watershed residents, farmers, and schools and improves river and watershed management policy. The joint powers board also cooperates with other federal, state and local agency officials, industry and business representatives, university personnel, scientists, and environmental interests. The board is funded through Minnesota's Clean Water Partnership program administered by the MPCA, MDNR Environmental Partnerships Program, McKnight Foundation and other public and private grant sources.

Nutrient Management

Nitrogen Insurance- The Minnesota Department of Agriculture is helping to introduce a new federal pilot program that will help farmers and the environment by taking the financial risk out of adopting nutrient Best Management Practices.
The program is designed to help producers protect water quality by encouraging them to put their faith in nutrient application rates recommended by the University of MN. The U of M recommends application rates that can help farmers maximize yields while cutting production costs and protecting water quality. The USDA based program will be piloted in Minnesota, Iowa, Wisconsin and Pennsylvania. The program says participating farmers who apply at recommended rates and as a result suffer yield losses of 5% or more will be eligible for reimbursement though the BMP insurance. Seven Mile Creek Watershed Project is helping to cost share the insurance policies on a trial basis.

N-Rate Validation Results- Over 30 farms in South Central MN participated in on-farm demonstration plots to determine economical optimum nitrogen rates. Seven watershed area corn growers participated in the field scale demonstrations. Preliminary results indicate that between 90-120 pounds of nitrogen maximized yields and profits in a corn soybean rotation. More information will be made available at a March 11 meeting in Mankato at the Country Inn and Suites.

A soybean crop or manure application can be a significant source of nitrogen to next year's corn crop. Calculate the nitrogen credit according to University of MN guidelines and reduce your fertilizer needs. Proper fertilization means less opportunity for groundwater and surface water contamination.

Nutrient Management Plans and Record Keeping- Now more than ever nutrient management plans and proper record keeping systems are becoming a necessity due to new state 7020 feedlot rule requirements and conservation and subsidy provisions of the new Federal Farm Bill. The MN Extension Service has created a tool to help with these requirements. Nutrient Management Planner for MN is a Microsoft Access program designed to assist in developing field specific crop nutrient management plans. A crop nutrient management plan is comprised of several components that will provide guidance for making decisions on location, rate, timing, form, and method of nutrient application. Today manure management plans are recommended for all livestock producers but are mandatory for producers with 300 animal units or more. By 2005, all livestock producers will be required to comply with a manure management plan. The watershed project is offering free soil and manure tests and technical help through area Coop and private agronomists on a limited basis in effort to develop nutrient management plans for interested producers. Contact the watershed project for more information.

Red Top Farms- The Red Top Tile Demonstration Project (Site) is located in the upper portion of the Seven Mile Creek Watershed. Water quality and quantity monitoring at the site is currently conducted by the Minnesota Department of Agriculture (MDA). Samples are collected from three different pattern tile systems draining three different fields ranging in size from 22 to 28 acres. Samples are analyzed for nutrients and pesticides by the MDA Laboratory in St. Paul.
Results indicate that producers can have a significant impact on the amount of nitrogen leaching from their fields. By switching to spring application, reducing to University of Minnesota recommended rates and taking the full legume credit for corn following soybeans nitrate-Nitrogen concentrations were trimmed 25 to 50 percent,