



Dakota County Soil and Water Conservation District

News & Notes

This newsletter also available at www.dakotacountyswcd.org Volume 27, Number 1 Spring/Summer, 2008

SWCD Supervisor Candidate Filing is July 1–15, 2008

Dakota County citizens interested in being involved with water quality and natural resource issues at the local level are encouraged to run for Supervisor of the Dakota County Soil and Water Conservation District (SWCD).

SWCD supervisor positions will be filled through general elections November 4, 2008. Individuals who wish to be on the ballot must file for candidacy between July 1 and July 15. Any citizen of legal voting age residing in the nomination district in which a vacancy exists is eligible for election. Interested citizens need to file a "Minnesota Affidavit of Candidacy" available from the Dakota County Election and Voter Registration Department, along with a \$20 filing fee. More information can be obtained at www.co.dakota.mn.us or by calling (651) 438-4380.

"Supervisors play an important role in how we address a wide variety of environmental issues, including wetlands, water quality, soil erosion, and stormwater. Serving as a supervisor is a terrific opportunity for people who want a voice in natural resource policy and implementation," says Brian Watson, District Manager at the SWCD.

SWCDs are special purpose local units of government that manage and direct natural resource management programs. Minnesota's ninety-one SWCDs cover the entire state and generally follow county lines. The Dakota County SWCD is divided into five districts, with one supervisor elected for each

district. Supervisor terms are four years.

This year, the Dakota County SWCD will have the following supervisor positions open for re-election:

District 2 — Cities of Apple Valley, Coates, Farmington, Lakeville, Rosemount, and Empire Township

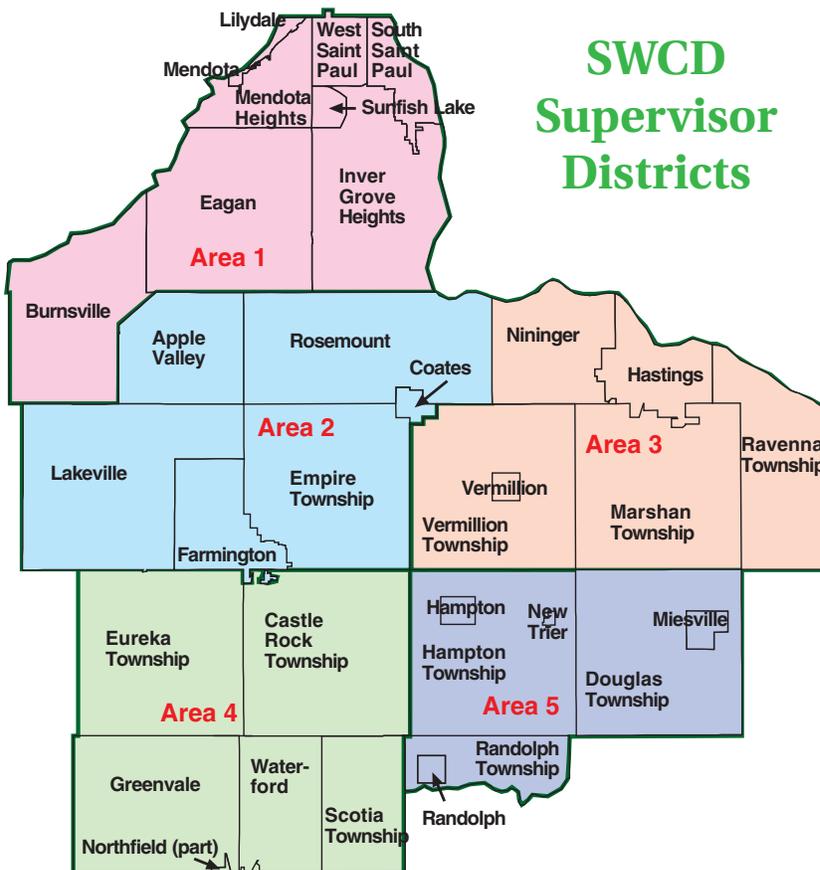
District 4 — City of Northfield and the Townships of Castle Rock, Eureka, Greenvale, Sciota, and Waterford

District 5 — Cities of Hampton, Miesville, New Trier, Randolph, and the Townships of Douglas, Hampton, and Randolph.

SWCD supervisors have three main responsibilities during their four-year terms. They set overall policy and long-term objectives, develop strategic and annual plans, and work with SWCD staff to see that policies and

plans are implemented. Supervisors meet monthly to discuss the business of the SWCD including state and local grant allocations, district conservation priorities, legislative priorities, and coordination with other local units of government and state agencies. Supervisors do not receive a salary although they do receive compensation for attending meetings and are reimbursed for expenses.

For more information about the role of an SWCD supervisor or filing for the election, contact Brian Watson at the Dakota County SWCD at 651-480-7778.



News & Notes

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Dakota County Extension
and Conservation Center

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<http://www.dakotacountyswcd.org>

District Board

Kevin Chamberlain, *Chair*

Chris Nielsen, *Vice-Chair*

Scott Holm, *Secretary*

Joseph Meyers, *Treasurer*

Marian Brown, *Public Relations & Information Officer*

District Employees

Brian Watson,

District Manager/Wetland Specialist

Jim Davidson,

Senior Urban Conservationist

Brad Becker,

Senior Resource Conservationist

Laura Jester,

Watershed Conservationist

Todd Matzke,

Resource Conservationist

David Holmen, *Resource Conservationist/*

Information Technology Specialist

Mike Isensee,

Urban Conservationist

Travis Bistodeau,

Water Resource Specialist

Megan Feeser,

Urban Conservation Technician

Darren Carlson,

Resource Conservationist

Curt Coudron,

Resource Conservation Technician

Lana Rotty,

Finance and Accounting Specialist

Dee Parker,

Office Assistant

assisted by the **USDA Natural**

Resources Conservation Service

Michelle Wohlers,

District Conservationist

Matthew Schaar,

Soil Conservation Technician

Lynette Harmon,

Soil Conservation Technician

The Dakota SWCD Board of Supervisors meets on the first Thursday of every month at 9:00 a.m. Meeting times subject to change. Changes of address or subscription inquiries, call 651-480-7777.

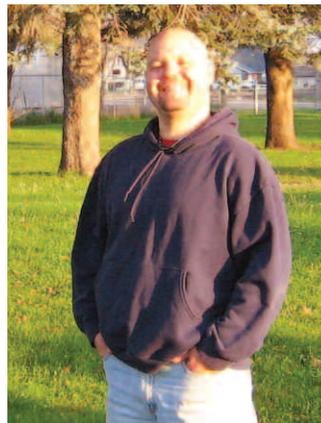
All programs and services of the U.S. Department of Agriculture, Natural Resources Conservation Service, and the Dakota County Soil and Water Conservation District are offered on a nondiscriminatory basis without regard to race, color, national origin, religion, sex, age, marital status, or handicap.

SWCD Welcomes New Employees

Last fall, the Dakota County SWCD welcomed Darren Carlson and Curt Coudron as new employees in our office. Curt comes to us from the City of Lakeville where he worked as an Environmental Resources Technician and from Prairie Restorations, Inc. where he gained four years of experience restoring and managing native prairies, woodlands, and wetlands. At the SWCD, Curt assists with urban and rural conservation programs, water monitoring, construction site erosion control inspections, and public outreach and education programs. Curt has a degree in biology from St. John's University. He and his family live in Northfield where he enjoys backpacking, canoeing, fishing, hunting, and woodworking.



Darren comes to us from the Scott SWCD office where he worked as a Resource Conservationist for five years. He also has



previous experience working in Farmington as a Soil Conservation Technician for the Natural Resource Conservation Service (NRCS). Darren has a degree in Natural Resources from the University of Minnesota, Crookston. He works on our new filter strip program and writes nutrient management plans for agricultural producers. He also works closely with the NRCS. Darren and his family live in New Prague where he enjoys playing softball and basketball.

Todd Matzke Returns from Iraq

The SWCD is happy to welcome Todd Matzke back to Minnesota and to the SWCD from a nine month tour in Iraq with the Navy Reserves. Todd spent most of his time in military compounds in Baghdad and Balad, a city north of Baghdad. There he provided field support to troops as an ammunitions manager with an explosive ordinance disposal battalion. Luckily, Todd was not involved in any combat situations.

Now back at the SWCD, Todd will again work on state cost share projects, nutrient management planning, and tillage management. "The best part about being home is spending time with my family," says Todd. "It's so nice to actually participate in their activities rather than just hearing about them."

Welcome back, Todd!



Improper Use of Highway Right-of-Way Can Have Severe Effects

The Dakota County Transportation Department needs your help to protect travelers and improve safety. Improper use of the right-of-way can reduce visibility, cause traffic accidents, and contribute to erosion, which can lead to plugged culverts and unstable shoulders. Additionally, agricultural activities such as plowing or tilling may damage utility lines buried in the right-of-way, creating a potentially dangerous situation.

It is unlawful to plow, plant, till, install fencing, or place objects in the right-of-way, according to Minnesota Statutes and County policy. County highway right-of-way is defined as the roadway, shoulders, and ditches up to the property or easement lines. Generally, this area is 33 feet on each side of the road's centerline, although it can extend up to 55 feet on some reconstructed highways.

Minnesota Statutes also aim to provide enhanced roadside habitat for nesting birds and other small wildlife by restricting mowing and tilling in the right-of-way. Minnesota Statute 160.232 includes several provisions including:

- 1) on any highway, the first eight feet away from the road surface, or shoulder if one exists, may be mowed at any time,
- 2) an entire right-of-way may be mowed after July 31, and
- 3) from August 31 to the following July 31, the entire right-of-way may only be mowed if necessary for safety reasons, but may not be mowed to a height of less than twelve inches.

If you have questions or need more information, please call the Dakota County Transportation Permit Office at 952-891-7115.

Join the Earth Team Today!



The Earth Team is the volunteer component of the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), the U.S. government's lead agency for voluntary conservation of natural resources on private lands. Earth Team volunteers play an important role in helping NRCS fulfill its commitment to working with people to protect and conserve our Nation's natural resources.

When you sign on as an Earth Team volunteer, you are on your way to becoming a caretaker of the natural resources in your community. As an Earth Team volunteer, you can help professional conservationists put conservation practices on the land. You could find yourself helping farmers and other landowners prevent wind and water erosion, conserve and improve water quality, or enhance wildlife habitat. You may help people of all ages learn about the environment and conservation through educational activities.

In addition, the Earth Team offers outstanding and exciting opportunities for students who need professional work experience, academic credit, or résumé building.

The Earth Team needs a variety of people with diverse skills and talents. Contact Lynette Harmon with the Dakota County NRCS office at 651-463-8665, extension 3 to find out how you can make a world of difference.

Incentives for Filter Strips

A filter strip is a strip of grass, typically 33 to 120 feet wide, planted next to a watercourse or waterbody. Filter strips improve the water quality of our streams, rivers, and wetlands by filtering the runoff containing sediments, nutrients, and chemicals from the surrounding farmland.

The SWCD offers incentive payments to landowners who install filter strips through the USDA's Continuous Conservation Reserve Program (CCRP). The CCRP provides rental payments to landowners ranging from \$90 to \$140 per acre per year, with contract periods ranging from ten to fifteen years. The SWCD provides a supplemental payment to the landowner to make their total rental payment \$250 per acre per year for the life of the contract. The supplemental payment is made through the SWCD's Incentive Payment Practices Program, which uses Federal, State, County, and local funding to establish conservation best management practices.



Low Interest Loans Make Conservation Projects Possible

The SWCD offers low interest loans to landowners who install eligible conservation practices on their property. The SWCD uses the Minnesota Department of Agriculture's AgBMP Loan Program to offer 3.0% to 3.5% interest loans to finance the installation of best management practices and the purchase of conservation-friendly agricultural equipment each year.

In 2007 this program lent over \$174,000 to Dakota County landowners. Projects using the loan program included seven upgrades to failing septic systems in riparian areas, one feedlot improvement project, and the purchase of conservation tillage equipment by four different agricultural producers.

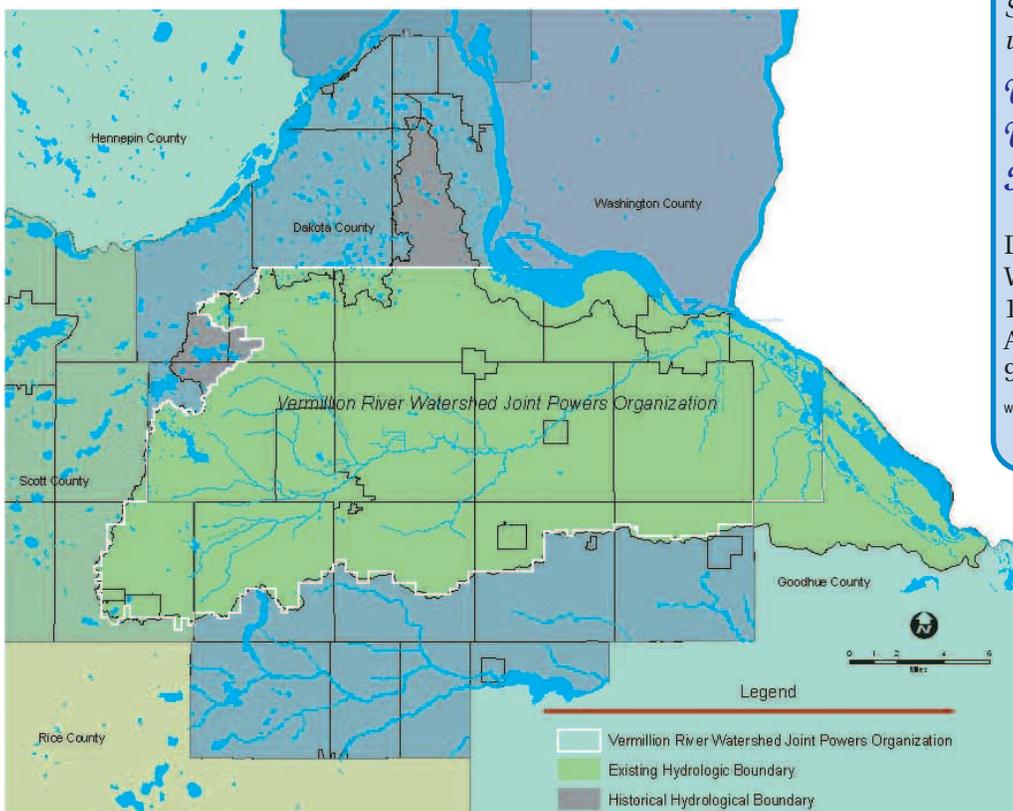
Vermillion River Watershed Joint Powers Organization

If you live in the central portion of Dakota County, chances are your land drains to the Vermillion River. The Vermillion River Watershed encompasses 335 square miles in central Dakota County and extreme southeast Scott County. It is home to a thriving brown trout population and other significant natural resources. The Vermillion River Watershed Joint Powers Organization (VRWJPO) is a local unit of government established to manage the water resources within the watershed. The VRWJPO is administered through an agreement between Scott and Dakota Counties to lead the policies, programs, and projects that protect and preserve water resources in the Watershed. The VRWJPO uses County and SWCD staff as well as contracts with outside consultants to carry out its work each year.

The VRWJPO is governed by a three-member Joint Powers Board (JPB) composed of two Dakota County Commissioners and one Scott County Commissioner (see sidebar). A nine-member citizen advisory Watershed Planning Commission (see sidebar) and an active multi-agency Technical Advisory Group support the VRWJPO and the JPB.

Dakota and Scott Counties jointly fund the administration and activities of the VRWJPO through special taxing districts within their portions of the Watershed. Grants from Federal and state agencies and collaboration with other organizations also help to fund VRWJPO activities. In 2007, the VRWJPO:

- Adopted its Watershed Rules,
- Monitored surface water quality and quantity (see separate article),
- Began developing a hydrologic model for the entire watershed,
- Studied the possibility of implementing a water temperature trading program through an EPA grant (see separate article),
- Collaborated on groundwater monitoring and educational programs, and
- Provided cost share funding through the SWCD for the installation of best management practices such as raingardens, streambank stabilization projects, and feedlot improvements.



Vermillion River Watershed Joint Powers Board

Commissioner Joseph Harris,
Chair
Commissioner Bob Vogel, *Vice-Chair*
Commissioner Paul Krause,
Treasurer

Meetings are held on the fourth Thursday of each month; 1:00 p.m.; Dakota County Western Service Center

Vermillion River Watershed Planning Commission

Kevin Chamberlain, *Chair*
Chuck Clanton, *Vice-Chair*
Mike Brown
Tim Clemens
Joe Beattie
Thurl Skattum
Ron Mullenbach
Henry Zweber
Vacancy

Meetings are typically held on the second Wednesday of each month; 4:00 p.m.; Dakota County Western Service Center – call or visit the website to verify dates and location

Vermillion River Watershed Joint Powers Organization

Dakota County
Water Resources Department
14955 Galaxie Ave.
Apple Valley, MN 55124
952-891-7000

www.co.dakota.mn.us/CountyGovernment/PublicEntities/VermillionJPO

In 2008, the VRWJPO will continue many of these projects and programs and will work with local units of government and individual landowners to install capital improvement projects that improve and protect water resources.

EPA Project Brings Cool Science to a Warming Vermillion River

A federally-funded project is heating up to determine the best way to keep stormwater runoff from warming the Vermillion River. The U.S. Environmental Protection Agency (EPA) is interested in whether a market-trading approach could prevent Vermillion River water temperatures from getting too warm, in order to help keep cold-water species like trout alive. The EPA awarded a \$675,000 grant to the Vermillion River Watershed Joint Powers Organization (VRWJPO); the project involves a host of partners to evaluate the science, economics, and practicality of the idea.

Data show that temperatures in some areas of the Vermillion River increase during the summer months. Trout and other aquatic organisms are sensitive to heat, which enters the river with stormwater runoff from hot pavement, commercial roofs, or bare soil. Continued development and warming climate trends are likely to have thermal impacts on the river in the future. One goal of the EPA grant is to find out how heat travels through the watershed. With that knowledge, the VRWJPO and other watersheds nationwide may be able to hold the line on increases in thermal water pollution.

Current VRWJPO rules already call for stormwater controls on properties undergoing new development; market trading would allow controls on or off the property, giving developers more flexibility to comply with regulations. If the market trading approach can prevent temperature increases efficiently, effectively, and economically, the Vermillion River Watershed Joint Powers Board may decide to implement the approach in December 2008.

This spring and summer, project partners will meet with developers, municipal officials, landowners, and others to discuss the cutting-edge science and framework for the thermal trading approach. For more information contact Katherine Carlson, Dakota County water resources specialist, at 952-891-7086 or katherine.carlson@co.dakota.mn.us.

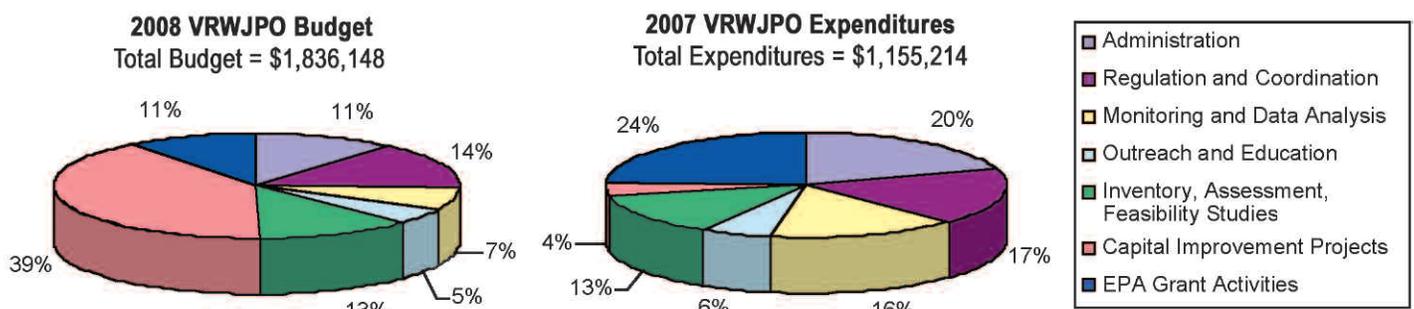
Bacteria in the Watershed

The Vermillion River and its tributaries often have bacteria levels above the state standard (see separate article). The sources of bacteria in rivers and streams can include urban and suburban runoff, leaking septic systems, pet and wildlife waste, livestock, and fields with manure applied as fertilizers. Additionally, high stream flows in the spring and after rainstorms stir up the bottom sediments and often release bacteria that were once buried in the streambed.

Many agencies are working together to reduce bacteria levels including the VRWJPO, Dakota and Scott counties, their respective Soil and Water Conservation Districts, and communities in the watershed. These partners strive to minimize bacteria sources and improve the river's water quality. Dakota County is coordinating a program to inspect all septic systems near the river and require upgrades to failing systems. The VRWJPO and the SWCDs (along with the Natural Resource Conservation Service and the State of Minnesota) provide funding assistance to farmers to install best management practices on their farms and use manure management plans. Additionally, all cities in the watershed work to minimize the impacts of stormwater by infiltrating and ponding runoff before it reaches the streams.

The VRWJPO monitors the bacteria levels throughout the watershed. The tributaries of North Creek and Middle Creek (in Apple Valley, Lakeville, and Farmington) tend to have the highest levels of bacteria, even during times without rain or snowmelt. Swimming in or ingesting water containing high levels of bacteria could make people sick. The Vermillion River and its smaller tributary streams flow through many communities in Dakota County and eastern Scott County. While these streams are wonderful for childhood exploration and play, they may sometimes pose a health hazard. Washing hands and using sanitizer are good practices, no matter what stream, pond, or lake you're playing in!

Vermillion River Watershed JPO Budget Summary



2007 Water Quality in the Vermillion River Watershed

Since 2000, the Dakota County SWCD has been monitoring water quality and quantity in the Vermillion River and its tributaries with funding from the Vermillion River Watershed Joint Powers Organization (VRWJPO). Water samples are collected during periods of low flow and during runoff events such as large rainstorms and snowmelt. Samples are analyzed for a variety of parameters including nutrients, bacteria, and sediment. These results are used to establish long-term water quality and quantity data, provide trend analysis and pollutant loading values, and ensure that Clean Water Standards are being met.

Temperature: The Vermillion River is home to a thriving brown trout population and is widely regarded as one of the best trout fishing locations near the Twin Cities metropolitan area. Trout can only survive in relatively cold, oxygen rich waters. For this reason, temperature is continuously monitored at all of the monitoring sites throughout the summer. In general, water temperatures during the summer months of 2007 were within the temperature tolerances of brown trout. However, there were times during the hottest parts of the summer when water temperatures for adult brown trout were exceeded. As a result, fish may seek refuge in cool, deep pools until temperatures decrease. Water temperatures are influenced by a number of factors including air temperature, groundwater inputs, shading from vegeta-

tive canopies surrounding the river, discharges from construction activities and wastewater treatment plants, the amount of suspended materials in the water and precipitation.

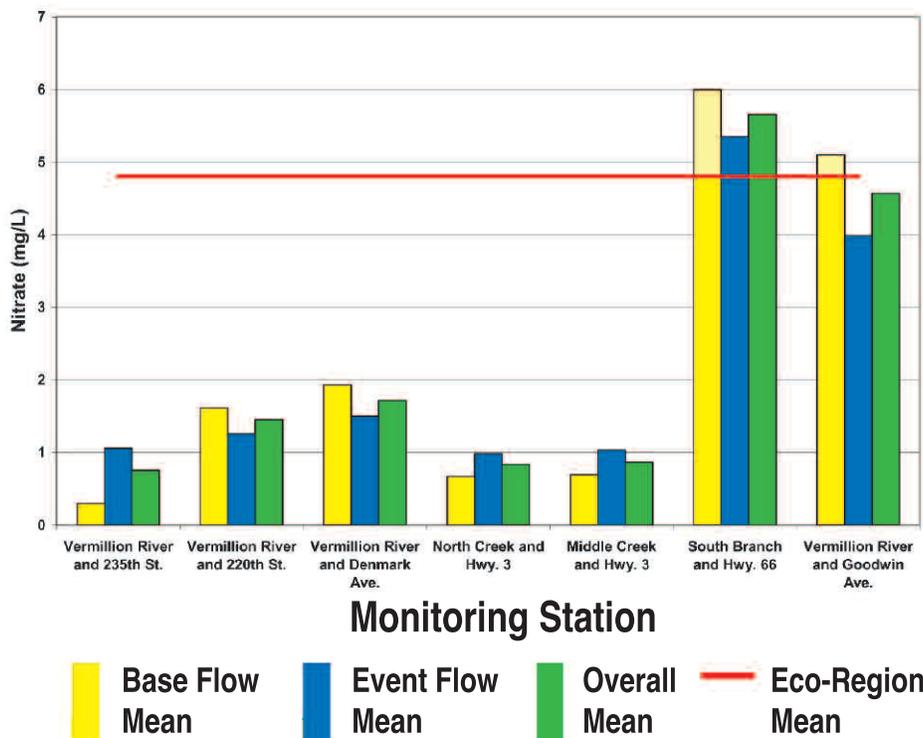
Bacteria: In 1998, the Vermillion River was placed on the Federal List of Impaired Waters for high bacteria levels. (See bacteria article in this issue.) *Escherchia coli* concentrations in the Vermillion River continue to exceed the state standard of 126-colony forming units (CFU)/100 ml water. There are many sources of bacteria pollution including failing septic systems, wildlife like geese and ducks, pet waste, feedlots, pastures, and land-applied manure. Bacteria can also live and grow in sediments within the streams, becoming released during periods of high flow. The SWCD and the VRWJPO continue to monitor the pollution, mitigate known sources, and investigate yet elusive sources.

Nitrate: Nitrate contamination in groundwater continues to be a topic of great concern for residents living in eastern Dakota County. Nitrate samples from the Vermillion River and its tributaries in 2007 indicate that levels are indeed higher in the eastern portion of the watershed and in the South Branch subwatershed. Levels are found to be above the average for minimally impacted streams in this ecoregion. (See graph.) Similar results were identified in previous years. Possible sources of nitrates include wastewater treatment plant

effluent, urban stormwater, failing septic systems, agricultural runoff, and groundwater inputs. The section of the Vermillion River stretching from Goodwin Avenue to the City of Hastings loses water to the groundwater. These waters may be infiltrating deep enough to interact with area groundwater resources.

In 2008, the SWCD and the VRWJPO will continue monitoring water quality and quantity throughout the Vermillion River Watershed. Citizen volunteers are also encouraged to assist with additional water quality monitoring activities. Contact Water Resource Specialist Travis Bistodeau to participate in the Minnesota Pollution Control Agency sponsored Citizen Stream Monitoring Program at 651-480-7783 or www.dakota-countyswcd.org.

2007 Vermillion River Nitrate (NO₃) Results



Low Impact Development Project Will Protect Valley Lake in Lakeville

The Dakota County SWCD, the City of Lakeville and the Vermillion River Watershed Joint Powers Organization (VRWJPO) recently partnered to install a variety of Low Impact Development (LID) practices at a new municipal building and adjacent park.

In most traditional developments, impervious areas where rainwater cannot soak into the ground (paved roads, driveways, rooftops, compacted soils) cause more water to run off into adjacent waterbodies, carrying excess nutrients and pollutants. Increased runoff volumes and rates can also cause higher and faster stream flows with subsequent erosion in downstream resources. LID combines land planning and engineering design to conserve natural

resources and hydrologic functions of a development site. LID planning often includes preserving open space and limiting disturbance, protecting natural resources on the site, and managing stormwater at the source.

In the case of Valley Lake, cost share funds and technical assistance were provided to the City of Lakeville to incorporate LID in the construction of a new municipal



Newly installed rain gardens capture runoff from the parking lot

building and improvements to Valley Lake Park. This project took place adjacent to Valley Lake, which is used for fishing, swimming, and wildlife habitat. The project used a combination of rainwater gardens, permeable pavers, rooftop disconnection, and in-pipe infiltration to manage rainfall at the source. Runoff from the new parking lots at the building and improved lots at the park is directed to raingardens, which filter runoff and allow it to soak in to the ground. Rooftop runoff is also routed to vegetated areas and raingardens. Permeable pavers in a portion of the parking lot allow runoff from that section to soak into the ground. And, stormwater pipes are perforated to allow further infiltration into the ground. These prac-

tices will provide filtration of pollutants, uptake of nutrients by plants, groundwater recharge, and reduced peak stormwater flow — ultimately protecting the water quality of Valley Lake.

This project was completed with funding assistance from the SWCD's Conservation Initiative Fund and VRWJPO cost share funding.

Monitoring The Rarest of Wetland Communities: Calcareous Fens Along the Minnesota River

Dakota County is home to the rarest of wetland plant communities in the Upper Midwest. Calcareous fens are found along the Minnesota River in Burnsville and Eagan. These are plant communities of wet seepage sites that have an internal flow of groundwater rich in calcium and magnesium bicarbonates and sulfates. These substances precipitate out at the surface, creating a harsh, alkaline soil condition. Only a select group of calcium-tolerant plants, referred to as calciphiles, can tolerate these conditions. As a result, calcareous fen communities in general have a disproportionate number of rare, threatened, and endangered plant species compared to other plant communities in the Great Lakes Region.

Due to their low-lying location in the

Minnesota River bottoms, the groundwater that seeps into these fens originates from the bluff and upland areas above the river. Unfortunately, as land development increases and more impervious surfaces are integrated into the landscape, less water is available to recharge the groundwater resources that nourish the fens.

Under an agreement with the Lower Minnesota River Watershed District, the Dakota County SWCD takes monthly readings of groundwater levels in twenty-eight observation wells scattered throughout the major fens along the river. Results from 2007 indicate that groundwater levels were closely tied to precipitation; nearly all the wells experienced lower water levels during last year's drought. Monitoring will continue throughout 2008.



Survey Says: SWCD Provides High Quality Assistance

Last fall, the Dakota County SWCD conducted a survey of our partnering organizations regarding our programs and services. Survey participants included city and county staff, local officials, technical agency staff, non-profit organizations, and various other groups with which we partner. With an 81% return on our surveys, we were pleased to find that our programs and services are valued throughout the county and our staff is well respected.

Nearly 96% of the respondents indicated that their interaction with staff has been good or very good and that staff is competent and timely in responding to requests. The quality of assistance was rated as good or very good by 99% of respondents and 96% of the respondents said our programs complement or enhance their own programs rather than being repetitive.

Thank you to those who returned a completed survey. We are *your* soil and water conservation district and appreciate your suggestions or comments at any time.

Feedlot Improvement Project Protects Mud Creek and Beyond

Mud Creek may live up to its name some of the time, but the owner and operator of a seventy-cow dairy farm in Greenvale Township doesn't want to contribute to that. A small stream flows adjacent to his dairy barn and feedlot. This stream feeds into Mud Creek, which in turn feeds into Chub Creek and on to the Cannon River. The landowner was concerned that the manure from his farm could reach the stream during a heavy rainfall; increasing nutrients, bacteria, and solids in downstream waterbodies. The SWCD, in cooperation with the USDA-Natural Resources Conservation Service (NRCS), worked with him to design a system that collects manure from his barn and feedlot and pumps it into a pit. The pit stores the manure until it can be spread and used as fertilizer on adjacent crop fields.

Construction on the large-scale project was completed in 2007. The total project cost was approximately \$111,000. The SWCD and NRCS worked with the landowner to obtain cost-share assistance from the Minnesota Board of Soil and Water Resources, the USDA-Environmental Quality Incentives Program, and the North Cannon River Watershed Management Organization. He also worked with the SWCD to secure a low interest loan from the Minnesota Department of Agriculture's AgBMP Loan Program to help finance his share of the project costs.

- ◆ An Inside Glance...
- ◆ Supervisor Filing Deadline July 15
- ◆ Monitoring Rare Wetlands
- ◆ Vermillion River Watershed News

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**Dakota Soil and Water
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