



Stream Reader

Newsletter of the Minnesota Pollution Control Agency



Minnesota Pollution Control Agency

Fall 2006

Award Winning Volunteers

In this edition of the Stream Reader, we would like to recognize volunteers who concluded their fifth year of monitoring during 2005. Volunteers who reach this milestone receive a coffee mug and a certificate as a token of our appreciation for their long term efforts. In 2005, 60 volunteers completed their 5th season of monitoring.

In addition to the 5 year milestone monitors, volunteers completing their first, second, or third years

in the program also receive thank you gifts from the CSMP staff. First year volunteers receive a CSMP t-shirt, second year volunteers get a CSMP hat, and third year volunteers receive a program clipboard.

During 2005, 134 volunteers completed their first year, 70 volunteers completed their second year of monitoring, and 54 volunteers reached their third year of monitoring.

Thank you to all of our dedicated volunteers!

2005 CSMP 5-year Award Recipients

Gwen Abern

North Fork Whitewater River, Winona

David Baldini

Judicial Ditch 1, Steele

Kim Borman-Krinhop

unnamed tributary from Spring to Prior Lake, Scott

Ken & Carol Bratland

South Fork Watonwan River, Watonwan

Paul Chick, Sr. (right)

North Fork Whitewater River, Winona & Olmsted

Laura & Ken

Corbin-Geisen

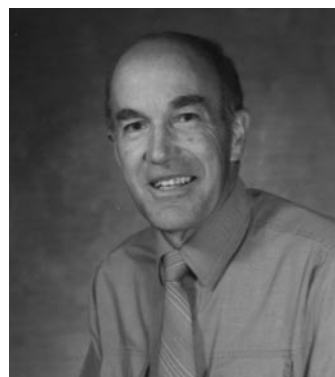
North Branch Sunrise River, Chisago

Linda Dahl

Beaver Creek, Winona
Various Forks of Whitewater River, Winona & Olmsted

Dayle DeClercq (right)

Teacher Creek, Chisago



Carmen Dorr

Cannon River, Rice

Richard Enger

St. James Creek, Watonwan

Gerald & Mary Erickson

Pomme de Terre River, Ottertail

Jerald Fulton

Tributaries to Lake
Miltona, Douglas

Richard Gehlen

Silver Creek, Meeker

Joseph Gondek

Kruegers Slough inlet to
Lake Le Homme Dieu,
Douglas

Burton Hendrickson

Cobb Creek, Lac
qui Parle

John Holden

Cannon River, Rice

Mary Hollingsworth

Minneopa Creek &
Minnesota River,
Blue Earth

Don & Mary Javurek

Sand Creek, Scott
Minnesota River, Le
Sueur

Dustin & Jeff Johnson

County Ditch 34, Lac
qui Parle

William Johnson

Middle Fork Whitewater
River, Olmsted

Jim &

Sherry

Kaiserlik

(right)
Stanchfield
Creek,
Isanti



Alex Kregel

South Fork Crow River,
Carver

Steven Larson

Cannon River & Spring
Creek, Goodhue

Ruth Lemke

Spring Valley Creek,
Fillmore



Carol Marjapori

(above) Crow River,
Wright

Vickie Meehan

Lawrence Creek, Chisago

Brian Mehr

South Fork Crow River,
McLeod

Dustin Menssen

Butterfield Creek,
Watonswan

Nancy Messner

Chippewa River, Pope

Larry Mierau

Rush Creek, Fillmore

Mark Miller

North Fork Crow River,
Wright

Lee Miska

Collinwood Lake So.
Inlet, Meeker

Deb Nelson

Shakopee Creek,
Kandiyohi

Vic Ormsby (right)

Money Creek,
Winona

Dave Palmquist

Middle Fork Whitewater
River, Winona

Norman Penner

Watonswan River,
Watonswan

Edgar Persons

Chippewa River, Grant

Harold Podolske

Gulden Lake inlet,
Douglas

Eric Porcher

Bear Creek & Willow
Creek, Olmsted

Bill Purdy

Little Toad Lake Inlets,
Becker

Bob Reynolds

Chippewa River & lake
outlets, Douglas

Allyn & Sarah Roley

Swift Coulee, Marshall

Lynn Sanborn

Cannon River, Rice

Harold Sauder

Jack Creek, Jackson

Leon Sawyer

Trapper's Run Creek,
Lake Ann outlet, Lake
Pelican outlet, Pope



Shirley Schoenbauer

Raven Stream & Sand
Creek, Scott

Robert Schultz

Plum Creek, Redwood

Bernhardt & Sharon

Schwardt

Willow Creek, Watonswan

Norman Senjem

Silver Creek, South Fork
Zumbro River, Olmsted

Awards continued on page 6

CSMP Volunteer Conducts Award-Winning Research

Greg Thompson started monitoring Cascade Creek as a CSMP volunteer with his father Paul when he was in first grade. Last year, the ninth grader at John Marshall High School in Rochester decided to step up his monitoring as his Science Fair Project. His project — Crop Effects on Aquatic Macroinvertebrates Living in Twelve Watersheds Contained Entirely within Olmsted County, Minnesota — won numerous awards at both the Regional and State Science Fairs.

Out of 400 total entries, Greg's project was one of forty that won the Regional Science Fair in Rochester. In addition to winning a chance to compete at the State Science Fair, Greg also won awards at the regional competition from the U.S. Army, Izaak Walton League, and the National Oceanic and Atmospheric Administration.

At the State Science Fair, Greg's research won an award for being in the top 15% of projects. He also won first place and a \$500 prize for the University of Minnesota Bell Museum of Natural History's "Biodiversity Award", and a Seagate Top First-Timers Award for outstanding work with the potential to do more in the future.

Greg's research looked at whether the type of crop variety — corn or soybeans — had an effect on the abundance and variety of benthic macroinvertebrates (large, stream bottom-living invertebrates) found

at twelve Olmsted County stream sites. To test his hypothesis, Greg collected benthic macroinvertebrate samples at sites in twelve Olmsted County watersheds during 2005.

He also measured water temperature and water clarity, using a transparency tube, each time he sampled invertebrates.

Collected samples were preserved, picked and sorted, and all benthic macroinvertebrates found were identified. Sites were ranked from best to worst based on the abundance and pollution tolerance of macroinvertebrates found at each site. These rankings were compared to the total acreage of corn and soybean crops in each site's

watershed, taken from 2002 Olmsted County Crop data. Results support the conclusion that there is no correlation between percent corn and soybeans, and the abundance and variety of macroinvertebrates found across the twelve watersheds studied.

When asked why he chose to do this type of study, Greg responded that he "likes to be outside, and I'm a fisherman." He wanted to do stream work because about half of the projects were botany, or plant-related, and he wanted to do something different. And yes, his time volunteering as a CSMP monitor had a bit of an influence on his study design too!

Research continued on page 6



Greg takes a t-tube reading at his site on Cascade Creek in Rochester



Creek Critters: Darters

Konrad Schmidt, MN DNR

River darter, *Percina shumardi*.

This feature is designed to help introduce volunteers to what they might find swimming in, or living near that stream or river that they devote their time to monitoring. From the microscopic to the giant, Minnesota has a wealth of aquatic organisms. Most of the information below was excerpted from *The American Darters*, by Robert A. Kuehne and Roger W. Barbour, published by The University Press of Kentucky, 1983

The darters are a fascinating group of colorful and diminutive freshwater fishes whose beauty rivals that of tropical reef fishes. Native only to North America, the darters are widely distributed in the United States, but are little known to the general public because of their small size — most darters are less than six inches long. After the minnows, darters are the most numerous fish in our rich North American fauna.

Darters are one of three subfamilies within the family Percidae, which also contains the walleye, perch and sauger. Darters are like their game fish relatives, but are usually more slender and are much smaller. They also differ by having small teeth and either no “swim bladder” or one of reduced size. The swim bladder (also called the gas bladder or air bladder) is a flexible-walled, gas-filled sac located in the back part of the

body cavity. This organ controls the fish’s buoyancy. When gas is added to the swim bladder by diffusion through the blood vessels in the bladder walls, the fish becomes less dense overall; when gas is removed the fish becomes more dense. Because they lack a swim bladder (or have a reduced one), these fish are often seen *darting* about the bottom of a shallow stream in short bursts of speed.

Two things may be responsible for these river fish largely exploiting the austere environment of shallow, fast-running riffles instead of remaining in the relative stability of deeper, quieter pools. Shallow riffles are essentially free of predators, and are loaded with available food. Riffle life is not without its disadvantages. Fish living in riffle habitats face strong currents, and must retreat to deeper waters during floods, extreme drought, and cold water temperatures when they are too weak to contend with the strong currents. Some darters do live in other habitats, such as pools, or even lakes.

Fifteen species of darters live in Minnesota waters. For more information on their distribution throughout the state, check out the following web site: www.gen.umn.edu/research/fish/fishes/.

CSMP NEWS SPLASHES

2005 Individual Site Reports on Web

Heard about the new CSMP customized site report, but haven't gotten a chance to see it? Well, now you can view one report from each of the 10 major drainage basins in the state on the CSMP web page! Just go to www.pca.state.mn.us/water/csmp-reports.html#sitereports and click the file you would like to view. Let us know what you think by calling CSMP Coordinator, Laurie Sovell at (651) 296-7187 (TC Metro Area) or (800) 657-3864 (Greater MN), or by email at laurie.sovell@pca.state.mn.us.

Runoff Reality Tour

Combine stream monitoring and rainfall data with computer graphics and what do you get? A visual reality tour of how rainfall and soil erosion impact a small watershed in southern Minnesota farm land. The Minnesota River Basin Data Center at Minnesota State University, Mankato and the Minnesota Pollution Control Agency created an extraordinary educational tool called the "Interactive Hydrograph", which provides a "point and click" illustration of soil erosion from relatively flat agricultural land. By clicking on individual data points, users see a series of photos showing how an agricultural field, adjoining ditch and river system react to rain events throughout the growing season. Check out the interactive hydrograph on MSUM's Minnesota River Basin Data Center Web site at: <http://mrbdc.wrc.mnsu.edu/mnbasin/>. (Please note: Flash Player is required to view this site, file size is 3.2mb.)

"Design Your Monitoring Plan"

Manual and worksheets created by Minnesota Waters are now available on-line! Minnesota Waters research shows that many citizen monitoring programs collect data – but often stumble when it comes to using data. This program helps you focus your goals and create a plan that makes your monitoring program more efficient and effective! Nineteen groups across Minnesota have participated in "Design Your Monitoring Plan" citizen-monitoring

training programs, in which they received program materials and technical support to create a plan. For the first time, those materials are now available for download by registering on-line at: www.riversmn.org/monplan/.



Get the Lead Out!

Are you a member of a lake association? Help Get the Lead Out! by volunteering to display a free educational kit at your next lake association gathering. The educational

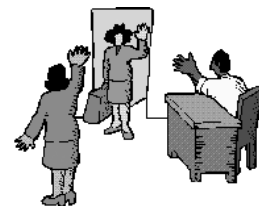
kit is designed to encourage anglers to use environmentally friendly lead-free fishing tackle. Free to Minnesota-based lake associations this attractive educational kit includes: a tabletop sign, fact sheets, loon posters, and sample packets of lead-free jigs and weights. Lead poisoning of loons, eagles, and other wildlife can be avoided. For more information, visit www.moea.state.mn.us/sinkers or contact Dan Miller (daniel.miller@pca.state.mn.us) of the Minnesota Pollution Control Agency at (651) 297-8319 or toll free (800) 657-3864.

Clean Water Legacy Act

Governor Pawlenty signed the Clean Water Legacy Act into law on June 2nd, 2006. The new law will accelerate testing of Minnesota's waters; provide resources to develop specific plans (TMDLs) to clean up Minnesota's most contaminated waters; and target additional financial resources to existing state and local programs. These programs are designed to improve water quality, leveraging additional federal, local and private resources where possible. More information on the Act can be found at: <http://cwc.state.mn.us/index.html>.

Pam is Moving On

After three highly successful years working with both the Citizen Lake and Citizen Stream-Monitoring Programs, Pam Anderson has accepted a new lake monitoring position with the MPCA. In her new position funded by passage of the Clean Water Legacy Act, Pam will work to accelerate monitoring of lakes across the state. Pam will be greatly missed, but we wish her the best in her new position. Thanks Pam, for all you've done to support and further develop the Citizen Stream Monitoring Program! We'll let you know when someone has been chosen as a replacement.



Awards from page 2

Glenn Simons

Halvorson Slough inlet, Kandiyohi

Bernard Sobczak

Raven Stream, Scott

Linda Christianson &

Cecilia Strother

Dry Creek & Sunrise River, Chisago

Daniel Swedzinski

Clear Creek, Redwood

Chuck Tritz

Shell River, Hubbard

Willis van Norman (right)

Middle Fork Whitewater River,

Olmsted

Rick & Cheri Webber

Roberts Creek, Mower

Bob & Matt Wiskow

South Fork Whitewater River,

Winona

Norma Wojtalewicz

Pomme de Terre River, Swift

Paul Wymar

County Ditch 21, Chippewa

Tenmile Creek, Lac qui Parle



Research from page 3

Expect to see more great research conducted by this young, budding scientist. Greg plans to do another Science Fair project next year on the effect of beaver dams on stream water quality and benthic macroinvertebrates. The Quarry Hill Nature Center has also asked Greg to catalog the macroinvertebrates found at the center as part of their 2006 "Bioblitz." Greg intends to get younger students involved in this project. Who knows, maybe he'll recruit more young CSMP volunteers to streams in the Rochester area.

*Congratulations Greg,
and keep up the good work!*



**Minnesota Pollution
Control Agency**

Stream Reader

520 Lafayette Rd. N.

St. Paul, MN 55155

**Presort Standard
U.S. Postage
PAID
Permit No. 171
St. Paul, MN**

This newsletter can be made available in other formats for people with disabilities. Call (651) 296-7283 (voice), (651) 282-5332 (TTY) or (800) 657-3864 (voice/TTY).



Printed on recycled paper containing at least 30 percent fibers made from paper recycled by consumers.