

RIVER TALK

THE MINNESOTA RIVER CURRENT

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"CHIPPEWA RIVER WATERSHED PROJECT"

The staff of the Chippewa River Watershed Project (CRWP) – Kylene, Jenn and Paul have been working hard for over ten years to improve water quality in the watershed, while promoting a healthy economy. This dedicated crew works with a large list of partners including nonprofits, farmers, government agencies, teachers, and many others to restore and protect this valuable water resource.

The goals of the CRWP are:

- To achieve the highest level of water quality attainable for ecoregions streams;
- To increase the number of watershed residents taking an active role in enhancing and protecting the Chippewa River;
- To continue to have the watershed community of agencies, organizations, and citizens across the participating counties work toward the common goal of improved water quality; and

- To develop the Chippewa River as a major recreational resource within the Minnesota River Basin.

Early in 1998, the CRWP got its start with a Phase I Clean Water Partnership (CWP) grant from the Minnesota Pollution Control Agency to study one of the largest watersheds in the

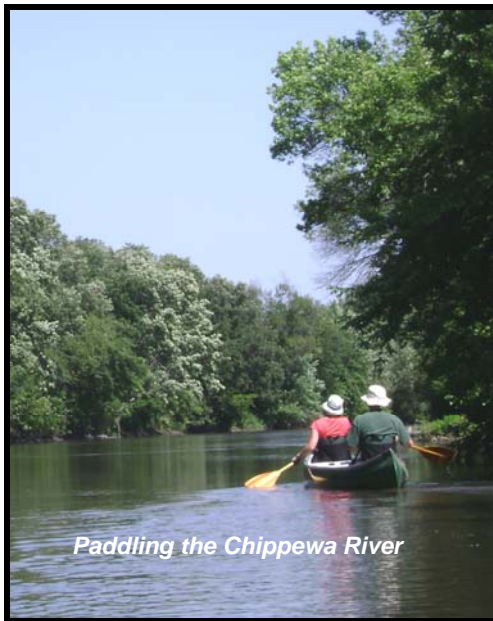
Minnesota River Basin. This diagnostic study encompassed the cooperation of 60 plus local, state and federal organizations to access water quality and land use in the CRWP.

From that initial beginning the project moved into an implementation phase in January of 2001. Today, the CRWP staff and partners put a large selection of conservation practices on the ground. Other important endeavors include education outreach with schools, communities and others, along with monitoring water quality and working with a network of citizen monitors.

Because of their ongoing efforts to secure funding, residents across the watershed are now eligible for cost-share and septic upgrade loans. Citizens in the watershed have provided major support at CRWP's annual meetings, canoe trips, watershed tours, water festivals, and other community events.

A few Highlights of the CRWP

- Obtained Canoe and Boat Route designation from State Legislature for the lower 48 miles of the Chippewa River,
- \$578,125 provided to landowners as cost share or incentive payments on over 400 best management practices since 2003,
- Sustained working partnerships for the past 10 years with over 25 local, state, and federal agencies, lake associations and other organizations in the watershed,
- Partner in completion of the Big Bend Cemetery streambank protection project,
- Extensive monitoring program providing STORET quality data from:
 - 11 standard monitoring sites
 - 275 low flow transparency sites
 - 20 citizen monitors
 - 6 geomorphology tracking sites
 - 8 benthic macroinvertebrate survey sites



Paddling the Chippewa River

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DID YOU KNOW?

The Chippewa River and Pomme de Terre watersheds were the site of Minnesota's Greatest Thunderstorm. According to Mark Seeley, the event happened in July of 1867 when only a few pioneer settlements and farms dotted the landscape. The best account of the storm came from George B. Wright, a land surveyor who witnessed the storm while doing fieldwork in Pope County.

At around noon on July 17th the storm started out with a little wind, along with thunder and lightning. In the beginning the rain fell at a moderate rate before increasing and continued into the next day. Wright reported the storm lasted around 30 hours; with settlers further north and east saying it continued for 36 hours.

When the rain ceased and the low clouds lifted on the morning of July 19, Wright and his crew saw nothing but broad sheets of water covering the landscape. Foaming torrents streamed from upland areas down lines of drainage and poured into both the Chippewa and Pomme de Terre Valleys.

The Chippewa River had been flowing 1 to 3 feet deep and a channel width of 12 to 20 feet, typical summer flow. After the storm it ranged from 900 feet between the bluffs and three or four miles on flats. *Field notes even four weeks after the storm show that the Chippewa was still more than 600 feet wide over the flood plain, its main channel dept on the order of 15 to 20 feet.*

Pioneer settlers encountered by Wright and his crew . . . estimated the storm's total rainfall to range from 30 to 36 inches, figures based on the catch in empty barrels left in open areas away from buildings and trees. (Minnesota Weather Almanac by Mark W. Seeley)

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<http://mail.mnsu.edu/mailman/listinfo/mrwa>

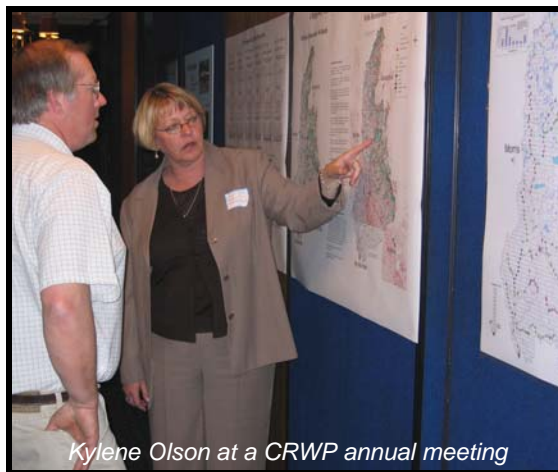




Kylene Olson grew up along the Chippewa River at Watson and became the first executive director of the Chippewa River Watershed Project in 1997. Her knowledge of local conditions has given Kylene an opportunity to work with citizens and government agencies on a shared vision for improving water quality in the watershed.

What is the biggest issue affecting quality of life in the MN River Watershed?

Clean water, awareness, I have no doubt that people would like clean water but I don't think there is awareness that the state of water quality is EVERYONEs responsibility. People ask me if I am still working on cleaning up the river - I provide the tools, it is everyone living on the land that has to make the changes to improve water quality (including me!).



Kylene Olson at a CRWP annual meeting

How do we connect the river to the public?

This is something I have been working on for 10 years. Our motto is, "Connecting people through their river". We try by holding events focused on the river and feeding them. We also use newspaper articles and ads, newsletters, and our website, www.chippewariver.com. If we could get everyone in the watershed ON the river they would feel more connected.

How do we get youth involved in MN River Issues?

Work with teachers and students, expose them to the river. We conduct a biomonitoring program with high schools in the watershed. It is amazing to hear students exclaim, "I had no idea the river could be so interesting!"

How do we get the different competing interests to listen to each other in a safe environment?

Find a common ground – such as clean water. I believe that people want clean water, go from there and ask what each has to offer, use active listening. I think the format at the Minnesota River Summit a couple of years ago worked quite well.

What would you like to see as your legacy when it comes to your work with the Minnesota River?

A sustainable Chippewa River Watershed Project, I am working on an endowment fund for this project to provide a stable source of funding – wish me luck!

What are the positive aspects of working with a group like CURE?

There are positive aspects in working with ANY group. I believe networking/partnerships/relationships, whichever word you chose to use, are the most important tool in accomplishing mutual goals, such as a cleaner Chippewa River. Each group has its own followers and by networking you reach both.

What do you see as the role of the Minnesota River Watershed Alliance when it comes to improving, protecting and restoring the MN River Watershed?

As a voice for the river basin – raise awareness of the state of the river and awareness of the activities that are happening in the basin.

Recently the Minnesota River Board presented Kylene Olson with their "Minnesota River Confluence Award." According to the nomination from Jim Dahlvang, "Kylene has been leading the Chippewa River Watershed

Project for the 10 years since its inception. She provides motivation to her staff and her partners through her love of the river and her beliefs and values in enhancing the water quality of the Chippewa River, the largest tributary of the Minnesota River. Some of the programs created under her leadership, such as the Citizen Monitoring Program and the High School Monitoring Program have been used as a model in other watersheds like the Hawk Creek and Lac qui Parle Yellow Bank."

Kylene graduated from Southwest State University with a Bachelor of Science degree – emphasis in Environmental Biology. Her efforts in the local community runs deep including serving as the mayor of her hometown of Watson for a number of years. She was also a founding director of the Zion Restoration Society and instrumental in restoring the 125 plus year church overlooking the Chippewa River Valley. In addition, Kylene is a member of the Watson Lion's Club and is the current president.

"A COMMITMENT TO QUALITY"

The following article appeared in the *Frontiers* magazine of Minnesota State University, Mankato.

Dr. Shannon Fisher is a busy man. As the Director of the Water Resources Center (WRC), he is responsible for the overall operation of the center, which provides research and data collection, outreach and consultation, technical assistance, and training related to the management of water resources. In addition, he is an associate professor of biology and serves as the Executive Director for the Minnesota River Board – a board comprised of representatives from most of the 37 southern Minnesota counties within the Minnesota River Basin who work to improve and protect the water quality within the Minnesota River Basin.



With so many roles to fill, it's hard to imagine Fisher having time to secure the grants and contracts necessary for the WRC to operate, but with the help of his team he manages to do so. In fact, during the 2008 academic year, Fisher secured 11 contracts and 3 grants totaling \$852,787 and earning him the *Excellence in Grants and Contracts* award from the Office of Research and Sponsored Programs.

Despite his obvious success, Fisher is quick to admit he couldn't do it alone. The WRC, located in Trafton Science Center, employs 8 full-time staff, 4 graduate students, and up to 20 undergraduate students annually. Fisher gives ample credit to his team for the center's accomplishments. "I might be the director, but the WRC wouldn't survive without the staff and students we have," he says. "They are exceptional and the reason that we have been so successful."

Clearly, the relationship is mutually beneficial. As the center takes on more projects, resulting in more revenue, a certain percentage of that revenue is allocated for student employment. Kimberly Musser, the Assistant Director of the WRC, explained the center was originally envisioned as a place where students and staff could get involved in water quality projects across the region and actively take part in applied research. "We help students get hands-on experience working on real-world projects," explains Musser.

James Fett, a senior double major in Ecology and Environmental Sciences programs, has been working for the WRC for almost two years and has benefitted in multiple ways. Not only has he been able to get out into the field and take water samples himself, but he has also been trained in official protocol, conducted and presented two

independent research projects, and made several connections with potential employers. "My experience at the WRC has certainly contributed to my success so far," he says, "and I have no doubt it will continue to do so in the future."

Preparing students for their future in the field is exactly what Fisher hopes the center will accomplish. "When I think about the WRC's role here on campus," says Fisher, "it really boils down to providing a bridge between academic and experiential education."

But that isn't all the center is all about.

Dealing with water quality – especially in the Minnesota River Basin, which is likely the most polluted waterway in the state – requires an excitement for the job. Water quality changes are hard to implement and the impact takes time to realize. It's important for people working in the field to be not only patient, but passionate as well – and Fisher has just the people for the job. "It's not just our work, it's our life," says WRC Communications Coordinator Scott Kudelka. "It goes beyond just work – it's paddling the river, fishing the rivers, protecting the future of these waters for future generations."

MSU graduate student Matt Ribikawskis (center) records data as Bill Lamoreux (right) and Cary Christensen check water clarity on Crystal Lake

"PAUL WYMAR - CHIPPEWA WATERSHED SCIENTIST"

Paul first came to the Montevideo area in 1996 to work for a year as an intern for the Land Stewardship Project and saw the community as a place he could eventually settle down in. After spending a couple of years in the Peace Corps and finishing up his master's degree, Paul found a chance to return.

In 2000, Paul was hired as the watershed scientist position for the Chippewa River Watershed Project (CWRP) and has been responsible for coordinating all aspects of water quality monitoring. This means he takes care of eleven standard monitoring sites, 275 low flow transparency sites, 20 citizen monitoring sites, 6 geomorphology tracking sites and 8 benthic macro-invertebrate survey sites.

Over the last couple of years, Paul's work has also included accessing the inlet and outlet streams of three lakes – Emily, Gilchrist and Shakopee. Paul says the sites coalesce to create a powerful picture of water quality across the eight-county watershed. All of this work has the support and involvement of local lake associations.

Pat Baskfield, hydrologist with the Minnesota Pollution Control Agency has worked

with Paul over the last eight years and is impressed by his dedication, initiative and for being self-sufficient. "Paul is one of the finest, brightest water quality technicians to ever assist with a Clean Water Partnership Project," stated Baskfield. "Paul is rather unique in

his drive to continually refine his existing work while simultaneously taking on new projects to help further our understanding of discharge and pollution dynamics within Chippewa River."

In addition to collecting water quality samples for sediment, nutrients and bacteria along with flow data, Paul has been collecting data on bank erosion and buffer strips along streams and ditches. To see it up close and personal has meant both paddling and cross-country skiing many of the waterways in the Chippewa River Watershed. All of this data collection is being used to pinpoint

specific areas for putting conservation practices on the ground.

Paul says, overall the community has a greater awareness of water quality issues compared to ten years ago. Today, there is more acceptance of the CWRP programs along with the number of people taking responsibility for their own impact on water quality. In the future, Paul hopes to see a renewed interest in buffers, wetlands and shoreline restorations.

From the beginning with the CRWP, Paul has been working with citizen monitors to help fill in some of the gaps in the overall picture of water quality in the Chippewa River Watershed. This gives citizens a chance to be involved in the project and "In turn empowers them to talk with their neighbors about water quality in a precise way," reports Wymar. One part of the citizen monitoring program is working with high students on collecting macro-invertebrates and exposing them to river biology.

When it comes to the Minnesota River Watershed, Paul says many people don't give enough consideration to the tributary basins with most of the focus on the main trunk. "The Minnesota River is the sum of its parts," states Wymar. "These tributaries are incredibly complex and defy simple explanations. Every time we go out and look at the watershed in a new way we gain new perspective and discover new realities that were not clear before."

Paul goes on to say, "Ten years ago our understanding of the River was more theoretical. Today we have ten years of hard work and experience through monitoring and projects. Our view of the river is no longer theoretical rather it is practical."

The CWRP works with many partners to take on a wide range of projects across the watershed. According to Paul, it is rarely the case where one group has all of the funding, human and technical resources to take on the projects that are needed for improving water resources. "We work to bring these different resources together by coordinating our partners around water quality," said Paul.



JENN HOFFMAN – CHIPPEWA WATERSHED SPECIALIST

“My image of the Minnesota River has expanded greatly during my time with the Chippewa River Watershed Project (CRWP), even though I have lived my entire life in the Minnesota River Watershed,” exclaims Jenn Hoffman. “I am continually surprised by the beauty of this watershed and great diversity that exists in the basin and the amount of action orientated people that are leading the charge to protect and improve this basin.”

Jenn grew up on a farm in the Holloway area near Benson and attended Southwest Minnesota State University (SMSU) in Marshall and close to graduation spotted a job opening for the CRWP position. She said “I felt it would be a good fit, both my academic and personal background.” Hired in 1999 as the monitoring technician, Jenn states it has been a nice fit ever since. Two years later she took on the role of watershed specialist.

In this position, Jenn helps to organize the CRWP’s education and outreach campaigns, along with facilitating the Local Work Group (LWG). This group is made of watershed partners and oversees the cost-share and incentive programs offered through the CRWP. “These partners are extremely important to the success of the CRWP,” says Hoffman. “With the guidance and participation of the LWG members, the CRWP has been able to provide funding for many best management practices including buffer strips, shoreline restorations, erosion control structures, feedlot runoff reduction practices, rain gardens, and streambank protection sites.”

There are many positive aspects to her job with the CRWP. “I think that the unique structure of the CRWP allows us to play a special role in the basin,” reports Jenn. “As an organization we have the opportunity to work closely with both local units of government and nongovernmental organizations. I think that being able to foster these relationships, allows us to reach a much wider base of watershed residents and to participate in a diverse range of practices and projects.”

When it comes to the Minnesota River and water quality, Jenn feels improvements are being made. “Water quality doesn’t get degraded overnight and it’s a slow pace to get it back to being healthy once it is degraded,” says Hoffman. “I know that there are still many trouble spots but there are also areas where the trend of improved water quality is quite evident. I definitely think that people are more aware of the issues facing the Minnesota River and its tributaries and recognizing that there are personal decisions that each of us can make for a healthier watershed.”

Jenn’s interest in the Minnesota River Watershed is to see it as healthy as possible. She says, “I really hope to see a watershed that can strike a balance between all the uses that are demanded of it such as agriculture, recreation, wildlife, municipalities, etc. According to Jenn, all sectors are important – no more than any of the others. “I think that the watershed has gotten out of balance and if we can achieve a better ecological balance we’ll see great improvements in water quality and be able to pass on a high quality of life to our children,” states Hoffman.

When asked whether the public has a sense of urgency about water quality issues in the Minnesota River Watershed, Jenn spoke of it being in the forefront of many people’s minds but not sure it propelled a sense of urgency. “Water quality isn’t always the most glamorous issue. It’s often times easier to get behind a recycling program or changing to CFL light bulbs, but trying to make a shift of the way we use land to the way we value rivers and streams is a lot tougher,” replies Jenn. “A sense of urgency to water quality issues, one has to be connected to the issue. Although everyone of us is dependent on water, water quality and the health of our watershed, not everyone has made those connections yet.”



"VOYAGE DOWN THE MN RIVER REVISITED"

On July 6th, Tim Krohn and John Cross of the Mankato Free Press started out paddling down the Minnesota River on the 10th Anniversary of their first voyage on this threatened resource. Over the next 11 days, the two men spent their time paddling and observing changes from the last time they canoed its 335 miles.

Right from the start they again experienced a river that can be confusing and both physically and mentally harsh. Here the Minnesota River winds through the Big Stone National Wildlife Refuge, more of a marsh than a powerful river. Tim and John battled tree snags and trying to navigate through channels dominated by cattails. Finally, after nearly 10 hours of paddling for almost 30 miles they arrived at the Milan bridge crossing Lac qui Parle Lake and a camping site.

Once again along the way, Tim and John wrote stories about people tied to the Minnesota River and what they saw on this voyage. Otters were spotted near the beginning of their journey, something they didn't see back in 1998. They also saw beaver, waterfowl of all types, and thousands of carp. Some of these exotic species weighed 20 pounds and "rooted like hogs along the flooded river banks . . ."

One of the issues covered on this trip dealt with the proposed Big Stone II Coal Plant on the South Dakota side of the Minnesota River. In the article, Patrick Moore of CURE talked about how it's not only a threat to the Minnesota River but to all waters in the state. CURE and other environmental groups are worried about the amount of water – 3.2 billion gallons – that could be annually drawn from Big Stone Lake. "Water is the most precious thing on the planet right now. Who knows what they could do with the water," Moore said.

The one thing Tim and John noticed on this trip compared to their first had to do with the rapid erosion of the banks. In 1998, we had noted that banks had eroded some following the massive flooding of a year earlier. Today, thousands and thousands of trees along the

Minnesota have recently, or will soon fall into the river as banks are quickly being eaten away. In one dramatic example, a large tree that had been on the shoreline was now standing upright in the river, but some 10 feet from the bank, which had apparently been recently washed away.

Rivers naturally want to widen themselves by steadily eroding away what they can from the banks. But many who live along the river have said increased development and more farm drainage systems have caused the river in recent years to rise rapidly with runoff water, causing the undercutting of the banks that destabilizes them until they fall into the river.

The second day of their voyage meant a long

and exhausting trip as they paddled across the lower half of Lac qui Parle Lake. On the lake they hit a stiff wind creating whitecaps keeping their pace down to two miles per hour. In the past 10 years the river has appeared to hold up pretty well. The verdict is still out on John and me. We're sore and tired, but so far a night's sleep has done the trick.

On Monday night – July 7th –

John and Tim camped in the yard of Del and Shirley Wehrspann of rural Montevideo. They took advantage of a shower in an outbuilding and a chance to talk with Del about being a founding member of CURE and his immense passion for the Minnesota River.

Del Wehrspann, an Iowa farm boy who became a Minnesota River Valley livestock buyer, hadn't planned on becoming an activist who would stand up to local and state officials. But his anger at seeing the river damaged by drainage led to a protracted legal battle and to him helping form CURE . . .

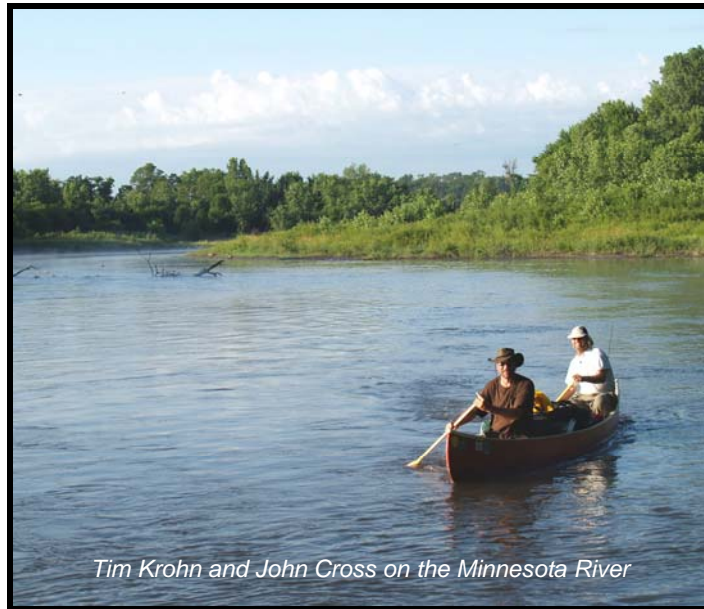
Del said the river needed a focal point. We wanted to start a group that would give people support.

Wehrspann, who travels the river almost daily on his pontoon, said the activism has made a difference.

"I'm just thankful for everything we've kept from being lost. Without the efforts of CURE, we'd see more degradation."

"I don't think the river has improved. We've slowed the degradation, but it's still happening."

Look for more of Tim and John's voyage down the Minnesota River in future issues.



Tim Krohn and John Cross on the Minnesota River

RESEARCHERS GET DIRTY IN THE LE SUEUR RIVER

By Tim Krohn,
Mankato Free Press Staff Writer

The Le Sueur River is the bad boy of the Minnesota River Valley.

It's not known whether it's just his nature or if it's how he was raised.

A team of geologists and researchers from across the country are here this summer to try to determine just that.

One thing they do know is that the Le Sueur, along with the Blue Earth River it empties into, carries more dirt particles into the Minnesota than any of the other tributaries in the basin.

Carrie Jennings, with the Minnesota Geological Survey, has long done significant research on the Minnesota River Valley and is one of those participating in the study of the Le Sueur.

The project involves the Minnesota Pollution Control Agency, Minnesota State University, the University of Minnesota's St. Anthony Falls Lab and the National Center for Earth Dynamics, part of the National Science Foundation.

With people from universities such as John Hopkins, the group is being referred to as a researching "dream team."

The team has rented a house in Mankato for use as a base.

Sediment hurting aquatic life

Lee Ganske, supervisor of the Minnesota River Basin Watershed unit, based in Mankato, said there are actually two separate but related projects taking place.

One is a biological study, conducted by MPCA staff, of all living creatures in the Le Sueur from tiny invertebrates clinging to rocks, to large fish and turtles.

The university research teams are trying to pinpoint where sediment in the river is coming from.

"In many cases, biologists will find that sites have poor biological conditions because of the sediment. This will bring to a new level the ability to pinpoint some of those sediment sources," Ganske said.

The impetus for the massive study lies far from the Le Sueur, which winds its way from southeast of Mankato to where it empties into the Blue Earth River, which flows into the Minnesota at Sibley Park in Mankato. It's Lake Pepin, hundred miles to the northeast, that is in part pushing officials to solve the mystery of the Le Sueur River.

Pepin, which is fed by the Mississippi, is loaded with sediment – almost all of it coming from the Minnesota River. The Minnesota delivers just 25 percent of the water flow to Lake Pepin but carries nearly 90 percent of the sediment filling in the lake.

"There's been a tenfold increase in sediment in Pepin and the major source is the Minnesota River. That's well documented," Jennings said.

Jennings said it's not known exactly why the Le Sueur gives up so much soil, or if the sediment load coming from the river has increased significantly over time.

The team of scientists will conduct a variety of tests and ongoing research to decide exactly how much dirt is flowing from the river and where it's coming from.

Long a dirty river

It is known the Le Sueur and Blue Earth have long poured dirt into the Minnesota River. Early explorers wrote of noticeable muddy water flowing out of the Blue Earth long before white settlement and farming in the region.

Modern agriculture and tiling of fields have put more sediment into the rivers. Jennings said some farmers in the Blue Earth River basin have taken part in using best-management practices, such as putting grass buffers around tile intakes and along drainage ditches. "It's helped, but there may be better ways to do it."



Eroding banks on the Le Sueur River. Note the blue kayak next to the shoreline.

Continued on page 9

Researchers get Dirty in the Le Sueur River

continued from page 8

One thing researchers want to know is the changes in cut – width – of the Le Sueur as well as changes in its elevation.

When the Minnesota River valley was carved out about 9,000 years ago, the tributaries were higher than the Minnesota.

“All the tributaries, like the Blue Earth, would have been waterfalls, but those have been nicked now. “We’re trying to estimate how rapidly ravines have deepened,” Jennings said. They also want to measure another natural phenomena – the widening of the river at the mouth. Rivers – unless they hit hard rock – naturally widen at the mouth, with the expansion moving upstream.

“The Minnesota basin is relatively young,” Jennings said. “What it wants to do now is to continue moving up the tributaries to drain the whole watershed. The river will work up the landscape eventually and completely drain it.”

Discovering trends

Ganske said the detailed study of the Le Sueur watershed is possible because of funding through the state’s Water Legacy Act, passed in 2006.

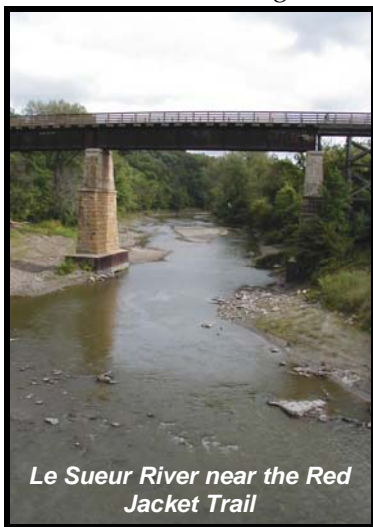
“It’s part of a statewide effort where every major watershed in the state, about 80 of them, will have this biological assessment done,” Ganske said.

He said that while there are two efforts going on, researchers will share the information. The biological study being done by the MPCA involves a variety of ways to capture living things in the river, including electrical shocking of fish, netting and collecting insects and other invertebrates and then analyzing them.

“We will be assessing about 70 different sites,” Ganske said. “They will be analyzed and we’ll

try to put that into context with the habitat and other factors to provide a good picture of where things are good and where the potential is for improving things.”

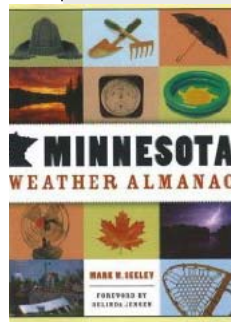
Ganske said the collection and analysis of scientific data can be a slow effort. Because isolated events such as heavy rains, drought or floods can dramatically change the condition of the river at any given time, long-range comparable data are needed. “It takes a long time for trends to emerge from the fog of that year-to-year variability.”



Le Sueur River near the Red Jacket Trail

Book Review: Minnesota Weather Almanac by Mark W. Seeley

Of the four seasons, fall may have the greatest impact on the Minnesota psyche. Residents react to the typical fall weather pattern in a classic love-hate manner. Beautiful crisp, clear mornings perfect for viewing early fall colors give way to foggy mornings, abundant clouds, and biting winds. Fall signals an end to the growing season, but it concludes the pesky insect season as well. The vacation season draws to a close; parents are relieved to see the school year begin. The boating and golfing seasons wind down, but the allergy season ends, too. Despite these conflicting effects, fall is most Minnesotans’ favorite season, and with good reason. It offers a glorious, invigorating environment; then, like a finger-wagging parent it becomes dull, darkened, windy, and frigid, reminding us to prepare for winter.



Mark Seeley has been a climatologist and meteorologist with the University of Minnesota since 1978, when he arrived during a blizzard and found himself snowed in for two days in Albert Lea with his wife and dog. Today, Mark is known for his weather commentary on Minnesota Public Radio (MPR) at 6:50 a.m.

The term Indian Summer dates back to at least 1778 and probably originated in reference to the American Indian practice of using the last good spells of autumn weather to increase winter food stores. In Minnesota, Indian summer may occur before or after the first fall frost. There are occasional years when the first frost does not arrive until late October or early November, after residents have already a lovely Indian summer.

This is a complete guide to Minnesota weather, featuring stories, fun facts, scientific lessons, and best questions from the MPR Annual State Fair Weather Quiz broadcast on the Monday program. The book is an attempt to describe the history of weather all the way back to 1806.

- harrowing details of infamous storms like the Armistice Day Blizzard of 1940 and the Rochester tornado of 1883,
- a down-to-earth explanation of elements that affect Minnesota’s climate

Living in the middle of a continent and at a middle-latitude position within the northern hemisphere affords many opportunities to observe erratic climate behaviors and to gain an appreciation for the sometimes beautiful, frightful, dramatic, and traumatic weather that Mother Nature can deal from her deck of cards. Thousands of different weather scenarios can occur at each point on the Minnesota landscape, on any given day of the year.



I first started working in the Minnesota River Watershed in July of 2002 as the watershed technician of the Lac qui Parle - Yellow Bank CWP. As my first real exposure to this basin, I came away feeling right at home on the rolling prairie intersected by winding and boulder-filled rivers, along with small-town life and strong community involvement.

This is when I first got to know Kylene, Jennifer and Paul of the Chippewa River Watershed Project (CWRP). For Mary and me, they were somebody you could look for advice and direction after developing their own successful water quality and conservation program in one of the most intensively farmed watersheds in the Upper Minnesota River Valley.

Each time I visit the CWRP, I come away impressed by the level of commitment from their various partners and how the staff is always looking for new ways to reach citizens and landowners in the watershed. They have a great program and should be proud of what has been accomplished.

Summer disappeared way too quickly and with it low rivers - too low to paddle. I did manage to get out quite a bit early in the season. Most of my paddles this season ended up on the Minnesota

River. I ended up hitting stretches up and down the river including twice with Tim Krohn and John Cross on their voyage down the Minnesota.

The first time I can only say it happened by luck. I vaguely knew where they might have camped and took a chance by putting in at the Renville County park off of Highway 20. And sure enough I just got all my stuff down to shore when Tim and John paddled around the bend in a light fog. I spent a perfect morning with them as we paddled by some beautiful granite rocks and talked about the efforts of the Minnesota River Watershed Alliance.

A couple of days later I picked up John and Tim at the Riverside Park boat ramp to give them a place to camp for the night and take a shower. Both Angie and I enjoyed having their company and they treated us to a meal at one of the Mexican restaurants in town. The next morning I joined them for the stretch from New Ulm to Courtland. Tim and John put together a great series of articles on the Minnesota River that shows the passion of people for this resource. Well done!



Chippewa River Watershed – Basin Facts

- Drains a 2,080 square mile (1.3 million acre) basin – 2nd largest in the MN River Basin,
- Divided into 127 minor watersheds ranging from 1,644 acres to 40,351 acres,
- Encompasses portions of 8 counties: Otter Tail, Grant, Stevens, Douglas, Pope, Swift, Kandiyohi and Chippewa,
- Chippewa River starts near Fish Lake and flows 130 miles to its mouth in Montevideo where it joins the Minnesota River,
- Total stream network of intermittent and perennial streams is over 2,000 miles,
- Main tributaries: Shakopee Creek, Little Chippewa River, Dry weather Creek and East Branch Chippewa,
- Major lakes: Minnewaska, Emily, Norway, Florida, Games, Andrew, Chippewa and Reno (95 lakes)
- Approximately 41,000 people live in the watershed,
- Prominent communities: Brandon, Hoffman, Glenwood, Starbuck, Hancock, Benson, Kerkhoven and Montevideo (26 towns)
- Primary land use in the watershed is agricultural,



WHAT'S HAPPENING

2008 Agro Ecology Summit

Close to 80 people showed up at Willow Lake Farms outside of Windom on August 15th for a discussion on “Bioenergy Crops and Water Quality.” Participants to this summit were treated to a presentation on “Minnesota’s Changing Climate Patterns” by Mark Seeley, U of M Climatologist. An audience of farmers, county commissioners, University of MN students and others also took in a presentation, tour and demo on controlled drainage. At the end of the day, owner Tony Thompson took the group on a Farm and Prairie CRP walk.

Anderson Chain of Lakes & Water Quality

Nine Mile Creek Watershed district and the city of Eden Prairie are working together to knock back the Curly Leaf problem on Southwest Anderson and Northwest Anderson lakes. According to Kevin Bigalke, Administrator of Nine Mile Creek Watershed District, “The problem with Curly Leaf is it dies out in late June, early July, releasing all those nutrients back into the water column, which starts the algae blooms, and degradation of water quality. The plan is to drain one lake completely and leave a smaller pool on Northwest Anderson to test a chemical weed killer. The project will cost district taxpayers a half million dollars.

Day at the Dam

In July, a renovated Rapidan Dam Park and campground were highlighted at a Blue Earth County Celebration. Hundreds of visitors came out for tours of the park, listen to music, take in displays and enjoy a



boat ride on the reservoir provided by the Mankato Paddling and Outing Club. For a treat, the Dam Store served up its locally known pie and hamburgers. Rapidan Dam itself was chosen as one of the “Minnesota 150” to celebrate the state’s sesquicentennial.

Organic Dairy Farmer – the Jaus

Martin and Loretta Jaus of rural Gibbon were featured in the last issue of new online magazine – the Conservationist. The Jaus family raises 70 organic dairy cows on 410 acres along with small grain, alfalfa, corn and soybeans. One hundred and five acres are dedicated to rotationally grazed pasture. In addition, they have 30 acres in wetland and prairie restoration, tree plantings and wildlife food plots. The Jaus farm features a well-built brick barn built at the beginning of the 20th century. They farm in both the High Island Creek and Rush River watershed of the Lower Minnesota River Basin.

Productive Partnership

Over the summer, a joint effort by Putting Green Eco Center and MRCI Work Office have been producing and selling locally grown products at the Growing Green Mini-Farm. The goal of the project is to grow organic foods, provide a working, educational, organic, sustainable farm and also provide stable source of work for MRCI clients. MRCI clients and



Putting Green students planted 1 and ½ acres of kale, Swiss chard, parsley, basil, leeks, peppers, tomatoes, pumpkins, lettuce, squash, kohlrabi and flowers. They sell the produce

onsite, farmer’s markets and local churches. Next year the two groups are hoping to plant fruit trees and bushes along with raspberries.

Cedar Avenue Bridge for sale

You can buy the old Cedar Avenue bridge that crosses Long Meadow Lake in the Minnesota Valley National Wildlife Refuge. Right now, no one seems to want the bridge including the City of Bloomington, U.S. Fish & Wildlife Service or Minnesota Department of Transportation (MN DOT). This 1920 steel truss bridge had been used for vehicle traffic until 1993 and than served hikers, bikers and bird watchers. City officials from Bloomington closed the bridge in 2002 after deeming it too dangerous for foot traffic. A new bridge is scheduled to replace it by 2010 for bikers and pedestrians, with about \$3.3 million in state and federal funding secured for the project.



The mission of the MINNESOTA RIVER WATERSHED ALLIANCE (Watershed Alliance):

The Watershed Alliance is a network of citizens, public agencies and private organizations that communicate the benefits of an ecologically healthy Minnesota River Watershed to others and who actively work towards its improvement and protection.

Walden by Henry David Thoreau

"I rejoice that there are owls. Let them do the idiotic and maniacal hooting for men. It is a sound admirably suited to swamps and twilight woods which no day illustrates, suggesting a vast and undeveloped nature which men have not recognized. They represent the stark twilight and unsatisfied thoughts which all have. All day the sun has shone on the surface of some savage swamp, where the single spruce stands hung with usnea lichens, and small hawks circulate above, and the chickadee lisps amid the evergreens, and the partridge and rabbit skulk beneath; but now a more dismal and fitting day dawns, and a different race of creatures awakes to express the meaning of Nature there.

On July 4, 1845, Henry David Thoreau moved into a cabin he built on Walden Pond and stayed until September 6, 1847. At the pond he wrote, recorded nature observations, entertained visitors and made regular trips to town. When people began to ask about his life at Walden Pond, Thoreau wrote a lecture about his experiences and delivered it at two lyceums in Concord.

"I went to the woods because I wished to live deliberately, to front only the essential facts of life, and see if I could not learn what it had to teach, and not, when I came to die, discover that I had not lived."

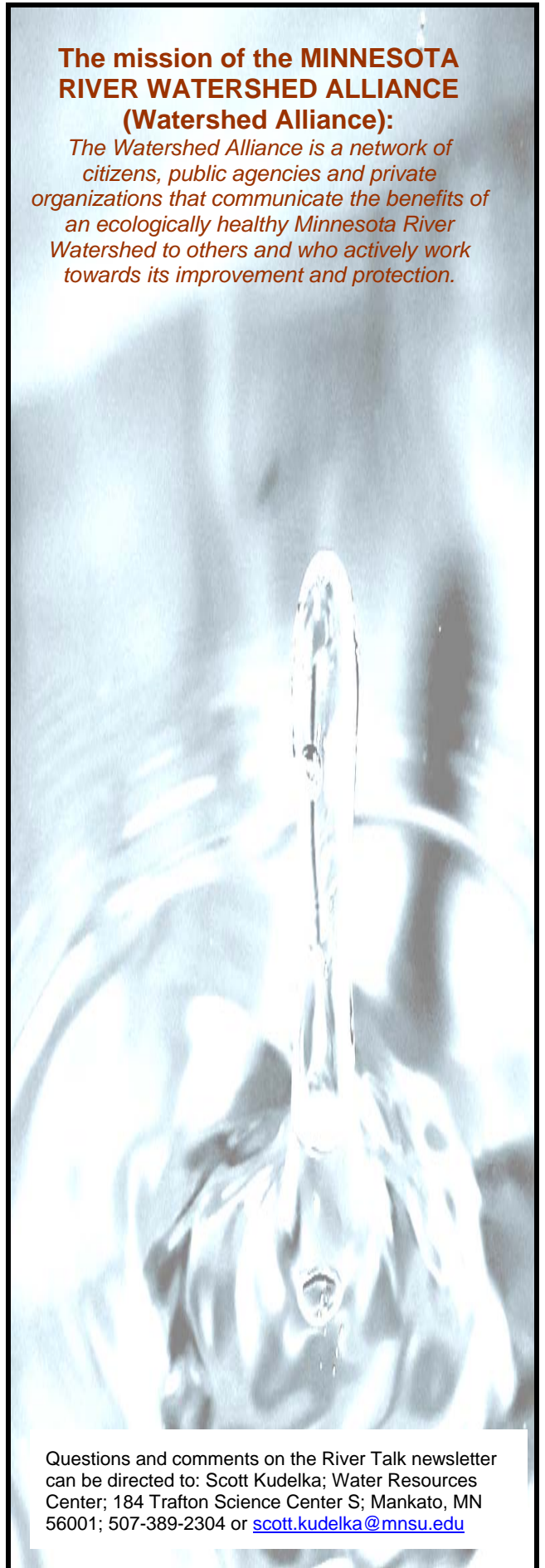
"Some of my pleasantest hours were during the long rain storms in the spring or fall, which confined me to the house for the afternoon as well as the forenoon, soothed by their ceaseless roar and pelting; when an early twilight ushered in a long evening in which many thoughts had time to take root and unfold themselves."

"The pond had in the mean while skimmed over in the shadiest and shallowest coves, some days or even weeks before the general freezing. The first ice is especially interesting and perfect, being hard, dark, and transparent, and affords the best opportunity that ever offers for examining the ice only an inch thick, like a skater insect on the surface of the water, and study the bottom at your leisure, only two or three inches distant, like a picture behind a glass, and the water is necessarily always smooth then."

"The life in us is like the water in the river. It may rise this year higher than man has ever known it, and flood the parched uplands; even this may be the eventful year, which will drown out all our muskrats. It was not always dry land where we dwell. I see far inland the banks which the stream anciently washed, before science began to record its freshets."

"I do not say that John or Jonathan will realize all this: but such is the character of that morrow which mere lapse of time can never make to dawn. The light which puts out our eyes is darkness to us. Only that day dawns to which we are awake. There is more day to dawn. The sun is but a morning star."

Thoreau's book Walden was published in 1854, with two thousand copies printed and sold at \$1 each. Compared to his first book, Walden became a moderate success and continued to sell after Henry David Thoreau died in 1862. Increased interest in Thoreau and his writings started in the 1930s and continues today. Walden Pond and surrounding lands have become a popular spot to visit and currently preserved from development.



Questions and comments on the River Talk newsletter can be directed to: Scott Kudelka; Water Resources Center; 184 Trafton Science Center S; Mankato, MN 56001; 507-389-2304 or scott.kudelka@mnsu.edu