RIVER TALK

THE MINNESOTA RIVER CURRENT

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SAVING THE MN RIVER – One Action at a Time

Do you want to see one man's love of the Minnesota River? Go for a ride with Del Wehrspann of rural Montevideo. Whether by boat or vehicle you will feel the passion of this dedicated man. Even the most cynical person will walk away impressed by Del's actions and commitment to conserve our natural resources for today and tomorrow.

Del and his wife Shirley have made their home near the Minnesota River since 1968. They came here looking for a place to enjoy the natural world and found themselves battling a mentality that didn't recognize the amazing benefits of native prairie, wetlands and a natural floodplain.

Del on the Minnesota River

"There is a tranquility . . . a spiritual, rebirth that I get every time I go on the river. I don't know how you could put a price on this."

In a voice filled with excitement and joy, Del pointed out the wetland surrounded by the city of Montevideo and cropland. "Here is a wetland that was planned to be drained because the county owned it, because it had no significant value as a wetland, it wouldn't grow good corn and you couldn't build a house on it. But look what's here, look at the geese on the wetland, look at the big motel on the other side of the wetland, overlooking the wetland, look at the bicycle trail along the wetland; this is what they couldn't see."

What can say about a man who has spent his lifetime working in the field of agriculture and intimately knows what happens when our greed for money overtakes our common sense to tread lightly when it comes to impacting the environment. Del grew up on a farm in Iowa and left because it had been turned into a black desert, void of wildlife, grasses and water.

"You can have all the food in the world. If you don't have a landscape that gives you goose bumps, you really don't have anything. It goes back to when my dad wanted me to farm with him in the early sixties. When the beans were going to be nine dollars a bushel back on the farm in Iowa. I said there is nothing left and he said it's the finest farm ground in the world. I said but there's no pheasant, no wildlife here."

Del moved north, thinking here people know the value of natural resources. Instead, he found himself struggling to convince others – neighbors, government staff, and even the local SWCD – for the need of wetlands, prairie and a natural functioning floodplain. Right away, Del and Shirley planted trees as a buffer against dirt blowing off of black fields only to have the farmer plow them under.

He also found himself in court trying to save a series of wetlands benefiting water quality of the Minnesota River. The county saw only a wasteland and approved a ditch permit to drain them. To help mitigate some of potential damage Del hired a drainage engineer, who said the fall of the water would

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DID YOU KNOW?

That second refrigerator you have stuck in the basement or garage is doing a lot more than keeping your beer cool. According to a study by a Canadian economist, "that 'beer fridges' – those backup appliances that keep the Moosehead lager cold in the basement – are significant contributors to household greenhouse gases."

In a study looking at the amount of energy an old Frigidaire in the garage uses in the average year, Denise Young found most are older and energy-inefficient. Her study sponsored by Natural Resources Canada, "found that three in 10 Canadian homes have an extra fridge, and two-thirds of those are 10 years old or older, which knock back more electricity."

This associate professor at the University of Alberta discovered in her research on the typical lifetimes of appliances in Canadian households that a sizeable minority don't wait until the old refrigerator breaks before replacing it. Young's research "found that middle- and upper-income families tend to keep two or more fridges," unlike lower-income families.

"According to the Canadian Appliance Manufactures Association, today's energy-efficient models use around 380 kilowatt-hours of juice per year. A 20-year-old fridge might draw 1060 kWh, while a 30-year-old model could suck 1580 kWh. She estimated that older Canadian refrigerators consume more than a billion kWh of energy per year, enough for 100,000 suburban homes."

Young also described the effect of the second refrigerator has on household greenhouse gas. She calculated that a 1975 refrigerator located where electricity is generated from coal or natural gas is responsible for 1.4 tons of greenhouse gases per year.

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MinnRivWA Coordinating Team:

Dee Czech, MN Earth Sabbath Team
- dczech@frontiernet.net
  507-964-5171

Loren Engelby, Kandiyohi County
- Loren_e@kandiyohi.mn.us
  320-235-3266

Charlie Guggisberg, Brown Co Commissioner
- cntyadmn@co,brown.mn.us
  507-354-5797

Larry Gunderson, MN Pollution Control Agency
- Larry.gunderson@pca.state.mn.us
  651-296-8402

Lori Nelson, Friends of the Minnesota Valley
- lnelson@friendsofmnvalley.org
  612-370-9123

Patrick Moore, Clean Up the River Environment
- cure-ed@info-link.net
  320-269-2984

Shannon Fisher, Water Resources Center
- Shannon.fisher@mnsu.edu
  507-389-5492

Scott Sparlin, Coalition for a Clean MN River
- yasure@lycos.com
  507-359-2346

MinnRivWA Staff:

Scott Kudelka, Communications Coordinator
- scott.kudelka@mnsu.edu
  507-389-2304

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

Join the Watershed Alliance's bulletin board to receive regular updates on what is happening in the Minnesota River Watershed at:
http://mail.mnsu.edu/mailman/listinfo/mrwa

184 Trafton Science Center S
Mankato, MN 56001

The Minnesota River Watershed Alliance

Lauren Klement has been involved in a number of far reaching water quality efforts, including securing funds to study the High Island Creek Watershed and put conservation practices on the ground in the Blue Earth Watershed. Today she is the water planner for Le Sueur County and coordinating a number of water quality projects.

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

I would say that the economy is the biggest issue at this exact point in time. From my own perspective, the cost increases in practically all aspects of farming and the price of gas to commute to our jobs has put more pressure on our wallets then ever before. I feel I can say, with confidence, that we are not alone. The economy could either hamper the clean up of the MN River because people are focusing on surviving or it could also go in a different direction and for example, more acres might be brought into conservation easement programs. My husband and I just put more land into buffers and planted a windbreak through the CRP program.


Lauren and her dog Buddy

How do we get youth involved in the issues affecting the Minnesota River?

I found a fun way to connect with the youth in the watershed through local water management. I organized river clean up events in the Rush River and High Island Creek watersheds. I worked with 4-H groups. We had contests of who found the most unique items, the most valuable item, the one who picked up the most garbage etc... We also kept a list of wildlife they saw. I provided "nature" type of prizes for the contest. The 4-H groups made it a cookout. I spoke about the river and the issues regarding cleaning up the Minnesota River, linking litter to water pollution. The local newspaper would come out and take their photo and do a news story on the clean up. Many kids came up to me saying that they would never litter again in their life.

I also worked directly with teachers in the local schools. Another tactic I use to get youth involved is when I write a grant, I put in for money for schools to improve their natural resources/water quality curriculum either by working directly with an educator or through a competitive sub grant process between different schools.

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

Find a Sheriff with a big gun to keep order! I am just kidding. Well, sort of! When I first got into the environmental business, I attended a local drainage meeting where the sheriff had to attend to help keep peace and order! I imagine that I looked like a deer in headlights at that meeting! This question is very difficult for me because I prefer to live a non-confrontational life. Leave it to the professionals to figure this one out!

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

I think that I have heard my legacy spoken by children. I've been called Nature Lady and the Rock Lady but never the River Lady at least not yet! My niece and nephew thought that I worked on the Minnesota River instead of an office! They were so excited when they stopped out at the farm one day. They saw my office. The parents clarified it for me and said that they drove along the Minnesota River!

The combined work of everyone involved in cleaning up the Minnesota River will be inherited by future generations.

My husband and I put 30 acres in a permanent conservation easement program. That is our legacy.

What are the positive aspects of working with watershed projects?

Working with Watershed projects are terrific ways to become involved with cleaning up a watershed. It is fulfilling work.

I work for Le Sueur County and one of the hats that I wear is shoreland regulations. This year I received a couple of letters and phone calls from residents, and even non-residents, asking what they can do on their property to improve water quality.

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?

I see the role of the MRWA as a group that will organize rally and lobbying efforts for water quality improvement legislation, marketing efforts and help reach the general public.

Geology of the Minnesota River

Geology is more than just rocks. Here in the Minnesota River Valley it tells us the story of why this landscape looks like it does. How did this undersized river create such a large valley? Why does the river make a sharp turn to the northeast at present-day Mankato? Where do we find some of the oldest rocks in the world? What influence did glaciers from 12,000 years or more ago have over the present-day rivers in the watershed?

The Minnesota River Valley has been described as a great gash running diagonally across the southern part of the state before turning to the northeast and finally flowing into the Mississippi River at Fort Snelling. According to Carrie E. Jennings of the MN Geological Survey, *The Minnesota River flows down the centerline of the broad glacial trough formed by ice of the Des Moines lobe, which dominates the topography of the southern half of Minnesota.* Jennings goes onto say the way this river was created thousands of years ago still affects the evolution of the landscape today.

Today's large river valley wasn't formed as a result of this meandering undersized river here now. Instead it developed through the power of glacial River Warren. Carrie Jennings writes, *Over flowing water from glacial Lake Agassiz created glacial River Warren some time around 11,500 radiocarbon years ago.* After about six hundred years Lake Agassiz used two other outlets until about 9,600 when it flowed through Glacial River Warren. By 8,200 the river finally lost its glacial lake discharge forever.

From above it is easy to follow the Minnesota River as it flows at an angle to the southeast until present-day Mankato. According to Carrie Jennings, *It is likely that this bend was inherited from the course of an earlier stream that developed while the Des Moines lobe was in retreat. This stream appears to have started as an ice-marginal stream that was then used to drain glacial Lake Minnesota. There is no really good reason for a river to make a sharp left-hand turn otherwise and river courses tend to get reused.*

Some of the oldest rocks discovered on the earth's surface can be found in the Minnesota River Valley. Upstream of New Ulm there are knobs of ancient granite-like bedrock. Fred S. Harris writes about these rocks in the report – "Native Plant Communities & Rare Species of the Minnesota River Valley Counties."

Several geologists estimate that many of these "crystalline" rocks first formed as igneous rocks from molten magma that cooled very slowly deep below the earth's surface as long as 3.6 billion years ago (Grant 1972), when the core of North America was being formed. Once formed, these early rocks underwent extreme heat and pressure over the next 1 to 1.5 billion years, which altered their crystalline structure and transformed them into metamorphic rock. Today you find these rocks in several locations throughout the valley including the Morton Gneiss.

To get a better understanding for the geology of the Minnesota River Valley go on a drive. Start by taking the National Scenic Byway route located on both sides of the river. One of the best spots to start your journey is Granite Falls. Here you will find exposed granite rock just about every-where you look.

The MN River Valley near the Yellow Medicine River

Check out the Gneiss Outcrop Scientific and Natural Area located three miles southeast of Granite Falls. Some of the oldest exposed rocks – 3.8 billion years old – are found here. These granite gneiss outcrops were exposed from stream action and glacial activity. According to nature photographer Ron Bolduan, this is a great site because of its unique plant and wildlife communities, plus you rarely see another human being. Visitors will find a natural lake located between two major rock outcrops.

Other significant geology sites to visit in the Minnesota River Valley include the Natural Preservation Route of the National Scenic Byway, established to protect sensitive rock formations and resource areas along section near Granite Falls. One of the highlights is Blue Devils Valley Preserve, featuring an excellent example of ancient granite outcrops in the valley. In your travels don't forget the Continental Divide near the MN/SD border. Here you will find water flowing north or south.

"When I first started in this field I knew the Minnesota River was regarded as one of the most polluted in the U.S., but I didn't really understand why," commented Scott Matteson on his image of the Minnesota today compared to when he first started working in the basin. "I think that's been one of the things that have driven my interest in water quality. To try to understand the pollution problems and sources and then hopefully be part of the solution."

In the spring of 1999, Scott took his first step into the water quality field by getting an internship with Sibley County. His boss – Lauren Klement, county water planner – gave him two choices of projects to work on. One, to digitize feedlots for the county in ArcView or assist in the development of a Clean Water Partnership grant application for High Island Creek Watershed.

"I choose the second. For two days a week over three months I helped Lauren put together the application (they're a lot thinner now). When the application was completed so was my internship and I graduated at the same time [B.S. in Ecology and Environmental Science]." A few months later Sibley County was awarded the assessment grant and they hired Scott to be the project coordinator.

For the next five years Scott worked for Sibley Soil and Water Conservation District on two watershed assessment projects. Scott coordinated an extensive water quality monitoring program to determine the sources of water pollution in the High Island Creek and Rush River watersheds. As part of his job, Scott got to drive an interesting assortment of project vehicles including a 1974 orange county highway pickup, nicknamed the dreamsicle. According to Scott, it broke down more than it ran.


Scott taking flow measurements on the Rush River

Lauren Klement said the application for High Island Creek was a terrific learning experience for both her and Scott. "I observed the growth of Scott from an intern into the successful professional person he is today," related Lauren. "Scott is hard working, dependable, a computer wizard and enjoys number crunching. We are lucky to have Scott working with us in the Minnesota River Basin."

After successfully assessing two of the most polluted watersheds in the Minnesota River Basin, Scott took a job with the Water Resources Center at Minnesota State University, Mankato in the summer of 2004. Scott wrote two of the first Fecal Coliform Bacteria TMDLs or impaired water reports in the basin - Blue Earth and a combined one for High Island Creek and Rush River.


Scott recording flow data at the Rush River

"Overall, trends on water quality in the MN River suggest slight improvements for things like sediment concentration which is a good thing. However, other things we monitor like nitrate concentrations, appear to be rising, While our progress in improving water quality may be mixed, I think we are definitely moving in a positive direction in regards to understanding the pollution sources."

Today his primary focus is the Minnesota River Monitoring Program, assessing water quality conditions of the Minnesota, Blue Earth and Le Sueur rivers and several smaller tributaries. Scott also coordinates a number of cutting edge research projects including monitoring tile drainage from agricultural lands to access best management practices for manure and fertilizer application.

According to Pat Baskfield, MPCA hydrologist, Scott is by far one of the most talented and dedicated project staff working in the Minnesota River Basin. "I've given some thought to what makes for the most successful water quality technicians and it is simply they are the ones when presented with results ask the question "why" and then attempt to answer those questions. No one does this more or better than Scott."

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Experiences of the Summer Interns

By David Hayes
Minnesota Pollution Control Agency

Cleaning up the waters in the Minnesota River Valley is a tough, challenging, and lengthy task. I first got involved in the cleanup of the river when I applied for an internship offered by William Kell, Larry Gunderson, and the Minnesota Pollution Control Agency (MPCA). I had no idea at first what to expect as an intern except that Bill had told us that it was dealing with communication and the Minnesota River Valley.

The first day on the job dealt with explaining the situation of the river valley to us (the interns) and showing how to use the different resources that we had available at the MPCA. We found out on the first day that we would be taking a trip down to New Ulm for the second Minnesota River Summit. It was quite a surprise with the amount of resources we were given and how well we were treated. Usually one might think of interns as the people that get coffee and order lunch for other people, but we weren't treated that way at all. Each intern was given their own cubicle with a computer, phone, and all of the resources that anyone else has in the agency. We were shown how to check out cars and book meeting rooms and were encouraged to contact anyone that we thought was relevant to getting our jobs done.

The first order of business was attending the second Minnesota River Summit. That was a great experience for me and I met many great and interesting people. I met so many people at first that I was having a hard time remembering all the different names and what each person did in relation to the Minnesota River. I remember everyone as being friendly, helpful, and more than willing to help me with any information that I might need in the future.

The Summit meeting, which was essentially a two day workshop, was an interesting experience. Robin Lawton was facilitating the summit and teaching a method of what he calls "creating a customer centered culture. I thought he had great concepts and ideas because it only makes sense that the customer should come first.

After reflecting on the summit and packing up to head home, I realized that I had learned quite a bit in two days and probably more than I could learn in a classroom. So about 4 days into the internship, we started to discuss the different problems and who we should talk to while doing our research.

We decided to ask a set of questions that hopefully have led us to a deeper understanding of the problems that we face in the Minnesota River Valley.

There was a lot of traveling involved to get to many of the people we talked with in the river valley. There were a couple of weeks that felt like they were spent entirely in a car, but wasn't bad overall. Everyone that we talked to was happy to assist and answer any of the questions we might have had. It was also an enlightening experience to hear all of the knowledge, ideas, and learn about the work that people were doing in the river valley. There are so many great projects happening that it's hard to keep track of them sometimes.

After talking to a variety of people representing just about all of the different views and ideals in the Minnesota River Valley, eating lots of road food, and taking a ton of notes I believe that we collected some significant data about what can be done to help in cleaning up the river. 2 Months had gone by pretty quickly. There were many pages of notes that we looked over time and time again. Our notes were then organized into different sections trying to find some unity between different ideas.

After reading books such as Presence and The Tipping Point, I started to get a good idea of what it was to create and implement social change. It's easy to say that cleaning up a body of water is just about putting in less pollution, but it's really about changing the minds of people and having people come together to reach a greater shared understanding of the different jobs and ideas that each person has. By creating that shared understanding, I believe that we can make a difference in cleaning up the water quality in the Minnesota River Valley.

I'm glad to have this opportunity to work with everyone in the Minnesota River Valley and beyond. I've always wanted to have that opportunity to help society in a positive way. I've learned more in 3 months working on this project than I ever have in that amount of time before. Everyone that I've met has been friendly and helpful. I couldn't really say that I've had any bad experiences over the summer.

Today the Redwood Cottonwood Rivers Control Area or RCRCA is celebrating its 25th anniversary of existence. According to Jim Doering, executive director, the organization has come full circle. Efforts to improve water quality in the Redwood and Cottonwood watersheds began in 1983 with a call to restore the failing health of Redwood Lake. For years the lake suffered from decreasing fish populations, hazardous boating conditions due to shallow water levels and was no longer a popular swimming area.

When they built a dam across the Redwood River in 1902 it was 27 feet deep at the base of the structure. By 1994 with something like 36 dump truck loads of sediment flowing into the lake it only had an average depth of 2.8 feet. During the process to develop a plan for restoring the lake's health many questions couldn't be answered on the best course of action. To get at the needed solutions three years of monitoring and assessing of land use helped develop a Redwood River Watershed Plan.

Efforts to improve water quality originally focused on funding land treatment practices in the 640 square mile watershed draining into the lake. RCRCA worked together with local, state and national partners to assess the watershed and pinpoint the most critical areas for implementing conservation practices. "This is the strength of RCRCA," said Marilyn Bernhardson, District Manager of the Renville SWCD. "Diagnostic studies done by RCRCA have helped us apply for funding to do what we do best – restore and protect our natural resources."

The initial diagnostic studies have led to RCRCA putting a large selection of conservation practices on the ground, along with other information / education activities. One of the more popular activities is the annual "Tee up" for the Cottonwood River Golf Tournament held in Sanborn. This also includes canoe trips down both the Cottonwood and Redwood rivers. These paddles provide a great opportunity for local residents to experience the rivers in a totally different light. Other successfully community ventures have ranged from the "Coffee on the Projects" – giving citizens a chance to talk about water quality issues with the RCRCA staff, newsletters and education programs.

Over the last couple of years RCRCA has been working with local officials including Senator Dennis Fredrickson and the MN Department of Natural Resources to designate the Redwood River as a canoe and boating route. Doering said this is an exciting project and will help make it easier for people of all abilities to get on the river. According to Doering, a designation will help them increase canoeing activities in the watershed.

RCRCA's bread and butter have been its work to put conservation practices on the ground and improve water quality in the two watersheds. The list of BMP's ranges from the large – Agricultural Waste Management System – to the fairly expensive – conservation tillage. Over the years, RCRCA has funded everything from filter strips to multipurpose dams to rotational grazing.

Here is what some landowners have said about their efforts to improve water quality and working with RCRCA:

- *"I installed this practice to save my stream bank from eroding and to help save my land from eroding into the creek. I will benefit because I won't be losing soil,"* – Don Girard
- *"The primary responsibility for wise land management rest with those who own and operate the land. Land ownership is a sacred trust. We must remember, interest of the countless thousands in future generations who must gain their livelihood from this land,"* – Helen Anderson.
- *"I believe in preserving the land and environment for the future. I feel the Redwood River Clean Water Project is a good step in this direction. The conservation practices that I have installed in cooperation with them help to meet these goals and improve my lands productivity,"* – Robert Anderson (grassed waterways.)

After years of struggling to gain momentum, the staff and board of RCRCA are excited to start the actual process of dredging Redwood Lake. Jim Doering is looking at May 1st as the starting date for this important project.

WATER QUALITY ISSUES - FARIBAULT COUNTY STORM WATER MANAGEMENT PROGRAM

By Jesi Matthew, Urban Outreach Specialist – Faribault SWCD

The Faribault County Soil & Water Conservation District is currently conducting an innovative project to raise awareness about stormwater in the county's small, non-MS4 communities. The Project is meant to create a greater understanding of the causes and consequences of stormwater pollution and to examine possibilities for managing stormwater. As part of the Project, a full-time Urban Outreach Specialist position was created whose job it is to work directly with the communities to help them address their stormwater needs while raising awareness of stormwater problems and solutions. The communities' participate voluntarily in the Project and many are very excited to be a part of it.

Small communities are not regulated to the extent that larger communities, but they still contribute substantially to degraded water quality.

In order to understand the current efforts, level of awareness, and needs of the communities, a Community Needs Assessment (CNA) was administered with each of the county's eleven incorporated communities. The CNA revealed that overall; there was very little understanding about the causes and consequences of stormwater among residents, city staff and community leaders. The results of the CNA helped with the development of an implementation plan to address the needs of the communities.

To begin raising awareness among residents of the communities, an education campaign was developed based on a campaign with similar goals in Toronto, Canada. The campaign is meant to create a basic knowledge of the water quality issues facing our local and global communities, to generate an understanding of stormwater and how it contributes to water quality problems, and to produce a general awareness of how individual actions contribute to degraded water quality. The campaign is being conducted through the use of posters, billing inserts, website postings, and as additions to local newsletters.

Most of the focus of the Project so far has been on community leaders – clerks, administrators, councilpersons, street department staffs, boards and commissions, etc. Along with general awareness efforts and the promotion of municipal BMPs, much of the emphasis of the Project is on the use of alternative stormwater management practices. Conventional storm-water management, or the 'Big Pipe' option, uses hard infrastructure underground to whisk stormwater (and the pollution it carries) away into nearby waterways, while *alternative* practices are distributed in the landscape and generally use natural means to treat stormwater pollution and volume. The Urban Outreach Specialist reaches out to community leaders through presentations at city council meetings, continual contact with city clerks, administrators, and other project champions, special presentations to large community groups, and involvement in city improvement project planning.

2nd graders learning about the difference between runoff in developed (impervious) landscapes and natural landscapes

The SWCD has secured over two years of funding so far for the Project and the Urban Outreach Specialist position. Over the next couple of years, the Project team is expecting to see the implementation of some alternative stormwater management demonstration projects, the adoption of municipal BMPs, and behavioral changes among residents in response to a greater awareness of individual contributions to storm-water pollution. The future hope for the Project is that it will expand to encompass all of the small communities in the Greater Blue Earth River Basin.

The Urban Outreach Specialist uses presentations, posters, brochures, and community events to get the word out about stormwater and talk about alternative stormwater management.

Saving the MN River (continued from page 1)
increase the factor of erosion by seven.

"In other words a one inch rain would have the erosion factor of a seven inch rain. As a result of this there would be an extra twenty three hundred tons of silt deposited where this flattened out, and of course that was the Minnesota River. So that was the result of this one little three mile ditch, an additional twenty three hundred tons of silt would be deposited into the Minnesota River every year."

Del and his family were put to the test with this legal battle. Their daughters were harassed in school. "Our kids are the ones that paid the price, when they were going to school," states Del. One landowner told Del to move. "The guy who owned the land confronted me one day and said, 'why don't you just move out of here.' I said why and he said, 'there wasn't any problems before you moved here.'"

None of this stopped Del as he continued to restore his own property and become a guiding force in the local effort to clean up the Minnesota River. As one of the steering committee members for Clean Up the River Environment (CURE), Del said, "The agencies have laid out the problems, now it is time for ordinary people to do something about them. It's up to us to implement the solutions."

"The first thing I did was restore this wetland, broke the tile, and I feel probably the best about this than anything that we've done."


Del standing in Curley's Prairie

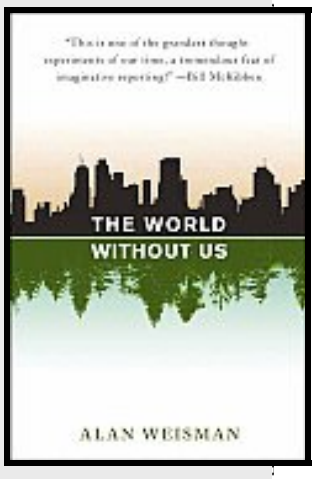
On your ride with Del, you will experience many interesting chapters of his life, including the restored Curley's Prairie named for his favorite hunting dog. The smile on Del's face tells it all. This man is proud of what he has given back to the natural environment. Del is proud too, of the catfish tournaments he hosted that brought together agency staff, local residents and others to enjoy the beauty and natural resources of the river. He is happy to see the positive change in water quality on the Minnesota River because of programs like the Conservation Enhancement Reserve Program (CREP). Ultimately, Del is proud about what he has done for his family, his community and the planet.

One finally thought from Del. "You don't have to take it all, you don't have to take everything, you got to put something back. Just because you're not getting something that you can eat or wear." Thanks Del!

Book Review: The World Without Us by Alan Weisman

On the day after human disappear, nature takes over and immediately begins cleaning house – or houses, that is. Cleans them right off the face of the earth. They all go.

Without humans the world we know today will transform itself into a place where billions of birds will flourish, cockroaches in unheated cities will perish without us and everything we have built will erode, crumble and eventually disappear. Alan Weisman tells this story by looking at places already devoid of humans including the Korean DMZ and Chernobyl.



War can damn Earthly ecosystems to hell: witness Vietnam's poisoned jungles. Yet without chemical additives, war curiously has often been nature's salvation. During Nicaragua's Contra War of the 1980s, with shellfish and timber exploitation paralyzed along the Miskito Coast, exhausted lobster beds and stands of Caribbean pine impressively rebounded.

In this far-reaching narrative, Weisman explains how our massive infrastructure would collapse and finally vanish without human presence; which everyday items may become immortalized as fossils; how copper pipes and wiring would be crushed into mere seams of reddish rock; why some of our earliest buildings might be the last architecture left; and how plastic, bronze sculpture, radio waves, and some man-made molecules may be our most lasting gifts to the universe.

The World Without Farms: When we think civilization, we usually picture a city. *Agriculture let us settle down, and settlement led to urbanity. Yet, imposing as skylines are, farmlands have much more impact. Nearly 12 percent of the planet's landmass is cultivated, compared to about 3 percent occupied by towns and cities. When grazing land is included, the amount of Earthly terrain dedicated to human food production is more than one-third of the world's land surface.*

If we suddenly stopped plowing, planting, fertilizing, fumigating, and harvesting; if we ceased fattening goats, sheep, cows, swine, poultry, rabbits, Andean guinea pigs, iguanas, and alligators, would those lands return to their former, pre-agro-pastoral state?

I am a fortunate person. Over the last few months I have been part of a team effort to collect stories from long-time residents of the Minnesota River Watershed on how water quality has changed on both a positive and negative level. Kim Musser, Rick Moore and I came away impressed at the insights of these people and how in their own personal way strive to improve or preserve the landscape around them.

In the Fall quarterly newsletter you read about Art and Barb Straub of Le Sueur, who keep an eye on the Minnesota River from two hundred acres of trees and native prairie. On this issue's front page you met Del Wehrspann and his wife Shirley and learned about their efforts to leave a conservation legacy. The three of us were amazed and hearten by what the Wehrspann's sacrificed for the greater community good. I can easily call them heroes but they don't see it as being heroic.

Each of them hope to leave something tangible for the next generation. How about the youth in the Minnesota River Watershed? If you didn't attend the first 'Green Carpet' Film Festival and Video Contest, you missed out on a great event put on by CURE. (Patrick, Duane, Dixie and all the volunteers did a fantastic job.) Eight of the top 10 video entries were from local students. They know exactly what is happening to our planet and want to do something about it today.

Have you ever stopped at the Minnesota New Country School in Henderson? This public charter school focuses on the environment. Students from this school were the ones who discovered the deformed frogs in a farm pond in the 90s. Each time I teach Biological Monitoring at the school, I leave reenergized by the passion of these students to understand the landscape all around them. Stop for a tour of the facility or go on a hike at the nearby Ney Nature Center to see the actual farm ponds.

For those of you who have attended some of the most recent Watershed Alliance meetings, you've had the privilege to see Michael Groh in action as our facilitator. On Thanksgiving Michael suffered a seizure and the doctors found a tumor in the front part of his brain. After having most of the tumor removed, Michael is now undergoing intensive radiation and chemo treatments. We know Michael is a fighter and hope to see him back leading our quarterly meetings. On a personal note, it has been a privilege to have worked with Michael on a one-on-one basis and I appreciate all of his insights. For updated information on Michael's condition go to a Caring Bridge web site set up at http://www.caringbridge.org/visit/michaelgroh

Working on the MN River (continued from page 5)

"As a technician with the High Island Creek and Rush River CWP's, Scott was instrumental in identifying classic gullies in the lower reaches of most watershed as a major source of sediment to the Minnesota River tributaries," related Baskfield. "While the results are still preliminary, Scott and others are also rewriting the book on E coli bacteria source contributions, longevity and transport as well as phosphorus transport through subsurface tile drainage. My hats off to Scott."

Scott's favorite part of his job "is getting out to the streams and seeing the water and the landscape. There really are not that many things more exciting than sampling in the middle of a huge rain event. It can be hectic, but it sure is fun," says Scott. "Strangely enough, I also like the number crunching. I find it fascinating to compare water quality from different watersheds and then try to understand why we see the differences we do."

CURE's 'Green Carpet' Film Festival

On November 16th and 17th the first-ever 'Green Carpet' Film Festival and Video Contest was held at Hollywood Theater in Montevideo. Over the two days a diverse audience saw a wide range of "environmentally themed" films, enjoyed locally-grown food and heard an interesting mix of music styles. One of the festival's highlight's for many people was the top ten video entries. This amazing mixture of personal messages, humor and socially relevant topics really brought home to what is happening in the Upper Minnesota River Watershed.

The range of films shown included "Sweet Land" with Spanish sub titles and the recent release of "King Corn." One of the most interesting aspects of the film festival was the audience discussion of immigrant issues in the Minnesota River Valley led by the Minnesota Immigrant Freedom organization. The staff and volunteers from CURE put in a lot of effort.

Pilot Knob Saga

Fifteen acres of land has been purchased to protect the significant landscape feature – Pilot Knob – overlooking confluence of the Minnesota and Mississippi rivers. An additional 8.5 was bought two years ago. Future plans include developing the site as a park, with funds from MPCA for an interpretive trail.

The Dakota called this site, "Oheyawahi," or "the hill much visited." Riverboat pilots on the Minnesota River looked for the distinctive knob to tell them they were getting close to St Paul.

Lake Crystal Clean Water Partnership

Sarah Duda, project coordinator of the Lake Crystal, Loon and Mills CWP was recently featured in a story by Channel 12 KEYC, Mankato. Sarah spoke about Crystal Lake being at the end of the watershed and having some really serious problems with algae and turbidity, "the water gets really green and icky. One of our goals is to be able to increase the clarity of the water so you can see down further."

First Youth Energy Summit

Teams of students in grades 8 through 12 from southwest and west-central Minnesota are participating in a challenge to create an energy action project for their home community. The summit took place in September with a two-day event bringing together the 14 participating teams and resources from the region.

The team from Milan is working to erect a 20-kilowatt wind generator to help power the city's former school building. According to the team coach Duane Ninneman, the students have been writing and distributing news releases and meeting with the city council. This competition will continue through Earth Day when the teams will share their works and receive reorganization for their achievements.

Organic Garden planned for New Ulm

Putting Green and MRCI WorkSource are joining together to produce local, organic foods at the environmental adventure park along the Minnesota River in New Ulm. The two organizations are planning to grow flowers, herbs, vegetables and fruit on two acres for their "Fresh Start Farm" starting this spring.

According to Laura Gamm, Putting Green Project Manager, they want to focus more on the natural environment and land by teaching people the relationship between land and water, along with what food comes from the land. In the future they hope to expand the organic garden up to 12 acres and employ more people for a longer period of time – hopefully year-round.

Montevideo to upgrade Waste Water Treatment Plant

In order to meet stringent Minnesota River Phosphorus Permit requirements, as well as a dual power source requirement, Montevideo will be making improvements to its Waste Water Treatment Plant. The upgrades are expected to cost $13.5 million and have been mandated by the state.

The plant was originally constructed in 1961 and received partial improvements in 1994. Currently the solids handling facility is overloaded and does not meet state standards. Short Elliot Hendrickson Engineering also recommended additional modifications including an influent lift station, screening, a new headworks building, and a disinfection process to improve operation and safety.

THEODORE ROOSEVELT

"Defenders of the short-sighted men who in their greed and selfishness will, if permitted, rob our country of half its charm by their reckless extermination of all useful and beautiful wild things sometimes seek to champion them by saying 'the game belongs to the people.' So it does; and not merely to the people now alive, but to the unborn people. The 'greatest good for the greatest number' applies to the number within the womb of time, compared to which those now alive form but an insignificant fraction. Our duty to the whole, including the unborn generations, bids us restrain an unprincipled present-day minority from wasting the heritage of these unborn generations. The movement for the conservation of wild life and the larger movement for the conservation of all our natural resources are essentially democratic in spirit, purpose, and method."

As our first conservationist-minded president, Theodore Roosevelt is responsible for the introduction of the U.S. Wildlife Refuge System, created the National Forest Service and made conservation a central policy issue. His legacy continues today including Theodore Roosevelt National Park in North Dakota.

"Optimism is a good characteristic, but if carried to an excess, it becomes foolishness. We are prone to speak of the resources of this country as inexhaustible; this is not so."

"We of an older generation can get along with what we have, though with growing hardship; but in your full manhood and womanhood you will want what nature once so bountifully supplied and man so thoughtlessly destroyed; and because of that want you will reproach us, not for what we have used, but what we have wasted . . . So any nation which in its youth lives only for the day, reaps without sowing, and consumes without husbanding, must expect the penalty of the prodigal whose labor could with difficulty find him the bare means of life."

Theodore Roosevelt died in his sleep on January 6, 1919 at the age of 60, unable to recover from the death of his youngest son Quentin killed in airplane combat over France during World War I.

Today, Roosevelt's words still echo. *"The conservation of natural resources is the fundamental problem. Unless we solve that problem it will avail us little to solve all others."*

"There can be no greater issue than that of conservation in this country."

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.

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