RIVER TALK

THE MINNESOTA RIVER CURRENT

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Ask an Expert

Mike Davis became interested in mussels during the early 1980s while working as a commercial fisherman on the Mississippi River. At the time a declining pearl industry in Japan started to import mussels from North America to use pieces of the shells to grow more pearls. Only they needed specific mussel species which led to Mike wanting to learn more about his little known organism.

"I started digging them out of the Mississippi and selling them," explained Davis. "The more I did that the more I realized there was a lot more than one kind of mussel down there. I got curious and started to read up on them and studying them. I ended up going back to college and finishing a degree I put off for 15 years while I was having fun doing other things."

Mike Davis being interviewed in the Cottonwood River

After graduation Mike ended up at the MN DNR conducting mussel research and continues to learn more and more about this aquatic animal that lives in the bottom of our rivers and lakes. Mike is one of a diverse array of "experts" – citizens and professionals – sharing their knowledge on the health of the Minnesota River with the public as part of a project sponsored by the Water Resources Center (WRC) at Minnesota State University Mankato.

Davis served as the inspiration for the Ask an Expert project after being captured on video telling the story of how the heel splitter might have got its name. Mike and Bernard Sietman were leading a mussel hike on the Cottonwood River in September of 2008. The WRC staff of Scott Kudelka, Kim Musser and Rick Moore realized most people would never get the opportunity to see experts like Mike in the field talking about what is happening in the Minnesota River. They did recognize how video could play an important role in helping connect people to this valuable resource.

Scientists, conservation leaders, citizens and other experts are being captured on video as part of an online educational field trip designed to increase community awareness about the river's health. The WRC is currently developing this field trip to highlight what these experts have learned from their own observations and research. Educational materials are also being compiled and developed to accompany the video interviews. All of it will be found on the newly revised and expanded Minnesota River Basin Data Center (MRBDC) website.

Computer kiosks will be set up in four educational centers along the Minnesota River from Henderson to Montevideo. One of the goals for the project involves teaching the public about scientific inquiry, ecological knowledge, problem solving, planning and stewardship.

By exposing students and citizens to these inspiring researchers and diverse landscapes across the basin, the WRC hopes to motivate people to get out and explore the river's diverse natural environment as well to gain a greater appreciation of what these researchers are learning about this complex river basin.

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DID YOU KNOW?

In December of 2009, John Hickman and Jon Carlson approached the Water Resources Center (WRC) at Minnesota State University Mankato with a proposition of serving as the producer for their film documentary project on the Minnesota River. They recognized how the WRC plays an important role when it comes to water quality research in the basin. As the authors of the various State of the Minnesota River reports, and the groundbreaking Trends Report and Progress Report, the WRC has a good grasp of the river's health.

"River Revival" Working Together to Save the Minnesota River" documentary aired on KARE 11 TV on June 12th at 6 p.m. and it also resulted in the launching of the expanded and updated Minnesota River Basin Data Center (MRBDC) website. Funds from the McKnight Foundation and the MN Environment & Natural Resources Trust Fund helped create a revised website that has become a clearinghouse of information and the portal for the Minnesota River Basin. Professionals and the public alike are finding it a place to learn more about the basin and the challenges facing the river, along with discovering ways to help.

The centerpiece of the site is an interactive map enabling users to access and share information on public lands, water quality sites and much more throughout the basin. In addition, the MRBDC website is rich in social media features, allowing users to both view and contribute information in several formats. Visitors will also discover items related to Maps & GIS, the major watersheds and places to see in the basin.

Check out the website at: http://mrbdc.mnsu.edu/

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Check out the Watershed Alliance's web site:
http://watershedalliance.blogspot.com

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The Minnesota River Watershed Alliance

Mary and her husband Mike Mueller live in western Sibley County where they have been restoring wetlands and native prairie on former cropland. Located in the upper portion of the Rush River Watershed, the Mueller's have worked with various conservation programs including the state's Reinvest in Minnesota (RIM), along with the federal's Conservation Reserve Program (CRP) and the Wetland Reserve Program (WRP). Mary is part of the Ask an Expert Project helping answer questions on the health of the Minnesota River.

What is a Wetland?

That is a really big question. From my understanding, it is an area of depressional land that holds water at least part of the year and it is just alive with plants and animals. It is the kidney of our landscape when it comes to water quality. They are home to a lot of animals, insects, birds, both game and nongame. I took one wetland class in college and remembered the professor talking about how it is one of the few ecosystems that maintains its energy all the time. Most land-scapes when they mature have less energy and a wetland just maintains it. This is something that really stuck with me.


Mary Mueller standing in a wetland restoration

What type of plants can be found in a wetland?

We can see here in southern Minnesota that cattails are very dominant in wetlands. There are three types of cattails, some are native and some are hybridized. The hybridized ones are giving us some problems because they are very aggressive. Other plants found in a wetland include different types of sedges which are a triangular stem plant. A neat part of this plant is that they will suppress some grasses like reed canary which is an invasive. They also have a fibrous root system which is alive with all kinds of bacteria. The different biota is why wetlands are a kidney because of this fibrous root system, serving as a water purifier. There are rushes which are hollow or fibrous within the plant system and there are wetland grasses and flowers as well. So it is a really diverse series of plants.

Why are wetlands important?

We are really learning a lot about that as we deal with the impact s of having drained such a large percentage of them. I think there are a lot of different reasons depending on the perspective you come from. If you are interested in water quality, wetlands are very important because they provide that kidney function for our landscape. There is a lot of filtering that goes on. They also store water that percolates very slowly and restores our aquifers, which is our drinking water in southern Minnesota. They can be bastions of diversity. The diversity is something that we are just starting to discover. This is a diverse food source for pollinators like bees.

How do wetlands impact flooding?

There is a tremendous amount of storage that happens in these wetlands. When the water levels are low and when we get huge rain impacts they can become a huge store area. There can be times like during spring flooding that can provide additional storage. There is a lot of work being done in looking at wetlands with controlled structures that actually manipulate the water to provide storage. It can be another process for restoring wetlands. In terms of habitat there may be some benefits of manipulating the water levels as a food source for wildlife. There is also a lot of \ discussion about using wetlands to provide biomass as a fuel source. If it's done well that may be good and it could also be devastating. I hope it is a careful conversation

"We have a lot of variety of butterflies and dragonflies, songbirds, some that people are really watching because there are less of them around like bobolinks. There are herons, also lots of owls."

How do wetlands benefit water quality?

There are a lot of processes that happen in a wetland that benefit water quality. Storage itself benefits water quality by holding back water entering our rivers. This makes less of a chance for a huge flows causing bank erosion. They don't even need to be that close to a river to affect it. The runoff from a wetland is much cleaner and studies where there are buffers around them but also cleaner going out than coming in where there are controls. That again is the functions that are happening in the plant community that is doing a lot to help that water, even just settling out some of the sediments can be a benefit. The benefit goes way beyond what is settling out there is a lot of purification that happens as well.

They Made It!

Nothing could stop two determined young women from retracing Eric Sevareid and Walter Port's adventure of paddling the 2,250-mile journey from the Twin Cities to the Hudson Bay. Not the high water levels of the Minnesota River, the Red River's sticky mud or being windblown on Lake Winnipeg.

Ann Raiho and Natalie Warren got the inspiration for this once in a lifetime trip from Sevareid's classic book "Canoeing with the Cree." In late May the two of them graduated from St. Olaf and launched their 17-foot Kevlar Langford canoe into the flooding Minnesota River.

Ann Raiho and Natalie Warren at the end of their adventure – York Factory

Seventy-two days later, Raiho and Warren paddled into the York Factory on August 25th. "We made it!" they wrote in their blog. "There was a young polar bear frequenting the estate, so we slept inside after branding out paddles and eating sausages. Yesterday we flew out in the afternoon with Teagan and Jason the York Factory caretakers. Good thing we got there when we did because after September 4th everyone will leave for the winter."

On their blog, the women kept in touch with the outside world by telling people what they saw and experienced. "We'd had our share of challenges and good times. For the first five days, we were hopping from city to city and camping wherever seemed fit for a tent – as long as it was well away from the raging Minnesota River, which was actually much more beautiful than we anticipated. Surrounded by wildlife refuges and state parks, it's truly a hidden wilderness in Minnesota. We saw otters, eagles, orioles, turtles, pelicans, beavers, deer, and even the occasional cow in the river. We would recommend it to any sort of paddler especially one headed downstream."

Excessive moisture in the form of record rains dominated the first part of the trip as they paddled the 335 miles of the Minnesota River being pushed around by flood waters. "Natalie and I experienced those effects, particularly on day 10 when we got about 5 inches overnight near New Ulm. The following days of going upstream over swollen rapids sets and obtrusive dead falls were the toughest we faced yet. But we made it to Montevideo on the 17th of June – in time to celebrate Fiesta Days with CURE, an organization that has done wonders to clean up the Minnesota River and has continued to work diligently today.

During the Fiesta Day celebration, Ann and Natalie received the Minnesota River 335 Paddler award from the Minnesota River Watershed Alliance. This patch and decal is given to people who paddle the entire length of the river whether all at once or in segments. Members of the Alliance's paddling committee joked if they don't make it to the end of Big Stone Lake we wouldn't expect it back.

"We had a nice easy day out of Montevideo, and the next day the beginning of a loafing low-pressure system gusted out of the south and helped us paddle 30 miles in 10 hours on Lac qui Parle and Marsh Lake. We decided to portage the last four miles of the Minnesota River to the dam below Lac qui Parle because of the numerous down trees over the river and a heavy current after the dam. That left us wind bound on Big Stone Lake. Luckily, members of CURE hosted us all day! We got to go in a hot tub and eat food provided by Farmer's Market vendors in Big Stone County.

After the straining of paddling upstream, the two women were excited to go with the down-stream flow of the Red River. According to Raiho and Warren, "We are almost done with the Red River since we paddled the last 100 miles in a 20-hour stretch – even paddling overnight – to avoid the wind to get to Winnipeg quickly. They found out quickly there is a big difference between paddling rivers and crossing a huge body of water like Lake Winnipeg. Now they had the wilderness in front of them for the last part of the trip all the way to the Hudson Bay.

One of their trip's principles involved women taking on more adventures in life like this one: "We were shocked that two women had not replicated this trip. Women have climbed every mountain and crossed every ocean. Women should paddle every river too! By replicating a historically male dominated adventure, we will increase gender equality. Our hope is that women will be able to see equality and claim it with strengthened conviction after the completion of this trip."

Check out their website:
www.hudsonbaybound.com

Minnesota farmer connects land, people and rivers.

By Anne Queenan, TC Daily Planet

Lake Pepin's beauty is captivating – from towering limestone bluffs to the nighthawk's peep soaring over tree-lined shores at dusk. Today, sediment is clogging its waters and settling at a rate ten times faster than what is natural. Its primary source? The Minnesota River. With well-researched levels of nitrate, phosphorous and sediments from agricultural runoff eroding into the banks, bluffs, creeks and ravines, Lake Pepin and a large part of its ecosystem will eventually disappear.

In an effort to learn more about this, an afternoon's dive through Minnesota's western landscape of vast fields of corn and soybeans culminated in meeting a pioneer in the farming community of Madison, MN. Here, several water districts away from Lake Pepin, Carmen Fernholz pays careful attention to the symbiotic relationship between land, water and humans while successfully harvesting his fields.


Carmen Fernholz conducts an organic production tour

Fernholz and his wife, Sally, are certified organic farmers of 450 acres in Lac qui Parle County, near the headwaters of the Minnesota River. According to Patrick Moore, Executive Director of Clean Up the River Environment (CURE), "Carmen has been a shining example of sustainable agriculture in our region for decades."

After 39 years of farming, Carmen describes his relationship with the land and water; "There are two elements in farming that are critical: soil nutrients and water. How we can utilize the water, how we can save the water, how we can prevent the water from being destructive – those become the motivations for what I call ' good management systems' in agriculture."

Along those lines, Carmen considers how a plant uses water and harvests crops that are low moisture users. Small grains like oats, barley and wheat are planted in place of corn or soybeans and rotated regularly. Crop rotation enhances the soil structure and helps replenish nitrogen. It also minimizes or eliminates dependence on commercial fertilizers commonly used for corn, which are heavy in nitrogen.

In western Minnesota this year, all farmers have had to contend with heavy rainfall. The risk of topsoil washing off the fields, as well as the flooding of crops is real. Managing water levels is critical. Tiling, dug deep under the fields and widely used for water surplus in the Farm Belt, drains heavily into ditches and into the tributaries and rivers.


Carmen Fernholz

Fernholz benefits from a new tiling system called "controlled flow," which drains less water into the river than conventional systems, keeping water in reserves instead. During dry spells, it's economically prudent.

Additional conservation methods Fernholz practices include erosion prevention through buffering drainage ditches with reserved acreage for native grasses. Alfalfa fields are planted in rotation to help control weeds, and then mulched to be used as "green manure" or fertilizer. Through the middle of long fields, patches of tall trees stand as windbreaks to keep topsoil from blowing away. On hilly terrain, diversion terraces have been stalled with intake tiles that control its water release. This saves both the crop and the soil.

Water that does run off from the ditches on Fernholz's land passes through 60 acres of a wetland his neighbor converted from untilled farmland. Here, it is naturally filtered before flowing into the river.

Time required, incentives and comfort levels

While Fernholz is an organic farmer, conventional farms can use the same conservation practices that he has implemented on his farm. The size of the farm is a bigger factor in deciding what kinds of conservation practices to use than whether the farm is certified as organic. Very large farms that grow only row crops of corn and soybeans are more likely to use large fields and large equipment that do not fit well with such conservation practices. Smaller farms, whether officially certified as organic or not, can more easily adopt practices such as terraced fields, crop rotation and windbreaks.

Continued on page 10

Here are the facts when it comes to the Minnesota River and sediment. Ninety percent of the sediment filling up Lake Pepin is flowing from the state's namesake river. All of this erosion washes off a landscape dramatically changed since the start of Euro-American settlement close to 150 years ago.

A massive prairie – wetland ecosystem complex once dominated the Minnesota River Basin and as a result of its rich soil it has been transformed into one of the most intense agricultural areas in the world. Less than one percent of prairie and three percent wetlands now remain on a landscape dominated by the growing of corn and soybeans.


Monitoring station with the Le Sueur Ravine Study

Drainage of cropfields through tiling systems has become a major part of a farmer's operation to produce as much bushels as possible. Tiling efficiently moves water off the landscape to keep corn or soybeans from drowning out. The excessive water pushes out of these plastic pipes into the rivers and streams of the basin causing severe erosion problems from a large number of sources.

All of this sediment is choking Lake Pepin a long, narrow waterbody on the Mississippi River. At the rate this is happening will fill in one of the state's natural jewels within 100 or less years. Scientists, citizens, government agencies are struggling to come up with a solution to save the lake and meet water quality standards set by the state and the federal Clean Water Act.

Part of the effort to reduce the excessive levels of sediment has revolved around the debate on how much is caused by agricultural production. Scientists from the St. Croix Watershed Research Station, the University of Minnesota and Minnesota State University Mankato studied the effect of cropland drainage and came to the conclusion it is a significant source.

A recent article by Josephine Marcotty in the Star Tribune wrote this about the research. *A comprehensive new study pinpoints agriculture – specifically, half a century of artificial field drainage – as the primary force behind the massive runoff of sediment that is adding pollution to the Mississippi River and threatening the future of Lake Pepin.*

The study's scientists presented the research at the annual Water Resource Conference, which will be viewed by some people as questionable including those working in agriculture industry. *The issue is controversial because it lands squarely on farmers and the economic choices they face, especially at a time of high prices received for corn and soybeans. Tile drainage has helped make fields along the Minnesota River valley some of the most productive land in the country.*

Construction of a massive drainage system on the landscape and wetlands loss has been identified as the major factors of the sediment issue. These scientists looked at a wide range of data including 70 years of precipitation from 21 watersheds from both inside and outside of the Minnesota River Basin. Marcotty wrote that the two major factors are *adding enormous volumes of water to the state's second-largest river. That added volume scours the fragile, sandy banks, sending millions of tons of sediment downstream to the Mississippi, where it settles out in Lake Pepin.*

According to the research, an increase in rainfall doesn't come close to being a factor as the artificial drainage. *Dan Engstrom, a scientist with the St. Croix Research station, said much of the water that now ends up in groundwater and in rivers used to lie across the surface of the land and slowly evaporate. That process is part of what's been lost, he said.*

Two different viewpoints are being expressed over artificial or cropland drainage systems. One from the major agricultural organizations sees it as more of a positive effect by saying it works more like a sponge. On the other side of this argument are researchers like Peter Wilcox of Johns Hopkins University.

The contentiousness of the debate among scientists, farmers and agricultural interests is similar to the debate about climate change, Wilcox said. The science has become entangled in advocacy, he said. That interferes with getting to the more important research – whether sedimentation can be slowed or revered, and what that will cost.

"Do we really need to answer the question to take action?" he said.

25 Years of keeping the land and people together
(Taken from LSP's 25th Anniversary Report)

Twenty-five years ago a young family farm activist named Ron Kroese teamed up with Victor Ray, a former National Farmers Union vice president, to create a new kind of organization. They called it the "Land Stewardship Project" and envisioned it as a grassroots mechanism for promoting and supporting a land ethic on farms. LSP was created out of a sense of urgency: at the time, the National Agriculture Land Study was showing that severe soil erosion was plaguing many areas. But it became clear early on that the Land Stewardship Project was the kind of group that would not be a short-term crisis-oriented organization – we were in it for the long haul, much like the generations of farm families we work with.

There were government agencies and other nonprofits that focused on preventing and mitigating the damage caused by erosion, but it was felt there was a niche for an organization that focused on the practical, ethical considerations that farmers faced. LSP's founders were inspired by the writings of Aldo Leopold and Wendell Berry and by religious statements on care for the land. Just as importantly, they were inspired by farmers themselves. Both Kroese and Ray had worked extensively with farm families through the National Farmers Union's American Farm Project. This initiative consisted of taking 20 to 25 farm couples from around the country, exposing them to the "culture" of agriculture and teaching them how to communicate. It was these families' emotional attachment to the land, the desire to be good stewards, that most impressed Ray and Kroese. These families not only served as the inspiration for the Land Stewardship Project, but their stewardship ethic helped conjure up the organization's name.

But through all the years, LSP remained committed to the idea that the key to true, long-term land stewardship is people. Hence our mantra: "Keeping the land and people together." LSP feels that there is a symbiotic relationship tying people to the land and when that relationship is healthy, both the land and the people benefit. That's why soon after LSP was founded Ron Kroese hired community organizers to put on meetings in southeast Minnesota counties that had extremely high erosion levels. These meetings, which included a blend of literature, music, hard facts and open discussion, helped set the tone for how LSP brings people together to talk about stewardship issues today. It became evident that local communities possess the capacity to generate their own innovative solutions.

To be honest, recent trends in agriculture have made it clear we need to work even harder at getting more people connected to the land. Studies show that rural counties with the highest number of acres in corn and soybeans are losing population the fastest. It's become clear to LSP's members in recent years that it's not enough to promote a stewardship ethic – we must also find a way to get farmers rewarded for environmentally sound practices. That means bringing nonfarmers – consumers – into the equation. Keeping the land and people together doesn't just mean keeping farmers on the land. It also means helping all of us – whether we live in Milan, Eagan or Chicago – maintain a connection to the land. You don't have to own 300 acres to be rooted in the land. Forging such a link may mean belonging to a Community Supported Agriculture operation, buying direct from a meat producer, going to the farmers' market, or purchasing a product at the grocery store that carries the Food Alliance seal. The recent trends in community-based food systems are exciting, and have brought us full circle and helped expand the definition of what "keeping the land and people together" really means.

The Amy Bacigalupo and Paul Wymar Family of rural Lac qui Parle County raise hogs, apples and other organic products.

The Next 25

The Land Stewardship Project is a forward-looking grassroots organization focused on an ethic of stewardship for the land and keeping the land and people together. Aldo Leopold helped us understand that achieving a high level of stewardship does not come out of narrow utilitarian view or an attitude of restraint in the face of a push for all-out production.

Chippewa 10% Project

A little over five years ago, Paul Wymar a watershed scientist with the Chippewa River Watershed Project started to think about what it will really take to improve water quality in the basin. This thought process got sparked by a question from one of the farmers the project works with. Wymar says, "Our goal is to try and find ways to increase diversity while improving economic opportunities, water quality and wildlife habitat."

The goal of the Chippewa 10% Project is to help protect water quality by developing crop diversity on sensitive land. Coordinated by the Chippewa River Watershed Project (CRWP) and Land Stewardship Project (LSP), this initiative recognizes that we all share a role in protecting the quality of our water and our lakes, rivers and streams. In order to succeed the project needs to convert at least 10 percent of lands producing corn and soybeans to pasture or perennial cover like Alfalfa and still be profitable for farmers.

Project partners are targeting two areas – Shakopee Creek sub-watershed (largest in the Chippewa River basin) and the Chippewa River's main stem (Cyrus, Hoffman, Kensington and Farwell area) – that could have the biggest impact on water quality. "These are two areas," said Julia Ness, LSP outreach coordinator for the program, "that have been identified as having the most impact in terms of erosion of soils and farm nutrients. Although we have programs available as set aside acreages such as CRP, our intent is to develop a program emphasizing the profitability of perennial crops.

The project partners including the USDA's North Central Soil and Conservation Research Laboratory, the University of Minnesota Morris, University of Minnesota West Central Research and Outreach Center, Louisiana State University AgCenter, MN DNR and U.S Fish and Wildlife Service acknowledge it will be a major undertaking considering the basin covers 1.3 million acres (74% is in row crop production).

The conversion of 130,000 acres of sensitive agricultural land could produce positive impacts on water quality, flooding, wildlife habitat, local and regional foods economy along with a sustainable renewable energy source. A decade's worth of watershed data is being used to recommend targeted field locations for perennial vegetation cover restoration that meet environmental goals and increase farm income.

On September 30, 2010 the various partners launched the Chippewa 10% Project at the Helen and Don Berheim farm north of Benson. Farmers, scientists, government staff and other came out to hear how this voluntary program can translate the production of third crops like perennial grasses into a healthier Chippewa River. According to Kylene Olson, Executive Director of CRWP this is a "win-win-win" situation for everyone.

During the event this farm was used as model of what could be possible for restoring water quality in the Chippewa River Basin. Here, the Berheim family had converted 110 to 120 acres of hilly, erosion prone lands from crop production to perennial grasses. This section of land now supports a profitable livestock operation feeding off of a native prairie. "Every two weeks different wildflowers come up, reported Don Berheim, "so I give my wife a new bouquet for free."

A number of speakers made presentations about current land use and the possible benefits from small-scale but strategic farming changes along with a U of M – Morris biomass gasification demonstration showing how perennials could fuel energy production.

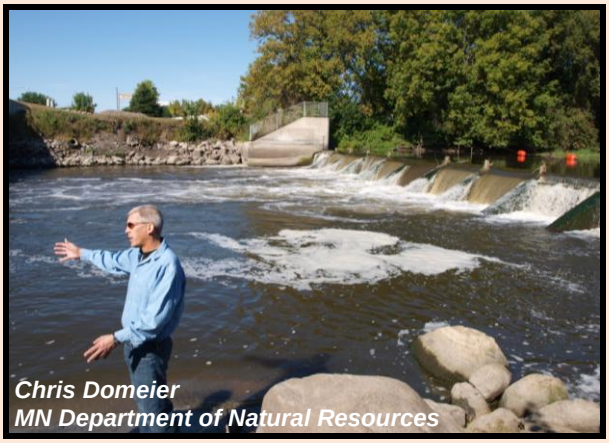
Among the goals for this project involves keeping land in production and increasing the number of farmers in the basin. To move it forward a number of farmers have volunteered to help spearhead the project. The University of Minnesota – Morris and the Land Stewardship Project will provide one-on-one, technical assistance for interested farmers. They will be able to help identify the lands best suited for conversion, and to provide an economic analysis for individual operations. The U of M – Morris will also be support the project as a potential market by buying biomass for a new gasifier to provide stream heat for its campus and its goal to serving 50% of its food from locally-raised sources within the next two to three years.

Paul Wymar and George Boody of LSP at the Berheim Farm (MPCA photo)

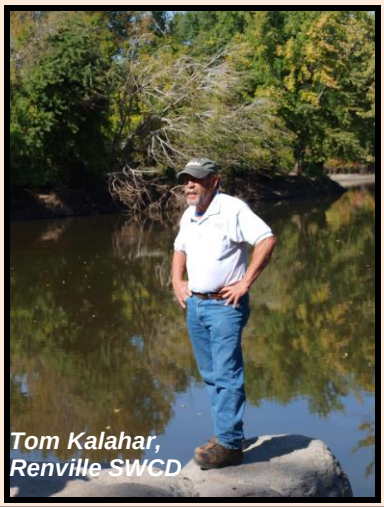
Ask an Expert *continued from page 1*

Hundreds of thousands of dollars have been spent on improving water quality in the Minnesota River Basin since 1992 with mixed results. Here are a few insights from experts working in the basin.

"The Minnesota River is quite a bit more impaired than other rivers in the state. It tends to carry a high sediment load and high concentration of nutrients, phosphorus and nitrates in particular."



"Are fisheries in the Minnesota River improving? It is too complicated. There are too many interactions. What I can tell you is that I believe that it is somewhat better. We are seeing more of these unique, environmentally sensitive species more often. From that standpoint I think the river's health is better."



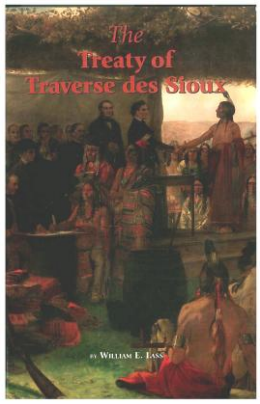
"If we are going to fix the Minnesota River, wetland restorations are going to have to be right at the top of the list. The other is retiring marginal agricultural land like steep slopes with gullies."

Funding for the project is provided by the MN Environment & Natural Resources Trust Fund

Book Review: The Treaty of Traverse des Sioux by William E. Lass

Acting on the advice of Sibley and his traders, Lea and Ramsey decided to negotiate two treaties with the Dakota rather than confront a possibly united, recalcitrant tribe in a single conclave. The commissioners chose to treat with Sisseton and Wahpeton leaders first at Traverse des Sioux and then meet with the Mdewakanton and Wahpekute at Mendota. Because of their relative locations along the Minnesota River, the Sisseton and Wahpeton were then often called the upper Sioux and the Mdewakanton and Wahpekute the lower Sioux. The traders believed that the upper Sioux, who lacked experience in making a cession treaty and who were in dire economic straits, would be more receptive to the government's offer than the lower Sioux.

Dr. William Lass, History Professor Emeritus at Minnesota State University Mankato has written the definitive history of the Treaty of Traverse des Sioux. This exciting book provides a thorough context to the treaty process and illuminates new details about the contentious ratification process that followed. Dr. Lass taught Minnesota History for over 40 years and published many books, articles, and book reviews.



Traverse des Sioux, the selected meeting point with the upper Sioux, had advantages possessed by no other site. As the traditional crossing of the Minnesota River it was well known to the Sisseton and Wahpeton, who were alerted to the impending treaty negotiations by runners sent out by Sibley's traders. Although it was near the eastern edge of the upper Sioux range, Traverse des Sioux was a symbolic halfway point between tribal villages and St. Paul.

But the Treaty of Traverse des Sioux has also left a vivid impression on the Dakota memory of it. In recent times, Robert Clouse, head of the Minnesota Historical Society's Archaeology Department asked Paul Little, the tribal historian of the Devils lake Sioux Tribe: "What was the effect of the Treaty of Traverse des Sioux on the Dakota and what is the feeling about that document today." Little responded: "The Treaty of Traverse des Sioux of 1851 was the one treaty that broke up the Dakota people. It symbolized the loss of our land . . . . Even today, over 140 years later, this document continues to carry bitter feelings among the Dakota."

Regardless of one's perspective, there is a general recognition that the Treaty of Traverse des Sioux was one of the most significant events in Minnesota's history. But, as with any other single happening, there are hazards in contemplating it without proper consideration of its broader context.

Over the last couple of months I have been fortunate to been able to run around the Minnesota River Basin interviewing people for the Ask an Expert project sponsored by the Water Resources Center and the Minnesota Environment and Natural Resources Trust Fund. A team of Kim Musser, Rick Moore and I feel extremely privileged to be working on this effort to tell the story of the health of the Minnesota River.

At the end of October we found ourselves listening intently to Kay and Annette Fernholz of Earthrise Farm and their wisdom of how all of us are responsible for taking care of the earth. These two sisters who are also nuns live a simple life. They along with their interns Kat and Louie grow vegetables, raise chickens and teach children and adults the importance of locally grown food.

I came away impressed by how centered and grounded Annette and Kay are even among on-going chaos. They welcomed us to their family farm and shared a beautiful and nutritious dinner. All of us left feeling excited about the possibilities of community supported agriculture and a self-sustaining rural environment.

We were also touched by their family story where three of the brothers have been striving to farm more organic. In this issue of River Talk you can read about Carmen Fernholz who has been a leader in organic farming since the 1970s on page 5. Carmen and his sisters credit their parents for how they see a health natural and rural environment.

All three of us recognize the Minnesota River Basin has a lot going for it especially the interesting characters working hard to improve water quality. We only have to look at Tom Kalahar of the Renville SWCD who for more than 30 years has been helping restore critical habitat and protect the vulnerable rivers, lakes and wetlands. There is also Mary Mueller in Sibley County recognizing the need for a diverse landscape involving prairie and wetlands.

In the middle of this we realized how much of geek there is in each of us. On a beautiful October day we found ourselves in the middle of the Le Sueur River with Pat Baskfield of the Minnesota Pollution Control Agency. After looking around we excitedly identified all the major sediment sources – cropfield, streambank, ravine, and bluff – within sight of each other. People try to be as interested as us but it can be a tough sale.

Fall is quickly giving away to winter with its shorter days, colder temperatures and hopefully enough snow to enjoy cross-country skiing and snowshoeing. Get outside to relish a different time of the year and landscape.

MN Farmer connects land, people *continued*

Managing these measures is not the easiest option for farmers. "In this age of ever larger fields being operated by fewer and fewer farmers with larger and larger equipment, to have to look out for grass waterways or field windbreaks or diversion terraces becomes too time consuming," says Fernholz. "There is more government incentive through subsidies to grow the corn, soybeans, wheat, or cotton than to implement many of these conservation practices."

These subsidies are listed on the website for the Environmental Working Group which records, maps and quantifies farm subsidies for every state under the current farm program. Financial support does exist in Minnesota for some conservation measures. It was the Conservation Reserve Program that funded Carmen's diversion terraces and the Wetland Reserve Program that helped convert his neighbor's farmland.

Business expenses and returns

Many of these measures, such as controlled flow drainage tiling, are costs that have to be paid out of pocket. Fernholz believes they result in a more beneficial crop and healthier soil, which, in turn, makes them economically viable. In addition, he participates in O-Farm, a marketing service that negotiates collective prices for a larger group of organic farmers who have come together. This has resulted in successful financial returns.

Why, then, haven't more of these conservation measures and organic efforts taken hold along the Minnesota River Valley?

"Farm policy is driving the changes on the landscape, but I think a bigger part of it is cultural," Moore said. "It's so much easier to go along with the mainstream. For all of the science and information that we can present on this issue, in the end, it's a cultural and anthropological issue. It's how the people feel supported – and their fears."

Making money off of Wetland Restoration

A few years back the City of Fairmont saw the potential for creating economic development by restoring wetlands. The city's Economic Development Authority (EDA) started to restore 19 acres of wetlands on low-lying land owned by the city that had been deemed too costly for any development. Close to half of the acres have received credits from a wetland banking program managed by the state's Board of Water and Soil Resources (BWSR). The Minnesota Wetland Bank program provides a means for draining or filling wetlands through the process of buying credits from others restoring or creating wetlands.

No further environmental study required for the MN Falls Dam

One of the potential obstacles faced by Xcel Energy to remove the MN Falls Dam will not be a factor after the DNR determined no environmental impact statement will be needed. An environmental assessment worksheet prepared by Barr Engineering for the power company is used as a screening tool by the DNR to decide if a more in depth study would be required. As the owner of the dam, Xcel Energy plans to remove this 100 plus year-old dam by next year. According to the DNR, the dam's removal "would provide a long-term environmental and ecological benefit to the Minnesota River between the Minnesota Falls dam and the Granite Falls dam, and to down-stream reaches." A number of parties including the City of Granite Falls, Granite Falls Energy and Granite Run Golf Course want the dam to be repaired, fearing the loss of the reservoir and a stable water supply.


MN Falls Dam (photo from Granite Falls Advocate Tribune)

Camden State Park Bike Trail

A proposed bike trail connecting Camden State Park and the cities of Marshall and Lynd picked up support from the Marshall City Council. Members of the council see the trail as a way of providing a safer passage from cyclists to travel from these communities to the state park, especially children and Families. Funding opportunities include the Legacy grant program operated by DNR and the MN Department of Transportation's Transportation Enhancement Fund. To build the trail, the City of Marshall will partner with Lyon County.

Recycling at Farmfest

Tyler Johnson of the Redwood Falls 4-H Club came up with the idea of developing a recycling program for the annual Farmfest at Gilfillan Estate. In 2007, Johnson set out 50 barrels he bought through a grant and the Redwood Rainbows collected 1,070 pounds of plastic, 600 pounds of paper, and 3,900 pounds of cardboard. On the Monday before this year's Farmfest, 23 volunteers put out the barrels across the site and by the end of the event a total of 2,741 pounds of plastic, 3,076 pounds of paper, and about 11,000 pounds of cardboard had been hauled to the Redwood County Recycling Center.


Redwood Gazette photo

RIM's 25th Celebration

Minnesota's Board of and Water and Soil Resources (BWSR) celebrated the 25th anniversary of it Reinvest In Minnesota (RIM) program at the end of September. A large group of citizens, agency staff and legislators gathered on the wind-blown landscape of southern Minnesota to showcase how former cropland put into a perpetual easement provides benefits for wildlife habitat, water quality and recreation opportunities. Established in 1986 under Governor Rudy Perpich, BWSR has enrolled over 218,000 acres in RIM through approximately 5,500 easements. The RIM act calls for "restoring certain marginal and environmental sensitive agricultural land to protect soil and water quality and support fish and wildlife habitat." For enrolling land into RIM, the landowner receives up to 90 percent of the fair market value of the land in easement payments. Currently, RIM focuses on restoring permanent wetlands and adjacent upland and riparian buffers.

Conservation Thoughts

Wendell Berry

In our relation to the land, we are ruled by a number of terms and limits set not by anyone's preference but by nature and by human nature:

I. *Land that is used will be ruined unless it is properly cared for.*

II. *Land cannot be properly cared for by people who do not know it intimately, who do not know how to care for it, who are not strongly motivated to care for it, and who cannot afford to care for it.*

III. *People cannot be adequately motivated to care for land by general principles or by incentives that are merely economic – that is, they won't care for it merely because they think they should or merely because somebody pays them.*

IV. *People are motivated to care for land to the extent that their interest in it is direct, dependable, and permanent.*

Wendell Berry is the author of more than forty books of poetry, fiction, and essays. He has farmed a hillside in his native Henry County, KY for more than forty years. His books include "Sex, Economy, Freedom & Community"

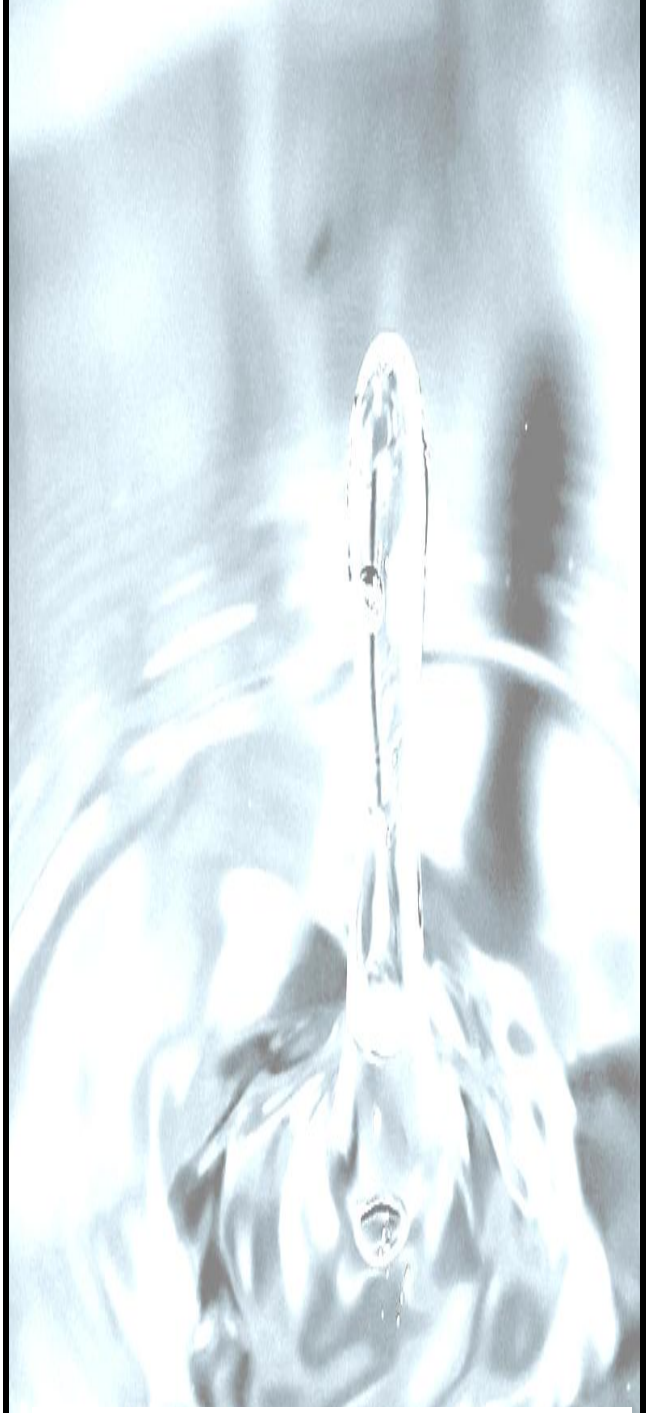
V. *They will be motivated to care for the land if they can reasonably expect to live on it as long as they live. They will be more strongly motivated if they can reasonably expect their children and grandchildren will live on it as long as they live. In other words, there must be a mutuality of belonging: they must feel that the land belongs to them, that they belong to it, and that this belonging is a settled and unthreatened fact.*

VI. *But such belonging must be appropriately limited. This is the indispensable qualification of the idea of land ownership. It is well understood that ownership is an incentive to care. But there is a limit to how much land can be owned before an owner is unable to take proper care of it. The need for attention increases with the intensity of use. But the quality of attention decreases as acreage increases.*

VII. *A nation will destroy its land and therefore itself if it does not foster in every possible way the sort of thrifty, prosperous, permanent rural households and communities that have the desire, the skills, and the means to care properly for the land they are using.*

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.



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