

2004 Year in Review

As we look back at 2004 and review the number of filter strip and wetland acres that were enrolled into set aside programs, it is evident that significant efforts have been taken to help put conservation where it is needed. These acres were the result of a combined effort of many different individuals. Although the number of acres enrolled or contracts signed is an important measuring tool for evaluating the effectiveness of our partnerships, we shouldn't forget about some of those hard to measure efforts. For example: building partnerships among local agencies to maximize the efficiency of implementing CRP, establishing relationships and trust among landowners and producers, developing a first-of-its kind petition in Nicollet Co. to rout county drainage tile into a restored wetland, shaping watershed cost-share and management policies, helping bridge together the latest agronomy and drainage science from IA and MN. These are all accomplishments the BNC Water Quality Board should be proud of and will continue into 2005 as a result of Watershed and Farm Bill Assistance continuation funding. -Kevin Kuehner

2004 Conservation Highlights

Seven Mile Creek Watershed

- ◆ 5 CRP filter strip contracts covering 25 acres along drainage ditches and ravines
- ◆ Completed petition to rout branch of CD 58 county drainage tile into restored wetland
- ◆ Completed construction of 20 acre CREP/CRP wetland restoration and 30 acre upland buffer in December on CD58 impoundment project.
- ◆ Coordinated EQIP contract for 250 acres of no-till on highly erodible soybean ground near ravines of Seven Mile Creek.
- ◆ A total of 5 producers replaced 12 open intakes with rock inlets
- ◆ Conducted On Farm Nitrogen Rate Demonstrations on 5 farms covering 250 acres
- ◆ Set up 5 additional Nitrogen Rate Demonstrations for 2005
- ◆ Identified sites for potential Conservation Drainage Demonstration planned for 2005
- ◆ Assisted with the seeding of 15 acres of filter strips
- ◆ Coordinated the maintenance (mowing, spot spraying) of 100 acres of CRP filter strips and wetlands installed in 2003.
- ◆ Conservation tour of recently installed conservation practices held in September
- ◆ Completed agronomy research at Red Top Farms using Variable Rate Technologies
- ◆ A total of 18 septic systems upgraded in 2004, resulting in a total of 33 installed since 2002.

Little Cottonwood River Watershed

- ◆ Produced and mailed over 100 new CRP filter strip, FWP and general CRP proposals for areas identified as marginal. We were able to secure 10 new CRP contracts covering 268 acres.
- ◆ Conservation Tour of watershed conservation practices in June
- ◆ 8 septic system upgrades

Farm Bill Assistance to Brown and Nicollet Counties

- ◆ 33 contracts covering nearly 500 acres of new CRP
- ◆ 3 wetland restorations totaling 15 acres of basin, and 45 acres of upland buffer
- ◆ Contacted 75 landowners and sent out over 300 CRP proposals
- ◆ 1,000 acres of conservation tillage under EQIP

<i>Assisted CRP acres enrolled or restored in 2004.</i>	Filter Strips	Wetlands
Seven Mile Creek	25	50
Little Cottonwood	62	206
Additional Nicollet Co.	42	73
Additional Brown Co.	2	62
Total	131	391

These accomplishments would not be possible without the following : Producers and Landowners, SWCD, NRCS, FSA, BWSR, DNR, MDA, Env. Services, Water Planning, McKnight Foundation, Pheasants Forever, Nicollet Conservation Club, Clean Water Partnership Program, Blue Earth Consulting, Lafayette Excavating, Deegan Construction, Winterhaven Enterprises, and Keeley Drainage.

Back to Wetlands



Locating county main to be modified for drainage into wetland.

100 acres of wetlands were restored in 2004. Preliminary monitoring data from those restored in 2003 are showing 90% nitrate reductions.



Creating outlet ditch for private tile to be routed into wetland.



Connecting the in-line water level control structure

From Start to Finish

- Contact interested landowners
- Conduct topographic survey
- Prepare design
- Coordinate CRP sign-up
- Stake boundaries
- Coordinate seeding
- Coordinate construction
- Follow-up with maintenance and mowing assistance
- Monitor drainage water quality entering vs. exiting wetland



Installing drop logs in the water level control structure.

Conservation Tours

Several watershed tours were held this past year to showcase newly installed conservation practices. The first tour was held on June 17 in Brown County. The tour consisted of 10 stops and topics ranging from milk house wastewater treatment using EQIP funding to restored prairies and wetlands through CRP and CREP. About 40 people participated in the day long tour.

In September a similar tour was coordinated in Nicollet County, but was partnered with the South Central Corn Economics Group. Approximately 120 people participated in the tour. Participants included farmers, students, agency personnel and agri-businesses. The tour consisted of a morning informational program and a tour to a restored wetland, nitrogen rate research field, and Northern Plains Dairy. Participants were provided with information on the Conservation Security Program, CRP, soil materialization test, fertilizer market trends, and nutrient rate research results.





Watershed Updates

Little Cottonwood River CWP/Brown County



We continued efforts to accelerate enrollment of sensitive land into different CRP options with an emphasis on filter strips and wetland restorations. Prior to April, these efforts were aimed solely at the Little Cottonwood Watershed. The effectiveness of this combined effort can be illustrated by the buffer status table. Of the 150 miles of ditches and streams in the LCR watershed, half are properly buffered with vegetation from adjacent cropland. Starting in April we received funding from the Board of Water and Soil Resources (BWSR) and administered by the

Adequate Buffer	50%
No Buffer	31%
One Side Buffered	19%

LCR Watershed Stream Buffer Status as of 2004.

Brown SWCD to expand our efforts to all of Brown County. Using input from NRCS, FSA and the Brown SWCD we identified priority areas to target in the county. Literally hundreds of landowners were contacted with letters and phone calls to inform them of their options and the payments they could receive for CRP enrollment. This work resulted in at least 15 new contracts totaling at least 321 acres. These acres consist of filter strips, wetlands and general CRP. We have received additional BWSR funding to continue our CRP efforts at least through next October. We will continue to send proposals, and have several landowners expressing interest. In July, we oversaw the design and construction of a wetland restoration in Mulligan township.

Monitoring efforts continued at the mouth of the Little Cottonwood River in 2004. Sixteen samples were taken and analyzed at MVTL in New Ulm. The samples will allow us to estimate the total pollutant loads from the Little Cottonwood River in 2004.

In early 2004 we were notified by the MPCA that the LCR Watershed CWP Phase II continuation request was successfully awarded in the amount of \$157,696 and \$150,000 in low interest loans for septic improvements. This funding will allow us to continue offering financial and technical support through 2006.

Seven Mile Creek CWP/Nicollet County

As with the Little Cottonwood Project, we continued efforts to enroll sensitive areas into various CRP programs, emphasizing filter strips and wetland restorations. These efforts resulted in the sign-up of 25 acres of filter strips, and restoration of 20 acres of wetlands and 30 acres of upland buffer. Prior to March, these efforts were aimed solely at the Seven Mile Creek Watershed. In April we received BWSR funding to expand our efforts throughout Nicollet County. This work led to securing at least 18 new CRP contracts comprising at least 140 acres. Our efforts to secure wetland acres were especially successful with over 50 acres of wetlands and upland buffers enrolled under the FWP program. Much of our time was spent surveying these restoration sites, designing the restoration plans and overseeing the construction. Two of the three restorations were completed this fall and the third is scheduled for completion in the spring. We will monitor the water entering and exiting one of these wetlands next year to test the effectiveness of the wetland on water quality. We also arranged for each of the CRP areas we worked with to be seeded in November. At least three other sites are strong possibilities for wetland

restorations next fall. Several filter strips are also likely to be enrolled for next fall. Our county wide efforts also led to the enrollment of 1,250 acres in EQIP for conservation tillage.

Norm Kuhlman of Nicollet Env. Services reported that a total of 18 Septic Systems were up-graded this year in the watershed, which brings the total to 33 new systems installed since 2002 at a cost of \$211,252.43. At the start of the project we estimated that there were 140 systems in need of up-grade. Our goal is to have over 60% of these upgraded by 2008. Homeowners are saving an average of about \$1,000/system in interest payments through the low interest loan program.

Monitoring efforts continued at three sites in the Seven Mile Creek Watershed. A total of 55 samples were taken and the results will be used to estimate pollutant loads in the creek. New equipment was installed at the mouth site that will eliminate the problems associated with very high June flows. Samples were also taken from 2 wetland restorations to test each wetland's effectiveness at improving water quality.

In December, we were notified that the Seven Mile Creek Watershed was awarded continuation funding in the amount of \$225,812 and \$395,000 in low interest loan money for septic upgrades from 2005-08. We feel very fortunate for this award. Only 11 projects were selected for funding in 2005 throughout the state.

Farm Bill Assistance Program

Compared to 1996, the 2002 Federal Farm Bill increased conservation spending by over 80%. Realizing it takes extra people knocking on doors and deciphering conservation options for landowners at the kitchen table, funding was coordinated through the help of Pheasants Forever, MDNR, BWSR, Nicollet Conservation Club, and local SWCDs to hire additional staff for conservation assistance. Beginning in 2004 we were contracted to fill this technical niche for Brown and Nicollet Counties. Our work has resulted in at least 15 new contracts totaling at least 332 acres in Brown County. These acres consist of filter strips, wetlands and general CRP. In Nicollet County this work translated to 18 new CRP contracts comprising at least 190 acres. Our efforts to secure wetland acres were especially successful with over 50 acres of wetlands and upland buffers enrolled under the CRP-Farmed Wetland Program. Our assistance with this program will continue through 2005 with hopes of equal or greater success.

Groundwater Vulnerability Zoning Pilot Project

The Groundwater Vulnerability project was completed in 2004 with the final report compiled and submitted in June. The final payment from the PCA was received in August. The vulnerability maps were applied to 33 conditional use permits between Nicollet and Brown Counties. It was determined that the maps can be used as tools to:

- 1) Identify areas that have a higher probability for nitrate-nitrogen groundwater contamination;
- 2) Provide nitrate probability information for the land use application process, such as feedlot and subdivision establishment and expansion;
- 3) Provide groundwater vulnerability information as a justification for the granting of land use permits;
- 4) Alert Planning and Zoning personnel of groundwater concerns that merit adding conditions to land use permits in order to protect and/or improve water quality.

The final report is available for download at our website: <http://mrbdc.mnsu.edu/org/bnc/pubs.html>

On-Farm Nitrogen Rate Studies Compiled

On Farm Nitrogen Rate Demonstrations conducted in area watersheds in Minnesota and Iowa are available for download <http://mrbdc.mnsu.edu/org/bnc/nitrogenrate.html>. Corn producers are using the farm specific information to help maximize profits while minimizing potential nitrate leaching.



A Look Into '05

As we look to 2005, emphasis will continue helping accelerate CRP filter strips and wetlands restorations. Special attention will also focus on septic upgrade programs. In 2004, Cottonwood County was one of three counties selected to receive special grants for helping upgrade non-complying septs. As seen in the following chart, the potential savings, \$~3,000, can be quite substantial when compared to a typical loan. Special marketing of these programs to the 50 eligible LCR homeowners in the Cottonwood Co. portion will continue in 2005.



Special marketing of Septic Upgrade Programs will be a priority in 2005.

A Move Towards Green Payments

For the first time in history, federal farm law contains a program consisting of "green" payments. The Conservation Security Program (CSP) provides incentive payments to agriculture producers who adopt and maintain conservation practices on working lands. Rather than traditional federal programs that base payments on crop production, and thereby provide an incentive to overproduce, this new program pays on practice rather than production. Both existing and new conservation practices on any farm are eligible for this three-tiered system of rewards for increasing environmental management. CSP eligibility will be rotated by watershed. Currently CSP is not available in BNC Counties, but special efforts to educate our landowners about this program and how they can prepare for when it does arrive will be a priority this coming year.

Smart Drainage

Can we demonstrate controlled drainage as an effective and practical solution to some of our agricultural drainage environmental concerns? That question will try to be answered through a new Conservation Innovation Grant awarded to Nicollet and Mower Counties through a joint project with MDA and NRCS. Two potential sites on 40-acre crop fields in the Seven Mile Creek Watershed have been selected. BNC staff will play a large role in helping coordinate this project. If the demonstration is proven effective, cost-share could be made available for this practice throughout south-central Minnesota. Planning and construction will be conducted in 2005 and monitoring through 2007.

	<i>Conventional Financing</i>	<i>Cottonwood Septic Program</i>
Loan Amount	\$8,000.00	\$8,000.00
Interest Rate	6%	3.5%
Loan Length	10 years	10 Years
Loan amount with 15% grant	—	\$6,800.00
Loan amount with \$500 grant	—	\$6,300.00
Monthly Loan Payment	\$88.82	\$62.30
Total Interest Paid	\$2,658.40	\$1,176.00
Total Savings	\$3,182.40 or \$26.52/month	

Example comparison of conventional financing vs. Cottonwood County Septic Program.

Funding Sources for 2004 and 2005

1. McKnight Foundation for Special Wetlands Project
2. Seven Mile Creek Clean Water Partnership
3. Little Cottonwood River Clean Water Partnership
4. Nicollet County Farm Bill Assistance-Pheasants Forever, BWSR, MDNR Nicollet Conservation Club, Nicollet SWCD
5. Brown County Farm Bill Assistance-Pheasants Forever, BWSR, MDNR, Brown SWCD

Headlines

- ◆ Hosted 5 interns in 2004. Student volunteers included Louis Henry Huot from La Grande Chatiere France, Blake Honetschlagger from Bemidji State Univ., and Roald Kern, Martha Diedrichson, Ann Fossum from Gustavus Adolphus College.
- ◆ Continued monitoring of Northern Plains Dairy as a part of their NPDES permit. Four samples were collected quarterly at three sites.
- ◆ With cooperation of the MPCA and Gustavus Adolphus College, four groundwater monitoring wells were installed in Seven Creek Park. The wells will be used in ongoing groundwater studies.
- ◆ Provided stream bank erosion assistance on CSH41 for Nicollet Highway Department.
- ◆ Provided planning assistance to the city of St. Peter for storm water management.
- ◆ Health, Home and Conservation Road Show was offered to BNC counties in May. 250 nitrate, bacteria and arsenic tests were completed on private wells for 183 residents.
- ◆ 5th annual Children's Water Festival held in March.
- ◆ Two conservation tours were sponsored this year. Brown County Conservation Tour and Nicollet County Progressive Ag Tour.
- ◆ Hosted Joint Minnesota and Iowa Drainage Forum to discuss collaboration of Drainage Related research and Demonstrations.
- ◆ Secured \$2,500 grant from the Prairie Ecology Bus Center for the Children's Water Festival.



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Don't Forget to Tour the Website.....

<http://mrbdc.mnsu.edu/org/bnc/>

Presentations and Related Educational Events 2004

	<u>Attendance</u>	<u>Month</u>
Children's Water Festival-Mankato	100+	March
National Soil and Water Conservation Society Conference, St. Paul, MN	50	June
MRJPB	25	August
American Society of Agricultural Engineers, St. Paul, MN	60	September
Minnesota Environmental Health Association Fall Conf, Grand Rapids	75	September
Southern MN Progressive Ag Tour,	120	September
MN GIS/LIS Conference, St. Cloud, MN	45	October
GBERBI Info. Mtg.	35	October
Gustavus Adolphus College-Water Resources Class	35	November