



Dakota County Soil and Water Conservation District

News & Notes

This newsletter also available at www.dakotacountyswcd.org Volume 26, Number 1 Spring, 2007

May Is National Wetlands Month

Dragonfly photos by Dave Westover

Dakota County is blessed with over 36,000 acres of wetlands. Wetlands, such as swamps, bogs, fens, and marshes, are areas that are regularly saturated by surface water or groundwater with a prevalence of plants and shrubs that are adapted for life in saturated conditions. Dakota County has lost over half of its wetlands due to farming and urban development over the years, and small wetlands and portions of wetlands are still drained or filled each year. Although some may perceive them as wasted land, wetlands perform many valuable



functions on the landscape. Wetlands filter pollutants from runoff and retain floodwaters; they provide critical fish and wildlife habitat; they slowly and continually release water during times of drought; and they provide aesthetically pleasing recreational and educational opportunities within our communities.

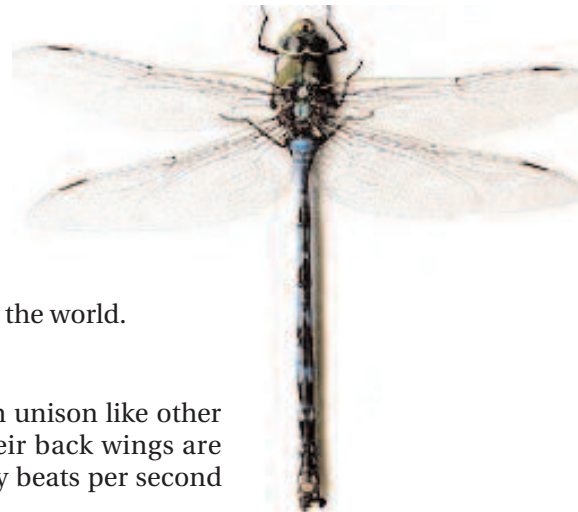
Wetlands are also the rearing grounds for the beautiful dragonflies and damselflies that zip past us as we enjoy the outdoors, gobbling up mosquitoes and dazzling us with their bright colors and crazy flight patterns!



Dragonfly Facts



❖ Dragonflies have been around for 300 million years. One prehistoric fossil had a wingspan of 2½ feet! Today, the largest dragonfly is found in Costa Rica. It has a wingspan of 7½ inches.



- ❖ There are over 2,800 species of dragonflies throughout the world.
- ❖ Dragonfly eyes contain up to 30,000 individual lenses.
- ❖ They have two sets of wings that don't have to beat in unison like other insects. Their front wings can be going up while their back wings are going down. They only flap their wings at about thirty beats per second (bps) compared to a bee's three hundred bps.

- ❖ Dragonflies are excellent and strong fliers; they can loop-the-loop, hover, and fly backwards. One Australian variety has been clocked at flying thirty-six miles per hour!
- ❖ Dragonfly nymphs (the first stage after hatching from eggs) live in ponds or wetlands for about a year before crawling from the water, splitting their skin, and emerging as flying adults.
- ❖ Adults eat mosquitoes and gnats and only live for about a month.
- ❖ Their natural predators are birds but habitat loss has a greater effect on their numbers.

News & Notes

published semiannually by
**The Dakota County Soil and
Water Conservation District**
Dakota County Extension
and Conservation Center

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The Dakota SWCD Board of Supervisors meets on the first Thursday of every month. All 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 Employee Deployed Overseas

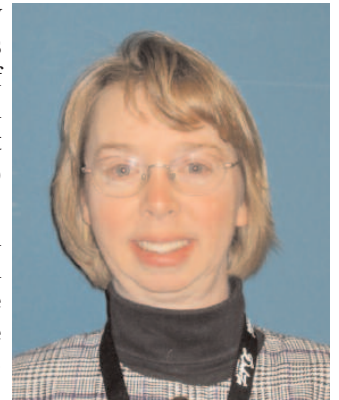
Todd Matzke, our agricultural resource conservationist of ten years, is headed out of town for a while. Unfortunately, he won't be going on vacation. Todd is a Chief Petty Officer with the Navy Reserves and was recently told he'll be deployed to Kuwait in early June. Todd expects to be gone for six months to one year. During that time, Todd's working relationship with landowners and his expertise and history with our State Cost Share Program and NRCS programs will be greatly missed. We will try to fill the void that he leaves with additional and existing staff members.



We are very proud of Todd as he heads off to defend our nation and all we hold dear. We send our best wishes to him and his family. If you would like to get a note or other correspondence to Todd, please let us know and we will see that he receives your sentiments!

New Extension Educator

There is a new face at the Dakota County Extension and Conservation Center. Phyllis Bongard is a half-time University of Minnesota Extension Educator in Agriculture focusing on Best Management Practices (BMPs) for crops as they relate to water quality concerns.



Bongard worked as an Agricultural Agent in Carver and Hennepin Counties in the 1980s and left Extension when she moved to Faribault and started a family. She has several years of experience as an independent agronomy consultant working on various research projects for the Minnesota Department of Agriculture (MDA), University of Minnesota Extension, and University scientists.

Bongard will be developing an educational program based on University research that promotes practices that are both economically and environmentally sound. Her main areas of interest include crop nutrient management, integrated pest management, and reduced tillage. She will be working closely with several other agencies, including SWCD, NRCS, and MDA, in promoting these BMPs.

Bongard is excited to be back in Extension and looks forward to getting to know the agricultural community in Dakota County. She can be contacted by phone 651-480-7757 or e-mail bonga028@umn.edu or phyllis.bongard@co.dakota.mn.us



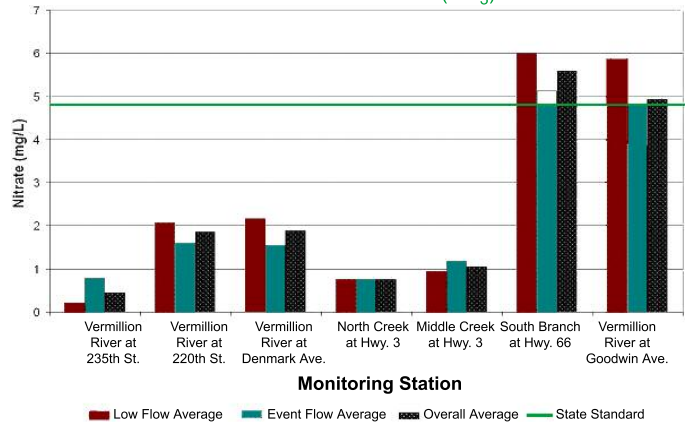
2006 Vermillion River Monitoring Network Results

The Dakota County Soil and Water Conservation District (SWCD) has been monitoring water quality on the Vermillion River since 2000. In 2006, SWCD staff continued to collect water quality information from the Vermillion River Monitoring Network (VRMN) sites, which are funded by the Vermillion River Watershed Joint Powers Organization. Grab samples were collected during periods of low flow and during runoff events such as storms and snowmelt. Samples were 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.

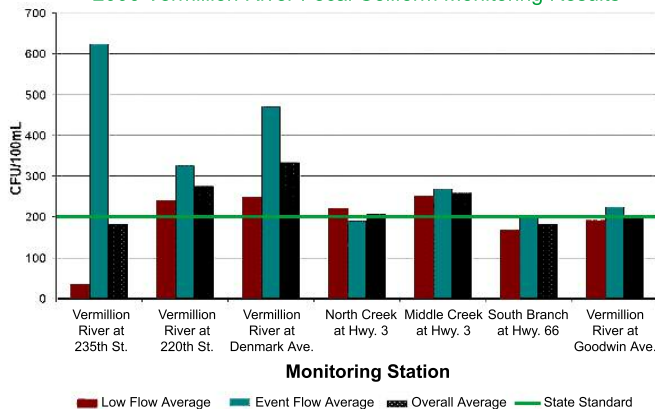
Temperature: The Vermillion River is home to a thriving trout population, which is widely regarded as one of the best trout fishing locations near the Twin Cities metropolitan area. Trout can only survive in relatively cold, oxygen-rich waters. For this reason, temperature is continuously monitored at all of the VRMN sites throughout the summer. In general, water temperatures during the summer months of 2006 were within the temperature tolerances of brown trout. These results suggest that the Vermillion River continues to support trout populations, but there are times during the hottest parts of the summer when water temperatures exceed ideal temperatures for brown trout. As a result, fish may seek out cool, deep pools until temperatures decrease. Water temperatures can be influenced by a number of dynamic factors including the amount of shading from vegetative canopies surrounding the river, discharges from construction activities and wastewater treatment plants, changes in the amount of suspended materials in the water, precipitation, and air temperature.

the Vermillion River were relatively high throughout the growing season of 2006, with higher results obtained during large rain events. Results are presented against the state fecal coliform standard of 200–colony forming units per 100 ml water. When compared against historical averages, the 2006 results were slightly elevated. This may be the result of a poorly understood phenomenon where dry hot summers encourage the growth and release of bacteria from river sediment into the water. In 2007, the Dakota County SWCD will continue to investigate bacteria sources in the watershed.

2006 Vermillion River Nitrate (NO₃) Results



2006 Vermillion River Fecal Coliform Monitoring Results



Bacteria: In 1998, the Vermillion River was placed on the Federal List of Impaired Waters for high fecal coliform bacteria levels. Fecal coliform concentrations in

Nitrate: Nitrate (NO₃) contamination in groundwater continues to be a topic of great concern for residents living in Dakota County. Surface water nitrate samples, collected by the SWCD through the VRMN in 2006, were compared against nitrate levels found in minimally impacted streams located in the same ecoregion (Western Corn Belt Plains). These results indicate that nitrate levels are higher in the eastern portion of the watershed and are above the minimally impacted stream average. Similar results were identified in previous years. Possible sources may 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, is a losing reach, which means that these surface waters are seeping into the ground. These waters may be infiltrating deep enough to interact with area groundwater resources.

The Dakota County SWCD will continue water quality monitoring on the Vermillion River. Volunteers are needed for 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.dakotacountyswcd.org.

Cost Share and Incentive Payment Programs

The Dakota County Soil and Water Conservation District has updated their cost share and incentive programs for 2007. Whether you live in the city or in the country, the SWCD has programs available to all landowners to help offset the cost of installing qualifying conservation practices that protect land and water resources.

For Homeowners, Neighborhood Groups and Community Organizations: The Community Cost Share Program assists individual landowners, neighborhood groups and community organizations to design and fund smaller, non-agricultural conservation projects.

Many types of projects will qualify for this program including erosion control, lakeshore or stream bank restorations, and raingardens. The SWCD can design a practice to fit your needs. All projects must demonstrate a water quality improvement to receiving waters and must comply with all local and state regulations.

Applications for projects having an estimated cost of less than \$500 will be reviewed for funding on a first come, first serve basis. Applications for projects having an estimated cost greater than \$500 must be submitted



A raingarden captures stormwater runoff and beautifies residential properties

to the SWCD for review by March 15 or July 15 of each year. Depending on project ranking and the availability of funding, cost share amounts up to a maximum of \$4,000 may be approved to reimburse the applicant for 25% to 50% of the total project cost.

For Developers and Designers: The Conservation Initiative Funding Program provides an incentive for designers and developers to protect water resources beyond the minimum requirements by including Low Impact Development practices into residential and commercial projects.

Qualifying projects must use practices that manage stormwater by mimicking natural hydrologic and biological processes that improve water quality while reducing runoff volumes. As part of the program, the SWCD will provide ongoing technical assistance to help ensure

the practices are successfully designed and constructed. All projects must demonstrate water quality improvement to receiving waters and must comply with all local and state regulations

Applications will be reviewed for funding on a first come, first serve basis. Depending on project ranking and the availability of funding, cost share amounts up to a maximum of \$40,000 may be approved to reimburse the applicant for 25% to 50% of the total actual project cost.

For Rural Landowners: The SWCD provides incentive payments for a number of conservation practices in rural areas.

Cost-Share Practices: The SWCD will pay a percentage of the cost for the establishment of approved practices that protect soil and water or improve wildlife habitat. For some practices the SWCD will pay up to 85% of the cost of installation. Examples of practices that are eligible for cost-share include, but are not limited to grassed waterways; water and sediment control basins; feedlot improvement projects; pasture fencing to exclude animals from rivers, streams, ditches, wetlands, etc.; streambank and shoreline protection projects; native prairie plantings; tree and shrub windbreaks for croppd fields and farmsteads; and sealing unused wells.

Other eligible practices include prescribed burning of native prairies, the installation of filter strips (see additional article) and nutrient management planning (see additional article)

For more information, please contact the SWCD office at 651-480-7777 or visit our web site at www.dakotacountyswcd.org.

Thirty Thousand Trees Distributed This Spring

Thank you to all who ordered trees through our 2007 SWCD Tree Sale and to all the volunteers who helped make it a success! We sold almost 30,000 native trees and shrubs to over 400 landowners throughout Dakota County. Our tree program provides an affordable way for both rural and suburban residents to purchase large quantities of bareroot seedlings. The trees are excellent for windbreaks, reforestation, erosion control, food and cover for wildlife, and property enhancement. Students from Farmington, Hastings, Lakeville, Northfield, and Randolph High Schools provided great volunteer assistance this year!

The SWCD will begin taking tree orders for our 2008 tree sale this October. We recommend ordering your trees early, as we run out of the more popular species. For more information on our tree sale, visit our web site at www.dakotacountyswcd.org. If you would like to receive an order form for next year's sale, please e-mail us at swcd@co.dakota.mn.us or call the office at 651-480-7777.

Incentive Payments Available for Filter Strips and Buffers

Dakota County landowners who own farmland along rivers, streams, and ditches may be eligible for a new program that provides incentive payments up to \$250 per acre, per year for installing filter strips. A filter strip is an area of vegetation situated between a cropped area and a water body. Filter strips can improve water quality by slowing down field runoff, allowing sediment, nutrients, and chemicals to settle in the vegetation before entering the stream. Incentive payments are available for the establishment of filter strips recently enrolled or re-enrolled in the USDA Continuous Conservation Reserve Program (CCRP) through the Farm Service Agency (FSA).

Payments:

- The SWCD pays up to \$250 per acre per year, in combination with the CCRP payment for a period from ten to fifteen years.
- The SWCD will provide payment in two lump sums; half of the payment is made once the filter strip seeding is complete and certified, the second half of the payment is made one year after the seeding, once the filter strip has been adequately established and maintained.
- The CCRP payment is made annually. The CCRP also provides cost-share reimbursement for the seed,

planting, and maintenance of the filter strip.

Example:

- CCRP Payment = \$100/acre/year for fifteen years
- SWCD Filter Strip Program Payment = \$150/acre/year
- \$150/acre/year x fifteen years = \$2,250/acre
- Landowner would receive \$1,125/acre once the filter strip has been seeded and certified and another \$1,125/acre one year later

Landowner Responsibilities:

- The filter strip must be established, operated, and maintained according to NRCS Field Office Technical Guide Conservation Practice Standards.
- The landowner must control all noxious weeds within the filter strip.
- If the land is sold or transferred before the contract period expires, the new landowner must maintain the filter strip for the remaining contract period.
- If the filter strip is not maintained through the life of the contract the landowner must pay back all payments made by the SWCD in addition to any penalties that may be levied by the FSA.

Landowners interested in the Filter Strip Program should contact the SWCD to determine preliminary eligibility, filter strip location, and CCRP payment.

Incentive Payments Available for Nutrient Management Planning

The SWCD will provide incentive payments for the development and implementation of a Nutrient Management Plan (NMP) on cropped acres within Dakota County. Nutrient Management Planning involves organizing the amount, source, placement, form, and timing of applications of manure, commercial fertilizer, and soil amendments to protect soil and water resources while maintaining crop production.

Payments:

- Payments will be issued to landowners as a one-time lump sum once the NMP is complete.
- Nutrient Management — With Manure: The SWCD will pay \$4.00 per acre per year on a maximum of 250 acres and three years, in addition to any USDA-EQIP payments. Payments apply to acres that have received or will receive manure applications.
- Nutrient Management — Without Manure: The SWCD will pay \$2.25 per acre per year on a maximum of 250 acres and three years, in addition to any USDA-EQIP payments.

Example:

- SWCD NMP Program Payment = \$4/acre/year on 250 acres for 3 years = \$3,000 one-time lump sum payment when the NMP is completed.
- USDA-EQIP = \$4/acre/year on 250 acres for 3 years. Their payments are made annually (\$1,000 per year for 3 years).

Landowner Responsibilities:

Creating a Nutrient Management Plan involves the

following, but is not limited to:

- Developing realistic crop yield goals.
- Collecting soil and manure samples.
- Keeping field specific records of crops, yields, commercial fertilizer, and manure applications.
- Calibrating manure application equipment to determine application rate and uniformity.
- Developing a map that delineates setbacks for manure application from sensitive features (i.e. lakes, streams, tile intakes, wetlands, wells, etc.). Setbacks vary depending on application procedure and soil conditions.
- Following all local, state and federal manure application rules and regulations.
- Developing a NMP only by authorized NRCS or SWCD staff
- Operating and maintaining the NMP according to USDA-EQIP Nutrient Management Requirements listed within the Minnesota NRCS EQIP Conservation Practice Payment Docket and according to the NRCS Field Office Technical Guide Conservation Practice Standard for Nutrient Management.
- Controlling wind, sheet, and rill erosion to no more than 6 tons/acre/year and controlling all gully erosion.

Landowners interested in establishing a NMP should contact the SWCD to schedule a site visit and assess eligibility.

Vermillion Recharge Study

In February, the Vermillion River Headwaters Groundwater Recharge Study was completed and the final report distributed. This three-year study was partially funded by a grant from the Metropolitan Council with additional funding from the Vermillion Rivers Joint Powers Organization (JPO) and in-kind match from the Dakota SWCD. While most of the intensive fieldwork and in-stream monitoring was performed by the SWCD, Emmons and Olivier Resources was hired to analyze the data and develop the final report.

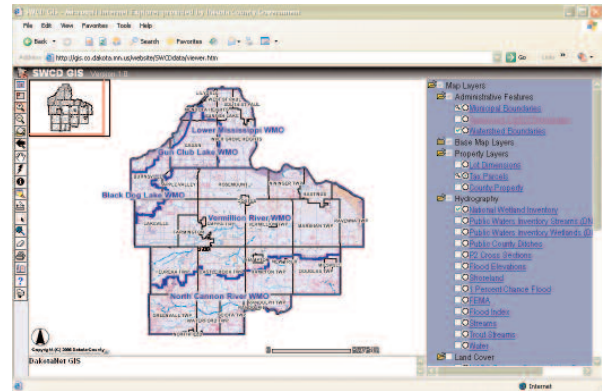
Results of the study include descriptions and maps of areas where groundwater is entering and leaving the river and its tributaries in the upper watershed. These data are important to understand because the successful trout population of the river depends a constant influx of cold groundwater in order to survive. The study also mapped land areas that are actively recharging (or re-supplying) the upper layers of groundwater, which in turn seep into the river and streams in many locations. Protection strategies and a model ordinance were developed as part of this study in order to help local governments and the JPO prioritize and protect recharge areas from becoming overdeveloped, effectively reducing the amount of cold water entering the streams.

For more information on the results of this study, please visit our web site at www.dakotacountyswcd.org or call Laura Jester at 651-480-7784.

Maps, Aerial Photos Online

The SWCD has collaborated with the Dakota County Office of Geographic Information Systems to produce an online mapping feature focusing on conservation related information and historical aerial photography for Dakota County residents. This tool provides access to commonly requested data such as land cover, soils, wetlands, and aerial photography from 1937 to the present. Any landowner can use it to determine what type of soils occur on their property, whether wetlands may be present, or what their land was like in the past.

Capitalizing on this technology has reduced office workload and increased efficiency by allowing individuals to access this information from their computer rather than retrieving maps and photos from the SWCD office. The online mapping feature, SWCD GIS Version 1.0, is available online at www.dakotacountyswcd.org.



Dakota Soil and Water Conservation District

Phone: 651-480-7777 \ FAX: 651-480-7775
Web site: <http://www.dakotacountyswcd.org>

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An Inside Glance...

- ❖ May is National Wetlands Month
- ❖ Cost Share Funds Available
- ❖ Vermillion River Monitoring Results



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