



Citizen
Stream -
Monitoring
Program
Fall 2007

Stream Reader



Minnesota Pollution Control Agency

Award winning volunteers

In this edition of the Stream Reader, we would like to recognize volunteers who concluded their fifth year of monitoring during 2006. Volunteers who reach this milestone receive a coffee mug and a certificate as a token of our appreciation for their long term efforts. In 2006, 42 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 2006, 115 volunteers completed their first year, 90 volunteers completed their second year of monitoring, and 49 volunteers reached their third year of monitoring.

Thank you to all of our dedicated volunteers!

2006 CSMP 5-year award recipients

Jack Anderson

Inlet to Lake Miltona from
Lake Irene, Douglas

Shirley Anderson

(below) County Ditch 56,
Blue Earth



Robert Bock (right)
Elk River, Sherburne

Lowell Bratsch

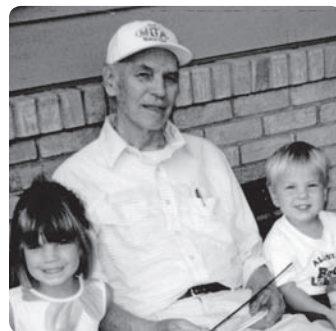
West Fork Beaver Creek,
Renville

Cannon River Watershed Partnership

(right)
Cannon
River,
Dakota
Straight
River, Rice
Prairie Creek, Goodhue

Dennis E. Cin

County Ditch 6, Douglas



David A. Craigmile

(below) County Ditch 34,
Lac qui Parle



Time to submit your 2007 data!

If you haven't already done so, it's time to put your equipment away and send in your data! Make sure you completely fill out your datasheets and return them in the metered envelope you received by December 1st to guarantee your data is included in reports. If this was your first season, or you've added a new site, be sure to include a map as well! Lost your envelope? No problem! Send your datasheet(s) to: Minnesota Pollution Control Agency, Citizen Stream Monitoring Program, EAO Division, 520 Lafayette Road N, St Paul, MN 55155-4194

Don Dally

Pelican Creek, Grant
Pomme de Terre River,
Otertail

Karen Durant

Unnamed tributary to Fish
Lake, Wright



Joe Dwyer (above)
Unnamed tributary to
Duck Lake, Blue Earth



Eugene Eilers

Canby Creek, Yellow
Medicine

Stephen A. Erickson

Gribben Creek , Fillmore

Joe & Sandy Folwarski

Browns Lk Inlet , Stearns

Katy Gillispie

Prairie Creek, Rice

Don Hesper

Milliken Creek, Dodge

Marcia Hetletvedt

Cannon River, Rice

Steve & Chris Hettig

Sacred
Heart Creek,
Renville

**Erik
Homme**

South Fork
Crow River ,
Kandiyohi

**Virginia
Homme**

Hawk Creek,
Renville

Keyport family (above
right)

Chaska Creek, Carver

Berthold Koosmann

(right) Pomme de Terre
River, Swift

Ted KostECKA (left)

Seguchie Creek,
Crow Wing

Maribeth & Andy Lee

Unnamed tributary to
Height of Land Lake,
Becker

Barney Lilly (right)

Shakopee Creek, Swift

**Marty Posthumus &
Pattie Roggenkamp**

Unnamed tributary to
Birch Lake, Wright

Roger Ringkob

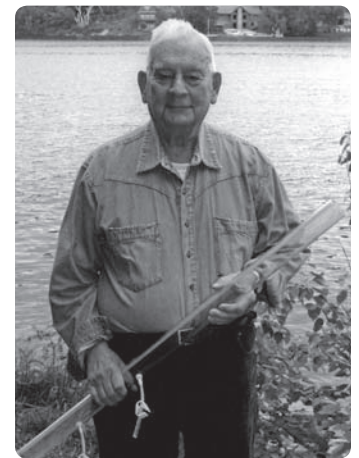
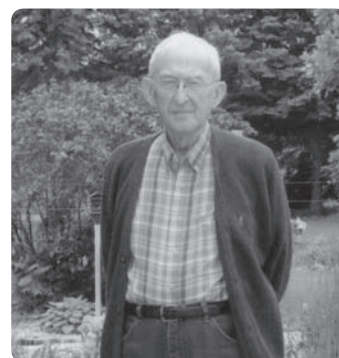
West Fork Des Moines
River, Jackson

Jack Russek (right)

South Fork Crow River,
Wright

Miles Rychman (right)

South Fork Watab River,
Stearns



Jim Schroeder

Sunrise River, Chisago

Lowell Schrupp

Silver Creek , Wright

Nancy Shaw

Bowstring River, Itasca

David Ulrich

Lac qui Parle River, Lac qui
Parle

Jeanine Vorland

South Branch Middle Fork
Zumbro River, Dodge

Robert Welker

Canby Creek, Yellow
Medicine

Dan & Betty Wilkens

Knife River , Mille Lacs and
Kanebec

Lyle Winterfeldt

High Island Creek,
McLeod

Norman Zacharias

West Crooked Creek, Pine

Volunteer Spotlight

Cathy Larson began her CSMP monitoring in 1999. She works as an environmental scientist with the Metropolitan Council and lives with her husband, Steve Albers, on the farm that has been in his family for 88 years. Having experienced enough meetings and computer work in her job, Cathy wanted to get outdoors and monitor! By monitoring, she hoped to document the condition of streams in her rapidly growing area outside of Northfield. Here's what she shared with us about her experience as a CSMP volunteer when we visited with her in her home:



SR: What have you enjoyed most about your involvement with the Citizen Stream-Monitoring Program?

"I thought I knew about rivers — I am a river scientist. It's surprising what you learn!

I really got to know Wolf Creek and the Cannon River, where my sites are located. I enjoy seeing wildlife, such as birds and turtles, while I'm out monitoring. One year I was struck by the appearance of migrating warblers with the sudden arrival of a late spring."

SR: Any lessons learned from your involvement that you would like to share?

"The tube is mightier than the pen! You can write and talk about how dirty or polluted water is, but the data

In this new Stream Reader special feature, CSMP volunteers share their stories and experiences monitoring their favorite stream. We plan to spotlight a different volunteer once a year.

If you would like to suggest a volunteer, please contact us at csmp@pca.state.mn.us or call Laurie Sovell at 651-296-7187 or Johanna Schussler at 651-282-6411; Greater Minnesota at 800-657-3864.

speaks loudly. When you get out there and take readings on a regular basis, you really get to know what's going on, and how the river changes over time."

SR: Has your involvement lead to any other activities related to rivers, water quality, or community involvement?

"I served on the Rice County Water Plan Citizen Advisory Committee. I'm currently on a study committee for the township related to land use. I've also brought the transparency tube into classrooms in Apple Valley through a program called "Project Link", which gives women in the field of science the opportunity to share their experience with students."

SR: You are an environmental scientist with the Met Council. Has your involvement with the CSMP added any perspective to your professional life, or vice versa?

"As a scientist, participation in the CSMP gave me more confidence in the quality and meaningfulness of volunteer data — it really tells a story."

Any other comments you would like to add?

"I have become very popular in my neighborhood!! I am often asked 'How much rain did we get yesterday, Cathy?' because everyone knows I keep close track of rainfall at my place."

During 2006, Cathy took readings of turbidity — how murky or cloudy water is — at the same time she took her t-tube readings. Turbidity readings require a more expensive and technical piece of equipment called a "turbidimeter." The MPCA determined that t-tube readings can be used in place of turbidity when there are not enough turbidity readings available. This allows more data to be collected by volunteers — data that can be used to help determine if streams and rivers are meeting

Spotlight continued on page 4

Creek Critters: Caddisflies

If you've ever spent time on a stream or lake, you may have noticed them — small and moth-like, flying around, landing on trees and shrubs, and getting eaten by birds or fish. Sometimes only a few will be noticeable, flying along the lake surface or hovering around lights. Sometimes they can be so abundant that they will cover any available lakeside surface, collect in piles under lights at night, and drive people indoors. Some of these may have been moths, but most were probably caddisflies.

Also known as sedges, periwinkles, or shadflies, caddisflies are aquatic insects that spend most of their lives in the water, but finish their lives flying around the banks of streams, lakes, and wetlands. When seen flying around, most people think they are seeing moths, but they're actually seeing the moth's aquatic cousin, the adult caddisfly.

Caddisflies are a very diverse and important group of aquatic insects that play a vital role in aquatic food webs, as well as serving as indicators of aquatic ecosystem health. Caddisflies are so diverse and abundant because of an interesting and functional ability. Much like snails, or turtles, most caddisflies live in portable houses. But unlike snails and turtles, caddisflies are not born with intact houses that grow with them over time — they have to build their own houses. Caddisflies are close relatives of moths and butterflies, and like them, they have silk glands. To build their houses, caddisflies collect small pieces of material from their environment, gluing



NABS (www.benthos.org)

them together with silk they secrete. Caddisflies build cases out of sand, twigs, algae or plant material, and some build cases entirely out of silk. One caddisfly builds a case that mimics a snail shell, while another is known to construct its case out of snail shells. The cases provide protection and camouflage, as well as a place to pupate between the larval and adult stages.

However, not all caddisflies build cases. Another interesting way they use silk is by constructing nets. A group of caddisflies known as Hydropsychidae, build silken nets in the shape of a cone. They live at the narrow end of the cone and graze off the material caught in the net. Still other caddisflies are "free-living", crawling along the surfaces of rocks or vegetation. Some eat plant material, some graze on the algae and ooze that collects on rock and plants, and some are predators.

When combined with other sensitive organisms, like mayflies and stoneflies, caddisflies serve as one of the best indicator organisms of aquatic health. Because caddisflies are so diverse, they display a wide range of sensitivities to different types of pollution. For example, some Caddisflies are very sensitive to oxygen deprivation, others are good indicators of a change in food availability, or have very specific habitat needs. Their presence or absence makes caddisflies good diagnostic indicators of environmental changes. The MPCA Biological Monitoring Unit uses caddisflies when assessing the health of streams and rivers. More information on how the MPCA conducts aquatic invertebrate monitoring can be found on the MPCA web site at: www.pca.state.mn.us/water/biomonitoring/bio-streams-invert.html

— Joel Chirhart

Spotlight from page 3

water quality standards. Cathy was surprised by how good a relationship she observed between t-tube and turbidity readings on a trout stream that she monitored during 2006.

Cathy is an outstanding, dedicated CSMP volunteer. Each year she tirelessly goes above and beyond the basic monitoring required to participate in the program. Thank you Cathy for your continuing efforts to monitor and protect Minnesota's streams and rivers!



CSMP News Splashes

New publication: *Citizen's Guide to Influencing Local Land-Use Decisions*

Minnesota Waters announces the availability of its publication — *A Citizen's Guide to Influencing Local Land-Use Decisions* — written in collaboration with 1000 Friends of Minnesota. The 52-page booklet was written to create a well-informed, organized, prepared citizenry ready to address increasing shoreland development proactively, in the name of balanced, well-planned growth and development. To receive a copy, send \$5, to cover postage and handling, to: Minnesota Waters, 17021 Commercial Park Drive #4, Brainerd, Minnesota 56401. For multiple copies, contact Anna at the Minnesota Waters office at 218-824-5565 or anna@minnesotawaters.org

Volunteer Stream Monitoring Partnership River Summit — mark your calendars!

Join us Thursday, November 15, 2007, from 8:30 - noon, at the Science Museum of Minnesota for the 7th Annual River Summit. The keynote speaker will be Cassie Champion, Met Council, and the emcee will be Sven Sungaard, KARE 11 TV personality. Students will present results of their stream monitoring and work together on a problem-solving activity. Six breakout sessions will feature presentations by professionals on endocrine disruptors, invasive species, stormwater management and data visualization tools, the 1869 collapse at St. Anthony Falls, and turning data into action. There is no charge for participation, but you must pre-register. Contact Barb Liukkonen at liukk001@umn.edu

2008 DRAFT list of Minnesota's impaired waters

Every two years, the Minnesota Pollution Control Agency is required to develop a list of polluted waters. CSMP data is used to help develop this list. The agency must submit the next list to the Environmental Protection Agency by April 1, 2008. A draft of the 2008 list and a schedule of public informational meetings across the state can be viewed at: www.pca.state.mn.us/water/tmdl/tmdl-303dlist.html

Formal written comments on the draft list will be accepted from October 8th to November 7th, and should

be sent by post office mail to the MPCA, C/O Howard Markus, 520 Lafayette Road North, St. Paul, MN 55155.

STORET Reader in progress

The Minnesota Pollution Control Agency's (MPCA's) STORET team is producing a newsletter called the STORET Reader. STORET (short for STOrage and RETrieval) is the U.S. Environmental Protection Agency's (EPA's) repository for water quality, biological, and physical data and is used by state agencies, EPA and other federal agencies, universities, private citizens, and many others. This newsletter will feature important information regarding STORET water quality data management. It is distributed biannually to provide open communication between the MPCA STORET team and data partners. The first issue is set for distribution in late fall/early winter. If you're interested in receiving this newsletter, please send an email expressing your interest to: sandra.simbeck@pca.state.mn.us

Citizens monitoring bacteria

For the third summer, 23 volunteers monitored 13 lakes and 10 river sites for E. coli bacteria through a U of MN Water Resources Center program, with funding from the LCCMR and Cooperative Extension Service. The study aims to test the reliability of volunteer collected data, and identify a test that volunteers like to use. Samples were split into two sub-samples, with one sent for analysis at a certified lab, and the other tested by volunteers at home using 3M Petrifilm test kits. The good news is that most of the monitored lakes and streams were very low in E. coli bacteria. A number of samples did exceed state standards, particularly after heavy rains. This research found the test kits are reliable and useful for targeting additional monitoring needs. For more information on the research or results, contact Barb Liukkonen at liukk001@umn.edu

Welcome Johanna! Volunteer Monitoring Coordinator



By now, many of you have communicated with Johanna Schussler, who joined the CSMP and CLMP staff in October, 2006. Here's our chance to formally introduce her!

Johanna brings a varied skill set to her position: she graduated from St. Olaf College with a degree in biology and philosophy, and then worked as a canoe guide at the end of the Gunflint Trail in the Boundary Waters Canoe Area. She spent two years conducting stream surveys and coordinating volunteer groups in Northern California before returning to Minnesota, where she received her master's degree in Water Resources Science at the University of Minnesota. Johanna's thesis research focused on

phosphorus balances in Minnesota watersheds, and made good use of CLMP data. Prior to coming to the MPCA, she worked with the City of Burnsville, where she was the Natural Resources Technician. In her time there, Johanna worked closely with lake homeowner associations, taught elementary school kids about healthy watersheds, and facilitated community discussion of what Burnsville will look like from an environmental perspective in 2025.

Johanna lives in South Minneapolis with her fiancé and her dog. When she's not at work, you can find her camping, canoeing, skiing, cooking, or doing yoga. Johanna is very excited to work with Minnesota's volunteer water monitors on their important work to increase the understanding of Minnesota's water resources. Johanna is in the office Monday through Thursday each week and every other Friday. She can be reached at 651-282-6411 (Twin Cities Metro Area), 800-657-3864 (Greater MN), or via email at johanna.schussler@pca.state.mn.us



**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.