Interview with **David Minge**
Voices of the River - Oral History Project

by Anne Queenan

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AQ: Hi. We are doing this oral history project and it's for the Minnesota Historical Society. And it's about the movement to clean up the Minnesota River – which we say began in the late 1980s, with the Mn River Assessment Project and the convening of the Citizen's Advisory Council. But if you would like to tell us what you think, and when you think the movement to clean up the Minnesota River started, and a little bit of background about that, I would love to hear it.

DM: Well, it's my understanding that there have been individuals and state and local units of government that have been interested in trying to improve water quality and the fishability and swimmability and sort of the recreational side of the Minnesota River for decades. In many respects, these folks and their deep

commitment to try to improve the river that have culminated in a series of organizational successes in the late 1980s. Fortunately, most of those have survived and they've really taken hold and people have enthusiastically supported them. So, in a way, I think we have to recognize the work of many who have gone before us and the way they sort of set the stage and got the rest of us interested in this effort.

AQ: And can you tell me a little bit about who that is?

DM: Well, I can think of one person in the Montevideo area. Del Wehrspan has been interested in trying to enjoy the river and improve the river ever since I've known him. My understanding is that his work goes back to the 1960s, so that's Del. That's one individual.

There are other individuals that I've met, for example, Bob Star, who's a farmer, down by Redwood Falls. He's been interested in the history of the river and lived in that area since the 1920s. And, so that's just a couple of individuals that I am familiar with that have had this commitment.

AQ: When did you first start thinking about the Minnesota River, what were some of your earlier experiences?

DM: Well, my wife and I moved to the Montevideo area in the mid- 1970s. And we had canoed on the Minnesota River at different locations. We canoed on the Boundary Waters and we had lived in Wyoming and canoed some of the rivers in the Wyoming area so when we came to Montevideo, one of the attractions was that there was not just one river but there were a half a dozen rivers in the area. And we thought this wonderful canoeing, and there must be some places where we can swim and there would be some good fishing. So, we enthusiastically set out to explore all of the rivers in the Montevideo area in that time frame. And we quickly learned that swimming in most of those rivers was not really recommended and there were some advisories about how often you should eat the fish, but on the other hand it was just beautiful. It seemed like a remote area when you were canoeing on these rivers. There was this sort of tranquility and feeling of isolation that reminded me in some respects of the Boundary Waters.

AQ: I've heard it called, "The Boundary Waters of Western Minnesota".

So, if you don't mind, I would like to ask you a little bit about tracing the story through CURE's beginnings and the idea of CREP, if you could tell us what that is all about? And any of your political allies or people you have met within Minnesota and your water efforts…

DM: Sure. Well, I think it was 1990 or 1991, newly elected Governor Carlson announced dramatically at Mankato that he planned to have the Minnesota River swimmable and - I can't remember the other adjective, I think it had to do with fishing - fishable and swimmable within ten years. And I thought, "Wow, this is ambitious. This is wonderful because here I am, I'm living less than a mile from the river and this is one of the things that attracted me to the area. And I'm all on board. I'll be there with my fishing pole and wearing my swimsuit ready to jump in."

Well, it turned out, of course, it was a bigger task than that. So, we found that in the late 1980s, early 1990s, there were a lot of people that had the same aspiration.

And, in terms of organizing CURE … the Land Stewardship Project had an office in Montevideo and Audrey Arner was the director of the office and Patrick Moore was the key staff person there. And they organized a meeting and I think it was over at the Chippewa County Library there in Montevideo. And we had a good turnout. And the purpose of the meeting was to discuss forming a group to improve water quality in the Minnesota River area. And so we met two or three times and had all of these sort of facilitator-type tricks that are used to try to bring people together and engender some discussion and we got then to the question "What are we going to call this group?" And several of us recognized that if we're going to have a name for the group, it ought to have some sort of pizazz. It ought to be catchy and it should represent an acronym. So we struggled with this and finally we came up with CURE, which was Clean Up the River Environment. And we thought CURE was appropriate because it sort of addressed the tasks of curing the problems of the Minnesota River. Then we were off and running. We formed a nonprofit corporation, we had a board, and so we had a real structure. And the Land Stewardship Program continued to be supportive and Patrick Moore, especially, continued to be very active. But I would have to say that in terms of getting CURE off the ground that Audrey Arner and Patrick Moore were really the key individuals to that effort.

AQ: And did you have a role in getting CURE started officially as an entity?

DM: Well, I think that I donated some legal services as an attorney there in Montevideo to drawing up the articles of incorporation and getting them filed. But my effort was relatively humble. And I volunteered to serve on the initial Board, there were a group of people that had a similar willingness to devote time to it and it all just seemed to fall into place. This was an enthusiastic response that we had in the Montevideo area and what also impressed me was it was not just,

you know, people in town. It was farmers. It was other individuals in the area so it went beyond Montevideo and included people on some of the other rivers in the watershed. And also included people who were farming. And a lot of people were simply blaming the farm community for the problems of the river. Well, I think that was unfair because many of the farmers were very responsible in conservation practices and trying to make sure that they farmed in a way that was compatible with the high quality river that we all like to have.

AQ: So, can you help me trace the story, then, on how the beginnings of CURE which you just described then led to the CREP program? Is there a story there?

DM: Sure. Well, the Conservation Reserve Enhancement Program really grew out of an effort that I think had its genesis with the Environmental Defense Fund organization. And a fellow named Tim Searchinger who was one of the staff people with Environmental Defense Fund had identified some rivers around the country that they thought were severely impaired and where there was the type of public support that was potentially available to launch a significant undertaking to improve water quality. And Scott Faber was aware that the Congress and the Farm Bill had authorized not only the Conservation Reserve Program, but a Conservation Reserve Enhancement Program that would focus on a watershed and devote very substantial federal resources to improving water quality in that watershed. And the requirement really was that the Conservation Reserve Enhancement Program, or CREP as it was known, have the state as a partner. It wasn't just a federal undertaking. It was a partnership between the state and federal government. And so, Environmental Defense Fund talked to some individuals, including, oh, in Montevideo, Del Wehrspann, who is on the Minnesota River and I think Del's work had attracted the attention of many people.

(Editorial Correction Requested by Interviewee on this Answer. Addition: Scott Faber of the American Rivers Program was also part of this process.)

They also talked to Governor Carlson. And Governor Carlson as I understand it enthusiastically embraced the idea of having a CREP. I was, at the time, representing that part of Minnesota as a 2nd District Congressman. So here I was working with the federal government - a part of the federal government- I was on the Ag Committee in the US House of Representatives and so I knew about these Conservation programs. And I learned that there was an effort to try to combine the state and federal undertaking, finances, to put together a CREP. And so I contacted the parties and said,"Is there anything I can do to help make this a success?"

And my staff was very supportive of this effort. And so, working together we identified some sort of rough spots and talked to Governor Carlson and talked with some of the ag groups and tried to resolve the differences and made sure that we moved ahead with the unanimous support of the farm organizations and with the state of MN fully on board and make the program a success. So, we overcame a half a dozen rough spots and the program was launched and Governor Carlson came out for the first signing of a CREP contract and it was inspiring to see everybody on board.

I think the CREP for the Minnesota River has done more to try to improve water quality than anything that we had done heretofore. And I am optimistic that we will see the benefits of this for decades to come.

And of course the most significant thing is that the CREP has identified 100,000 acres of land that originally had been cultivated and was perhaps least suitable for cultivation - to be the greatest erosion, and runoff that would effect water quality - you got chemicals, fertilizers, nitrogen, phosphorous, and you have problems with silt, turbidity and so on in the water. And we were able to take those 100,000 acres and the federal government contributed $180 million roughly for a fifteen year easement that would pay the farmers to simply put this land into sort of a setaside program where it would be for wildlife, recreation. And the state of MN was able to come up with enough money to purchase an easement from the farmers after the first fifteen years that would be an indefinite easement. It would be a permanent easement. So, combining the two programs between the federal CREP program and the state's program, we ended up with 100,000 acres permanently taken out of cultivation.

And the farming community recognized that we were looking at 100,000 acres that were not really prime farmland. It was not good farmland. And this was a voluntary thing. The farmers signed up because they felt it was good for the land, that it was a responsible thing for them to do. So there was no, sort of, arm-twisting to get participation. Instead, the farmers volunteered and I really admire them for taking that step.

(continuation of interview – for audio file)

AQ: 5This is David Minge, Nov 2. We're starting off with a background note of a program that he just referenced at the head of the video.

DM: The CREP Program is a federal program run by the US Department of Agriculture and the Natural Resources Conservation Service. CREP partners

with a state program in Minnesota that's run by the Board of Water and Soil Resources, known as BWSR, and the state program has its own name. The CREP easement is typically for 15 years. The state's easement is a permanent easement at the end of the federal 15 year easement, and the state easement involves the state investment of money and the state's investing approximately 20 - 25 percent of the current value of buying this permanent easement. Because when you look at the present value of the first fifteen years, that is about 75% percent of the cost and the current value of an indefinite easement after the first 15 years represents 20-25 percent of the cost. It's just something that an actuary would be able to calculate, or an accountant, based upon present value of a stream of money for the indefinite future.

AQ: Ok thanks.

In order to get those obstacles passed for CREP to happen, was it tricky? It sounded like it was, in general, you had really good momentum.

DM: Well I think there was a strong enthusiasm for it. We had support, of course, the governor, Governor Carlson's report was absolutely critical and Governor Carlson spoke out and he visited with some of the farm groups. I was working with the farm groups on a whole range of issues relating to trade and support programs and on and on. So I simply said to him, "Look, we've got some issues with water quality in the Mississippi and the Minnesota River. Here we have the chance to have federal money paid to people on a voluntary basis, voluntary sign up, to take land out of production that is highly erodible and is not well suited for cultivation." This is a win-win situation. And we have the risk that at some point, some officials in Washington might say, "Hey, you have to clean up that river in different ways and everybody ought to absorb the cost as a part of their doing business and being good citizens, and there's no money to pay you. We're going to come up with requirements or mandates." And the mandates might result in some land being determined unsuitable for cultivation. But here, there are no mandates. We're talking about a voluntary program and we avoid all of the bitterness and the expense and the controversy that would go along with some sort of a mandate. We had good response and some people saw this CREP program as fitting in with their planning and their farm and their family's use and pride and being good stewards of the land. And it ended up being a win-win situation.

AQ: Okay, and the conservation reserve program as it exists today, how is that different?

DM: Well the Conservation Reserve Program today is not watershed specific, it's national, and so you can enroll land that you think is unsuitable for cultivation regardless of whether you're in Minnesota or California or wherever it might be, and the CREP Program, the Conservation Reserve Enhancement Program identifies certain watersheds. And the first one in the country was the Chesapeake Bay and the second one was the Minnesota River watershed. And so we got in on the ground floor and that was important because I think that the US Department of Agriculture wanted to see the program a success and they devoted a great deal of energy in their offices to promoting the program and working with farmers and others.

AQ: Can you talk to me at different points in your life, how you stayed connected to the movement to clean up the Minnesota River?

And would you please include a story that I heard from Lynn Kolze about you on a bicycle?

DM: I'm not sure what the bicycle story is.

AQ: Did you ride across the state?

DM: Oh sure!

DM: Well in terms of staying connected with the Minnesota River, I certainly stayed involved with efforts the whole time I was in the United States Congress. And so CREP was one of many programs that was geared at trying to improve water quality and more responsible practices. We have the EQIP Program that was concentrated at that time on livestock facilities making sure that we minimize the manure runoff into the waterways. And we've had a soil bank and a water bank and on and on. There have been efforts to use conservation dollars at the federal level to promote clean water goal and clean water agenda.

Also, after I left Congress, I became active with the Friends of the Minnesota Valley. The Friends of the Minnesota Valley is based really here at the very low end of the River and works on the Minnesota River from Fort Snelling roughly down to the St. Peter area. And then we also worked with the Coalition for a Clean Minnesota River, that's based in New Ulm, Scott Sparlin is the director of that and the Coalition for a Clean Minnesota River works on the portion of the river from let's say St. Peter up towards Redwood Falls. And then CURE works on the portion from Redwood Falls up to Big Stone Lake. So the three organizations aren't claiming some sort of a franchise or anything like that, but on the other hand, they wanted to make sure that there was someone that was paying attention to what was happening in all parts of the river.

I also would meet as often as schedule would allow with the Joint Powers Board, composed of the 37 counties in the Minnesota watershed. And that Joint Powers' Board was very committed to trying to sponsor practices, programs that would address our quality in the river. And so here we had county commissioners from close to half of the counties of the State of Minnesota, that were part of one unified organization, everything from Hennepin County and Dakota County, up to Big Stone County. And that, in my opinion, was a very dramatic effort. And to some extent it struggled, but it had some taxing authorities as I recall and was able to have a staff and still exists and still works on aspects of the Minnesota River. So there's another group. (Editor Note: This was called the Minnesota River Board.)

I was active with the Parks and Trails Council of Minnesota and they promoted the state parks, biking, hiking, horseback riding trails. They also were very concerned about environmental issues. And being on the board at the Parks and Trails Council was a nice fit with the Friends of the Minnesota Valley, and I had, at one point rejoined the CURE Board , working with that somewhat, after I'd left Congress. So I found many different outlets for my interests.

I should add that just in terms of campaigning and getting around in the Minnesota River Valley area, I attempted to use bicycle transportation to sort of attract attention to the effort and to also get some coverage of political campaigns. And the first time that this was undertaken was in 1992 and we put together a bike ride that was about 500 miles and that crossed the Minnesota River at different points and several times, and all the way from Chaska and Shakopee in the lower part of the river, I think we got up to the Ortonville area and certainly we were Montevideo, and New Ulm, and it was interesting to see the river at these different stages, and when you're biking close to the river, you really see things up close. And we repeated that bike ride every year and now here in the 21st century and with the Parks and Trails Council, we continue to have a bike ride every year on Labor Day weekend and we feature the Minnesota River Valley two or three times as a part of that bike ride.

AQ: That is wonderful. I have to ask you about that actual bike ride, and that trail.

So when you are biking along the Minnesota River, or you touch base on the Minnesota River, that leads me to ask you about the trails along the river and the efforts to get a connected trail. Do you have any thoughts about the likelihood of that - especially given you also mentioned the Friends of the Minnesota Valley. And November 14 & 15th, Secretary of Interior's Rebecca Wodder is coming to take a look at the river as being eligible for that National Blueway Designation.

… through the Sec of Interior. So looking at the river as a -you've got the bike trail option and then you've got the waterway as a trail. Do you have any thoughts about that and the potential for the MN River moving forward along that direction?

DM: Well I think there's interest in the Minnesota River for all sort of recreational amenities that it has to offer. And certainly canoeing on the river, using the river as a Blueway is a wonderful idea and it's a good opportunity. We have people like Del Wehrspan, that have been taking pontoon boats and leading some fishing expeditions on the Minnesota River now for decades. We have Butch Halterman, from Montevideo, a biology teacher who's taking groups of student from Big Stone Lake down to Fort Snelling. We've had high school and college age students who have replicated the Eric Severaid trip, where he canoed from Fort Snelling up to Hudson Bay. And here within the last few girls, two girls did exactly that. They put in at Fort Snelling and they canoed up to Hudson Bay.

So it's a waterway and it's been a waterway for Native Americans and for explorers and the fur trade for centuries. And we're just the inheritors of that idea.

In terms of surface transportation, we have a whole series of roads that parallel the Minnesota River and in some places it's a beautiful drive. Some places like Highway 169 between Mankato and Shakopee, you have a high speed divided highway and I think people sort of lose track of the beauty of the area. It's a quick drive. But there are bike paths that parallel the river at certain points and I know there's a commitment, they're trying to establish a state trail, suitable for biking and hiking, perhaps for horseback riding, all along the river.

And I've worked with some folks in the Bloomington area, who would like to see the old Cedar Avenue bridge restored so that biking along the Minnesota River here in the Bloomington-Burnsfield area is easier to do, that you don't have these interruptions. And I know that we've had a trail from Fort Snelling and it stops before you get to the wildlife refuge, and it's crazy. And so we've been trying to work with the Department of Natural Resources, with MNDOT who runs the highway system, 'cause 494 crosses the river here, and with the Defense Department which has a shooting range that is next to the river as a function of some of the land that was originally part of Fort Snelling. So this trail has to go past that rifle range and at different points in time, one party or another is kind of dragging its feet, and hopefully we'll see everybody come together and we will have this trail actually established so that the public can enjoy it without 'no trespassing' signs. The trail exists, but at certain points there are gates that may

or may not be locked and some relatively scary signage that tries to warn people off. And then you get into Bloomington, and you're biking on more primitive trails. Some places you're biking on roads that may not always be safe for bicyclists; sometimes the roads are relatively little traveled and they're fine for the bikers to use. Finally I would say, some of the roads are gravel and there are a lot of people who are riding a bike say "Gee, gravel leaves sparks." Well that's one risk, but probably the other is if you're riding on a gravel road and you encounter some vehicles, they keep up that dust and the joy of biking there in what seems like almost a wilderness setting is lost, because you're covered with dust. So it's important to have a trail that people who are hiking or biking or horseback riding can enjoy with some tranquility.

DM: One other thing I'd add, (pause)

DM: The Chippewa County Commissioners out at Montevideo were committed enough to having a nice trail, that when they rebuilt a county highway, the put a dedicated bicycle trail, separate from the highway pavement right alongside the river, close to the river. And I really was impressed that my home community was willing to make that investment using some of the set-aside money that was available from the US Highway Administration. And I know that there are many groups that are trying to build segments of this trail. Down by Mankato they're trying to build a trail from Mankato to New Ulm. They're trying to complete trails in the areas between Belle Plain and Shakopee and between Shakopee and Chaska, they've had a bridge that sometimes has gotten washed off by flooding. But trying to establish a nice trail to go from Shakopee up to the Burnsville area or Chaska up to the Bloomingdale area. So everybody at different parts of the river has this on their list of something to do, but it takes a lot of patience, and it may not be in my lifetime that we see this trail completed.

AQ: So some of what we've been covering with this project, when we talk about modern times now at the river is how there are water quality experts, landowners, teachers, citizens and all diverse people starting to come together on this. Do you have any observations along those lines, and it can be positive, negative or in between about just a general movement of people working together for the Minnesota River?

DM: Well we have literally thousands and thousands of people with different interests in the river, from ownership of farm land and big farmers offering farms, to just the occasional dilatant who goes out and maybe enjoys a peaceful Saturday or Sunday afternoon. We have bird watchers that enjoy getting out and identifying different species. Hunters and those that like to fish, and on and on … so we

have these various groups, and I think we've achieved a fairly substantial amount of success.

The CREP program, which we talked about already, is one example of something that's been a significant success.

I've met with county boards up and down the river who have worked on trying to curb erosion and the ditch systems that they operate, and are responsible for, that are very conscious of runoff from the highways that find their way into the river. They're very interested in trying to stabilize stream banks, lake banks, and so on to minimize erosion and soil getting into the water. I know that many farm organizations share that commitment. I know that the state pollution control agency has required livestock confinement facilities to observe point source pollution standards, so that we do not have manure runoff as getting into the river. So that's another positive thing that's happened.

Tragically, we have some bad actors who are not responsible and can contribute a fairly substantial amount of topsoil or pollution. One problem, we have with flooding, is that it's eroding the banks of the river and resulting in a tremendous amount of silt getting into the river, settling some of it in Lake Pepin. Some of the perhaps just goes right down to the Gulf of Mexico. So this stream bank erosion is a big issue and we have to identify what is it that we need to do to minimize stream bank erosion. Some of it is characteristic of the Minnesota River for thousands of years. So it wouldn't be realistic to think we can completely address this. But to the extent that there are human activities that are aggravating this erosion, we certainly need to better understand what is it that we're doing that is negative and what can we do to correct that. And I know that some issues related to farm drainage are a significant part of that effort and sometimes a part of the controversy.

I would put some things that have happened at the municipal level.

We have many communities in the Minnesota River watershed that used to simply have a pipe and the raw sewage went into the river. Well that's not acceptable. And the State of Minnesota and the Environmental Protection Agency have been requiring communities to improve their wastewater treatment facilities so that the affluent coming out of those facilities is clean. And I know I've worked with one community and the engineer said, "We can drink the affluent out of this sewage treatment plant." And when the plant is dedicated, in your offer to drink a cup of fluid, I didn't get on tape, but he said he would. So that's one thing at the municipal level.

Another thing at the municipal level is to separate the storm water sewer system from the sanitary sewer system so that the storm sewers are not carrying raw sewage in them and you don't have crossovers between the two so when you have a high water event, you have one simply washing really undesirable, unacceptable water right into the river. And I know we've have some floods where this has occurred and we're constantly improving these municipal treatment facilities.

AQ: And can I ask you, on the level of the agriculture and water quality and that relationship - I know that you've recently been facilitating the Minnesota Agriculture Water Certification Program.

DM: It's Water Quality Certification.

AQ: Can you tell me just a little bit about what your experience is there?

DM: Sure. Well, the State of Minnesota, together with the US Department of Agriculture, and the concurrence of the Environmental Protection Agency, has agreed to establish a water quality certification program for farmers in the state of Minnesota.

And the idea is to identify standards that would promote a good water quality, a high water quality. Talking now about keeping out chemicals and fertilizer and trying to address problems of loss of topsoil and so on into the waters of the state. That program is just getting off the ground; it's being run by the Minnesota Department of Agriculture and the Commissioner of Agriculture has established a 15-person advisory committee to make recommendations as to the design of the program. And I've been working with the committee as a facilitator to bring people together. I've had meetings so that we have farmers, environmentalists, people from agri-businesses, people from farm organizations, all at the table together to discuss what is the most effective design that we can have to make this type of a program a success. It'd be a voluntary program; we're trying to identify some benefits or incentives so that farmers will then participate. But the program has a solid design, and if we have good participation from the farm community, we think that this would enhance the sensitivities of farmers who are interested generally in doing their very best in being good environmentalists, that it would give them some of the technical assistance and knowledge that they need to act on those good intentions. And we find some farmers have acted on those good intentions now for decades and they have a lot that they can share with their friends. So we're trying to pool knowledge and build a good program.

AQ: You mentioned the Joint Powers Board. Can you tell me a little bit about the Minnesota River Watershed Alliance in the development of this movement?

DM: Well first, let me mention that the Joint Powers Board (Mn River Board) is an entity that, as I understand it, has struggled in recent years. Some of the counties have pulled out, so they don't have this 100 percent buy-in that they had initially. And some of the counties, maybe in the metro area or the further reaches of the watershed have had less interest. So I'm hopeful that this is not a trend that continues, but instead that the board continues and it has a strong presence.

The Alliance is a group of nonprofit organizations and it's composed of CURE, of the Coalition for a Clean Minnesota River, Friends of the Minnesota Valley, and so those three groups have really provided the leadership for the alliance. And the alliance meets periodically and tries to identify common issues and establish some policies and developments, legislative efforts, federal efforts that they can be a part of and that they can lobby for those efforts. So the alliance I think plays a very useful role because it brings together all parts of the river. And then we find that there are various organizations that exist just to share information, and we've had offices in Mankato, at Minnesota State University at Mankato, where some of that effort has been housed, and they have a website, they circulate a newsletter every couple of weeks and keep everybody up to date; very useful.

AQ: So for you, then, when it comes to all these people and organizations, on all of these various levels, working together and you've worked on it from many years ago up through now …. what, for you, in your observation of all this, lies at the heart of the matter about this Minnesota River?

DM: Well I think the crucial concept is being good stewards of the resources that we have.

We're fortunate here, we emigrated to the Minnesota area from different parts of the world. There are very few of us that are indigenous, that is our ancestors have lived here for generations. And it would be tragic if we came as new settlers to the area, and we abuse the landscape, we abuse the resource, and we wasted it, so that the recovery and enjoyment is much more difficult, if not impossible for future generations.

And I'm proud to say that from what I've seen, most people in Minnesota are committed to our state, our generation, being good stewards of this resource.

But it's not an easy task. There are expenses involved, there are changes in how we live that may be involved, and the consequences that it takes a strong

commitment to make this successful. And if we're going to make it successful through volunteer organizations, I think that's unrealistic because no small part of the pollution is a function of the programs that have been established at the state, the federal, and the local level, and of work of the state, local, federal units of government, and unless everybody's pulling together, including these governmental units and entities, this will not be successful.

And it's demoralizing to those of us who are just humble citizens at this point, if we don't feel we're getting good buy-in from our public leaders. And so we want everyone, from members of the US Senate, and our state Congress, the governor's office to county commissioners to the city council members to all be a part of making this work. And the volunteers and the volunteer organizations can be there to provide that type of backing to the public officials, or hold their feet to the fire, as the case may be, to ensure that this is not neglected and that we don't slip back in our efforts.

One challenge is that we're constantly identifying new ways of measuring water quality; we're constantly identifying new problems that poor water quality is creating. As we see these new problems, they loom large in our thinking and I think we have to sort of place them in context, of some of the problems that we had several decades ago, and take some pride in our accomplishments. Not let that discourage us from moving ahead but not let the complexity of moving ahead sort of paralyze us so that we don't keep up our effort and paralyze us so that we just say move on to something else.

AQ: I have had some similar observations and I am reminded, it's our namesake river.

DM: I agree. We live in Minnesota; it's called the Minnesota River, and it may mean cloudy water, but it doesn't mean it's polluted water or poor water quality. So we need to make sure that even if it's a little bit cloudy, it is good quality. And we have to recognize that if we have this tremendous sediment that is dropping out of our Lake Pepin, and it's doing so at a rate that far exceeds historic levels, that that's a problem that we have to address.

And that affects other people in Minnesota, in the Red Wing, in Lake City, Wabasha area.

We also have to recognize that the Minnesota River, together with many other rivers in Iowa, Illinois, Wisconsin, Missouri, Arkansas, are contributing to what's called the hypoxia condition in the Gulf of Mexico. And this is an area where nothing lives essentially; it's a dead zone. And it's an area that's larger than the State of Connecticut, it's growing, it affects shrimp and other harvesting of

aquatic food product in the Gulf of Mexico, and it's irresponsible for those of us who live way up the Mississippi to somehow ignore the cost of some of our practices on our fellow countrymen or on people in Mexico who depend upon these resources for their livelihood.

So that's another example of why we need to be good stewards and observe responsible practices even in our area.

So it's a national issue.

AQ: David, do you get the sense in all of this water quality work that people who live along the Minnesota River are aware of the direct relation that they have on the river?

DM: I think that most people definitely are, but you can always pick out some bad actors.

I remember at one point we found a home that we were considering buying to live in, in the Montevideo area and it was pointed out to us that the older couple that lived there put their garbage in the ice of the Chippewa River and it would just disappear. It was like magic. Well, you don't hear about that anymore. And you used to canoe on some of these rivers and you would see livestock right at the water's edge. You don't see that much anymore. Used to be you would see farm fields where there's cultivation right up to the river's edge. Well you don't see that much anymore either, so that more responsible practices are being observed and people are sensitive to the fact that certain things really contribute to the degradation of the river and they should be responsible stewards. And I think that most people are trying to live up to that standard.

AQ: If you could please, I know you're familiar with the Minnesota River TMDL process, the Total Maximum Daily Load in the water quality standards, developed by the Pollution Control Agency. Can you tell us more about them?

DM: It was charged by the Clean Water Act that was adopted by Congress for addressing problems in impaired water bodies of water rates within the State of Minnesota. This is a national effort; all states have that responsibility. And an impaired waterway is determined by a whole series of sort of tests or standards, and one of them is what's called the Total Maximum Daily Load, and that's really - how much crud can you have in that waterway and the waterway not being polluted, just in terms of common everyday parlance? And they call that level of pollution impairment, it's an impaired waterway.

And the Total Maximum Daily Load is calculated by scientists looking at the different components, what really degrades the water quality. You have suspended solids, you have phosphorous, you have nitrates, nitrites, you have ammonia, you can have other farm chemicals that get into the water that either have a fertilizing quality or pesticide, insecticide, herbicide.

And so we need to address all of this and make sure that the Total Maximum Daily Load or TMDL is a standard that we are meeting and have soil scientists and agronomists and others who are working on a day-in and day-out basis to try to not only define what is the TMDL for each water course, but also what practices in a farm operation are going to reasonably address that TMDL problem, and what needs to be done by MNDOT and the County Highway Department or by municipalities to step up to the plate and do their part in addressing the TMDL problem. And I would say that most municipalities are sensitive to this and they've done a great deal, but it's going to take continued work, continued sensitivity by everybody to get it done.

And I think we can't just let the naysayers, say "you know, we're done enough, we can't do anymore".

I think another aspect of this that is very important to recognize is that we have flood events. And floods can be caused by rapid snow melt, they can be caused by tremendous rainfall events, but whatever it is, that flood event washes into the rivers a tremendous amount of soil, it contributes to the stream bank erosion, and so we have to construct practices that are adequate to prevent the horrific results from a flood contaminating the river when we say well we're living 364 days a year just right, it's one day when we have that flood. And if we look at the TMDL 364 days, we might take pride in it, but if that one day is horrible, that it completely eclipses what's happened the other 364 days, we still have a tragedy.

And in terms of what gets down to the Gulf of Mexico or what settles in Lake Pepin, we could be slipping backwards, because the flood event is offsetting what's otherwise happening.

So this is a complex series of testing and evaluative tasks that has to go into designing programs and practices that are adequate to make sure that the TMDL is not only being observed, but is not offset by a flood event.

AQ: Recently, speaking about those conservation methods, I attended a field day where they were, demonstrating these measures. They had the toe-wood sod matt going in the river from the DNR; They had the bioreactor system… Are

those the types of things you are talking about or are you talking about other things?

DM: Well there are a whole series of things that can be done, should be done, and the biochip reactor that I know has been implemented by some farmers is a wonderful new concept.

I think that in terms of the long-term benefit, you know, how long will one of those biochip investments continue to be effective, has to be tested over a considerable point of a period of time. We have various types of intake settings for tile lines that can substantially reduce silt and fertilizer getting into a drainage system. We have a sub-surface pattern tiling systems. There's a lot of research being done on how to install and calibrate the use of a subsurface or pattern tiling system to make that an improvement. To what extent are there circumstances where it may contribute to flooding? And I know some of the farmers downstream are saying, "Look, we're getting a flood event every year on our land. It didn't used to be that way." So they think that some of these practices have not been successful, and they would like to have even more study and they'd like to see some quicker action so that their farms do not have these dramatic losses year after year.

AQ: Is it a different concern – you talk about the Minnesota River Basin's divided pretty much like in three sections as far as the citizens' groups are - but when you get down to that southern basin, is it a different set of concerns?

DM: The Minnesota River is largely draining a type of agricultural land that has a great deal of common characteristics. Now some areas maybe there was more wetland and more swamps and so on that were filtering water before it ever ran off into the river system. We've drained those swamps and we don't have that filtering taking place. Some areas towards the Glacial Ridge there may be more sandy soil and so that has a different characteristic. You get down to Buffalo Ridge and there's as much vertical drop between the top of the Buffalo Ridge, let's say down by Benton, Marshall, as much drop from the top of the ridge to Marshall as maybe there is from Marshall to the Gulf of Mexico. So in Minnesota, we have some fairly substantial elevation changes for these waterways. And so whether it's the Cottonwood or the Redwood River, it may be a little different than the Chippewa River. The Chippewa River is starting up in Otter Tail County. The Cottonwood, Redwood Rivers started over towards Lion County and Yellow Medicine County.

AQ: Would you like to say something about Lori Nelson and the role of the Friends of the Minnesota Valley?

DM: Well, the Friends of the Minnesota Valley started off as a group of individuals that wanted to see a National Wildlife Refuge established here in the Twin Cities area because we knew that we had this MN river bottoms that was wild, it was scenic. It was largely owned by the state and federal government and why shouldn't it be preserved and protected? And so ultimately that was successful. And the refuge was established and the Friends group continued as a support or advocacy group for the refuge and then over the years it became equally concerned about the issues related to the Minnesota River and going on down stream past Bloomington and Burnsville and Shakopee and on down to Belle Plain and so on. And so I'm pleased to say that that Friends group has taken a continuing commitment to improving the Minnesota River. Lori Nelson has been the Executive Director here for several years. Prior to Lori Nelson, French was the Executive Director, and we've had a wonderful group of people on the board, and we've had generous support from the McKnight Foundation, earlier, the Bush Foundation and other groups for the work of the Friends of the Minnesota Valley. Similarly, CURE and Coalition for Clean Minnesota River, Scott Sparlin, Patrick Moore and others, have had a good board, membership, committed boards that want to see their effort successful, and they have been successful at fundraising as well.

AQ: Are you familiar with the community along the Minnesota, down in Henderson?

DM: The school there, yes.

AQ: Can you tell me what you know about them?

DM: Well there's been a charter school at Henderson. Henderson is a small community not far from LeSueur and it's on the Minnesota River. It's been there for decades. I think it's probably 160 years old. And that charter school had a bunch of very curious students and a capable teacher or two and they went out and they examined some of the water and they looked for wildlife and tadpoles in the water, and they found that some of the frogs had a third leg and that there was other deformities. And they began to wonder why is it that we're seeing these deformities in these frogs? And they developed a hypothesis that it might be the result of certain chemicals in the water and that this is an indication of very serious water contamination. And so they worked on that, and at first I think they were treated as just sort of dilatants, kids that didn't really have anything that was worth talking about. But over a period of time, some national organizations saw the results that these students had come up with, called attention to it, and ultimately, the Pollution Control Agency and others began to take it more seriously. And the result has been that the efforts at the country school or the

charter school at Henderson have attracted tremendous attention and hopefully will be part of identifying what's really a problem in the river and water quality.