

Stream Reader

Newsletter of the Minnesota Pollution Control Agency



Minnesota Pollution Control Agency

Winter 2005

CSMP Focus of 4-H Project

During the 2004 CSMP monitoring season, Rachel Scheurer took on the task of monitoring Nicollet County Ditch #40A as part of a 4H project.

For her project, Rachel took transparency tube readings on a regular basis (40 readings in all, from May to October) and monitored rainfall in the area. She also researched information on the internet regarding general information on the water cycle and tributaries to the ditch.

County Ditch #40A is located 6 miles southeast of Lafayette in southern Minnesota. This ditch is a tributary to the Minnesota River and is located in productive agricultural land in Nicollet County.

When asked why she chose to participate in the CSMP, Scheurer said, "I've always been interested in nature, and love to fish and hunt. I was interested in learning more about the quality of local streams. Another reason I chose this project is I wanted to understand how rainfall affects conditions of those streams."

Rachel earned a trip to the Minnesota State Fair 4H competition after presenting her

Citizen Stream Monitoring Poster displayed at the 2004 Minnesota State Fair.



project at the Nicollet County Fair. Her project was on display in the 4-H building in the Water/Wetlands category. She received Champion Honors for her poster.

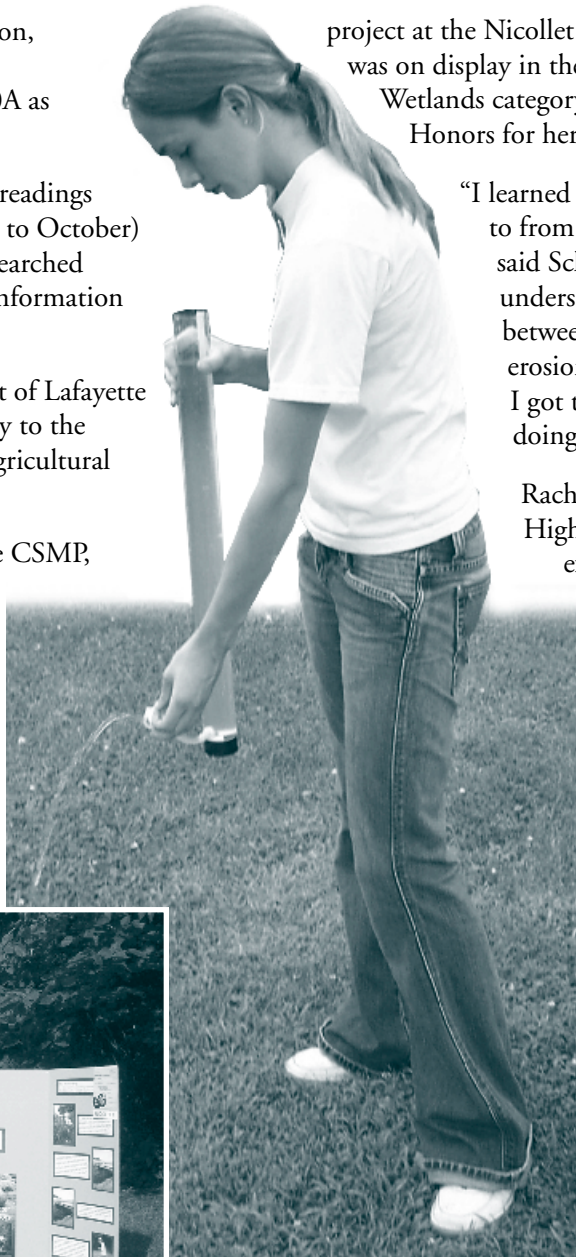
"I learned more than I expected to from doing this project," said Scheurer. "I have a better understanding of the relationship between rainfall and water quality, erosion and water quality, and I got to see some wildlife while doing my reading."

Rachel is a senior at Sibley East High School and active in many extracurricular activities.

Next year she is planning to attend Iowa State University majoring in Engineering.

Congratulations to Rachel on a successful project!

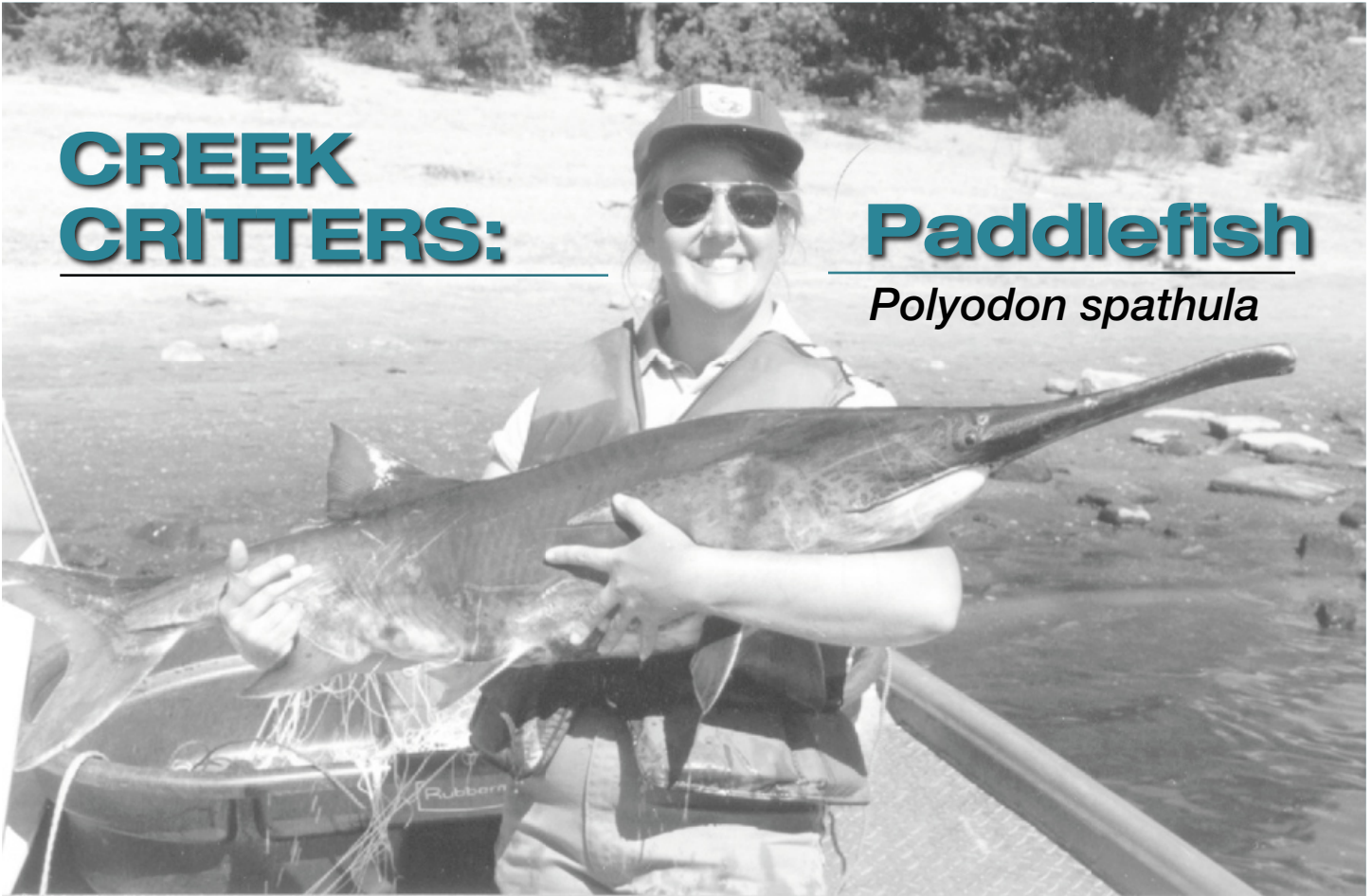
Volunteer Rachel Scheurer measuring the transparency of Nicollet County Ditch 40A.



CREEK CRITTERS:

Paddlefish

Polyodon spathula



US Fish and Wildlife Service photo

This new feature is designed to introduce volunteers to what they might find swimming in, or living near the stream or river that they devote their time to monitoring. From the microscopic to the giant, Minnesota has a wealth of aquatic animals. The following was taken from an article written by Tom Dickson entitled “Young Naturalists: Monsters of the Deep.” It was published in the Minnesota DNR’s Minnesota Conservation Volunteer magazine, September-October 1999 issue.

Paddlefish

The paddlefish is another gentle giant. Its body is shaped like a shark's. Like the shark and sturgeon, the paddlefish has a skeleton made of cartilage rather than bone. It has a huge mouth like a cave. Its snout looks like a canoe paddle.

Despite its fierce appearance, the paddlefish is harmless. It eats only tiny drifting animals and plants, called plankton. A paddlefish collects plankton in its huge mouth and traps them in comblike structures called gill rakes.

Paddlefish were once common in the Mississippi, Minnesota, and St. Croix rivers. But no longer. Paddlefish began to disappear

after dams were built on the Mississippi. The dams created lakes that flooded the gravel bars where the fish laid their eggs. The dams also blocked the paddlefish from reaching gravel bars on tributaries. Because there are so few remaining, paddlefish are protected in Minnesota. Paddlefish angling is not allowed here.

Anglers rarely catch paddlefish anyway because the fish usually ignore worms, minnows, and other baits.

No one knows what the paddlefish does with its paddle. Scientists once believed that the fish used it to stir up the river bottom and find insects. The paddle is covered with taste buds. These may help the big fish find food. Recently scientists have learned that the paddle acts as an antenna that senses weak electrical impulses given off by plankton.

State record: Paddlefish are protected in Minnesota, though accidental catches of more than 50 pounds have been recently reported.

World record: 142 pounds, 8 ounces snagged in the Missouri River, Montana, 1973.



No Name

Minnesota Pollution Control Agency 2004 CSMP Rain Gauge Data sheet

Name _____ Time of daily reading 8:30 AM

County _____ CSMP Site _____

	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	REMARKS-SEVERE WEATHER-STORM DAMAGE
1							.14	.66		
2						.01			.14	
3										
4					.30					
5					.10		.99			
6					.17		.16			
7					.33	.02				
8					.01	.13				
9						.42				
10						.39				
11					.10	.31		.03		
12										
13					.07					
14					.01		.30	.18		
15							.16	.03		
16							.13	.10		
17						.20			.01	
18						.09		.03		
19										
20								.12	.26	Froze
21							.36			
22						.59	.14		.01	
23								.39		
24							.64	.22		
25						.05	.01			
26						.19				
27								.06		
28						.02				
29					.30			.84		
30					.03	.27		.13		
31					.44			.11		
Total										

Look Familiar?

We are looking for the owner of this Rain Data Sheet. It was received on December 14, 2004 and had no name, county, or CSMP site listed on it. No transparency tube data was sent with it. If it looks like your data sheet, please contact Pam or Laurie at 1-800-657-3864 or at pamela.skon@pca.state.mn.us or at laurie.sovell@pca.state.mn.us.

- INSTRUCTIONS:**
1. Try and record precipitation at the same time each day. Record daily reading time at top of form
 2. Record precipitation to the nearest 1/100 of an inch (.01, .31, 1.31, etc.), record "0" if no rainfall occurs.
 3. If precipitation is less than .01" record "T" for trace.
 4. Use remarks column to note if precip. is SNOW, or there is other severe weather; record date for which remarks apply.
 5. Sum precipitation for each month and record at the bottom of each column.

(OVER →)

TUBE TEASERS: Answers to your stream-monitoring questions



**What are
impaired
waters and
what does it
mean to me?**

An impaired water is a lake or stream that fails to meet water-quality standards designed to protect it from pollution. For CSMP volunteers, your data will be used to help determine if a stream is impaired because it fails to meet the state turbidity standard – turbidity is the amount of light scattered in water or the cloudiness of the water.

To determine if the waterbody is actually impaired, the waterbody is assessed. To assess the waterbody, all data collected on the stream is reviewed. This occurs every 2 years, and includes data collected over the most recent 10 years. There are several criteria that the data must meet to be included in the review. The data must be representative of the entire monitoring season. For example, if you only took one transparency tube measurement in 2004, that would not accurately describe what your stream was like for the entire season. However, if you took a reading once a week, and included rain events, you would have a more accurate picture of the stream. In this case, the first set of data wouldn't be included, because it wasn't representative of the entire season, but the second set, because it covered the entire season, would be included. Secondly, there must be a minimum number of readings taken over a 2 year span. This would help even out the change in readings simply because of one wet year or dry

year. Data must also include a set number of 'violations' of the turbidity standard for the waterbody to be deemed impaired. If the reviewed data meet these criteria and indicate a violation of the water quality standard, the waterbody moves onto the impaired waters list.

Once a waterbody has been assessed and the data showed an impairment, the waterbody is placed on the impaired waters list. This list shows the waters that are in need of restoration in Minnesota. Once on the list, waters are evaluated to determine the sources of pollution and amount of reduction needed to restore the waterbody. This part of the process is called the Total Maximum Daily Load (TMDL). For streams impaired by turbidity, scientists, with help from local partners, determine where the pollution (mostly excess sediment) is coming from and how it can be reduced. From that point a plan is developed and local partners work to restore the waterbody. Many such restorations involve the implementation of Best Management Practices, such as planting buffer strips and reducing runoff.

This seems like a pretty big job, and rightfully so. In 2004, only 8% of Minnesota's streams and 14% of Minnesota's lakes have been assessed. Of those assessed waters, about 40% are impaired. Minnesota is a land known for its amazing water resources. We have thousands of lakes and thousands of miles of streams without any data. This is where you come in! The MPCA is relying on the help of citizen volunteers to compliment the monitoring that MPCA staff do. Your data helps us pinpoint where we should do more intensive monitoring or where we have a high quality water resource that we should preserve. And now, as CSMP volunteers, you also help assess waterbodies for turbidity impairments.

For further information, you can check out the MPCA website at: www.pca.state.mn.us/water/tmdl/index.html. If you have any questions on how the process works, please contact Laurie Sovell or Pam Skon at 1-800-657-3864 or laurie.sovell@pca.state.mn.us or pamela.skon@pca.state.mn.us.

CSMP NEWS SPLASHES

CSMP Volunteer Wins County Award

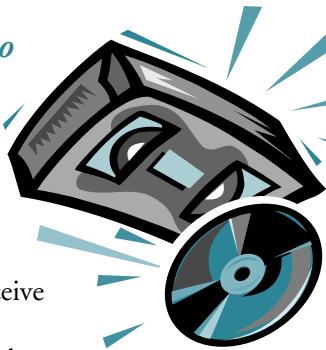
CSMP Volunteer Bernard Nigon will receive the Olmsted County Environmental Commission's Award for Excellence at a January awards ceremony. The awards are given each year to deserving individuals, businesses, and organizations that have made a substantial contribution to the environmental quality in their community. Bernard is being recognized for his work as a CSMP volunteer. Bernard has been a CSMP volunteer since 2000. The 2004 season marks his 5th year of collecting data on Cascade Creek. Congratulations Bernard!

Volunteer Training Video Completing Production

The CSMP and CLMP's (Citizen Lake-Monitoring Program) long awaited training video is nearing completion. Taping and editing are complete, and staff expect to receive the VHS and DVD format video in early 2005. The video, which provides information on safety, equipment use, and sample collection, will be distributed to NEW volunteers with their equipment. Current volunteers will be able to view clips from the video on the CLMP and CSMP websites.

Attention all Online CSMP Volunteers

The CSMP program is planning to test an online data entry page in the fall of 2005. If you would be willing to give our data entry system a test run, please contact Laurie Sovell or Pam Skon at 1-800-657-3864 or laurie.sovell@pca.state.mn.us or pamela.skon@pca.state.mn.us to get on the list. CSMP staff will contact interested volunteers when the system is ready.



2004 Season Update

Datasheets are arriving daily, and data entry has begun for the 2004 season! Many staff are hard at work to get you an annual report in a timely fashion. Currently, 341 volunteers have submitted data on 502 different sites!

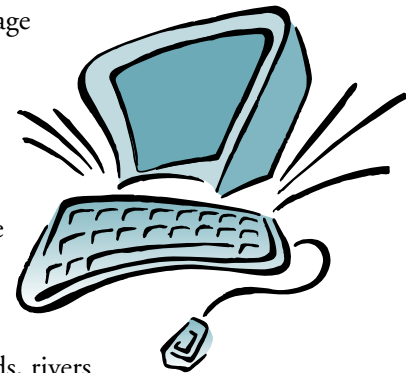
2004 CLMP UPDATE

The Citizen Lake Monitoring Program (CLMP) has just wrapped up data entry for 2004. Over this past summer, over 970 volunteers monitored 1358 sites on 875 different lakes. New to the program this year was a light weight plastic Secchi disk designed specifically for Boundary Water Canoe Area Wilderness (BWCAW) trips. The CLMP partnered with the Friends of the Boundary Waters Wilderness to recruit volunteers to take readings while paddling through the pristine area. Twenty volunteers participated in the program in its first year, taking Secchi disk measurements on over 50 lakes in the BWCA. If you have any questions regarding the CLMP or the new BWCA Secchi disk program, please contact Pam Skon or Jennifer Klang at 800-657-3864 or at pamela.skon@pca.state.mn.us or jennifer.klang@pca.state.mn.us.

New Sources/ Publications

Detailed Assessment of Phosphorus Sources to Minnesota Watersheds is Available

The Detailed Assessment of Phosphorus Sources to Minnesota Watersheds is now available to download on the MPCA's webpage at: www.pca.state.mn.us/hot/legislature/reports/phosphorus-report.html. The assessment funded by the Legislative Commission on Minnesota Resources and conducted for the MPCA by a consulting firm is the first scientific study of just how much phosphorus enters Minnesota's lakes, wetlands, rivers and streams, and where it comes from in each of the state's 10 major watersheds. For questions or further information, please contact Mark Tomasek at 651-296-7241 (metro) or 1-800-657-3864 (Greater Minnesota) or at mark.tomasek@pca.state.mn.us.



CSMP Word Flow Answer

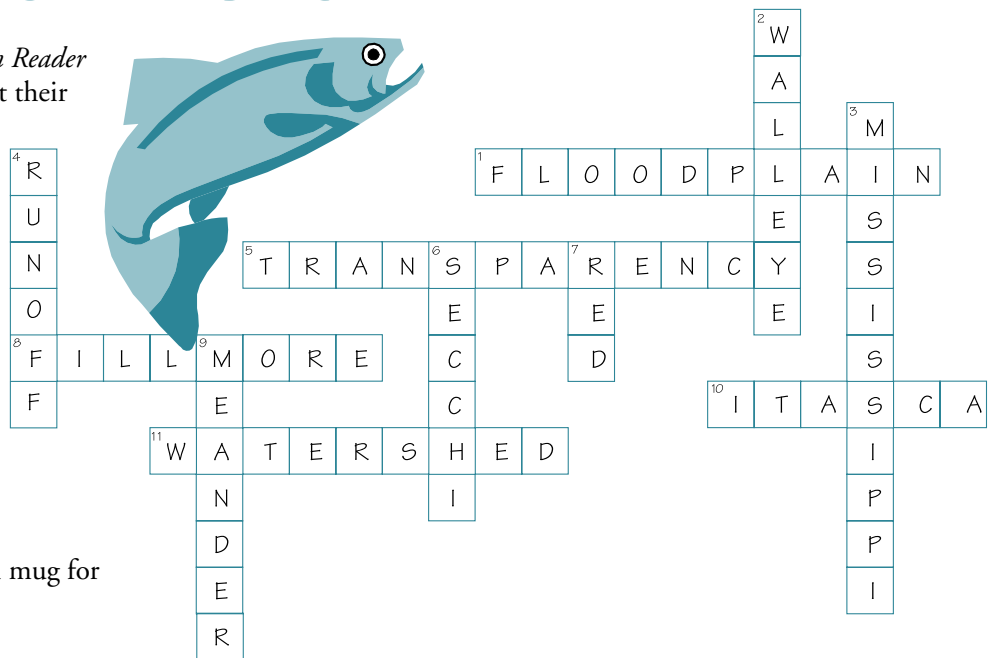
The summer 2004 edition of the *Stream Reader* offered volunteers an opportunity to test their river knowledge with a crossword puzzle. Crossword savvy CSMP volunteers who were the first to return their puzzles were:

Gwen Ahern
N Fork Whitewater River

Mary Hollingsworth
Minneopa Creek

Richard Fetterly
Straight River & Rush Creek.

Each received an insulated CSMP travel mug for their quick response.



Thanks to everyone who submitted a completed puzzle.

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Minnesota Pollution Control Agency
520 Lafayette Rd. N.
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