S. HRG. 111–694

# FLOODING IN THE MERCER COUNTY AND EMMONS COUNTY AREAS OF NORTH DAKOTA

## HEARING

BEFORE A

SUBCOMMITTEE OF THE

COMMITTEE ON APPROPRIATIONS

UNITED STATES SENATE

ONE HUNDRED ELEVENTH CONGRESS

FIRST SESSION

**SPECIAL HEARING**

NOVEMBER 12, 2009—BISMARCK, ND

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# FLOODING IN THE MERCER COUNTY AND EMMONS COUNTY AREAS OF NORTH DAKOTA

**THURSDAY, NOVEMBER 12, 2009**

U.S. SENATE,
SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT,
COMMITTEE ON APPROPRIATIONS,
*Bismarck, ND.*

The subcommittee met at 10:02 a.m., at Bismarck State College, Energy Center Conference Room, 1500 Edwards Avenue, Bismarck, ND, Hon. Byron L. Dorgan (chairman) presiding.

Present: Senator Dorgan.

OPENING STATEMENT OF SENATOR BYRON L. DORGAN

Senator DORGAN. I'm going to call the hearing to order.

This is a hearing of the United States Senate Energy and Water Development Subcommittee, which I chair. I'm Byron Dorgan, and with me is Roger Cockrell, who is the professional staffer that works on water issues all across the country. He's working on dredging issues in Jacksonville, Florida, and flood-control projects in California. But, because I chair the subcommittee, he works mostly on North Dakota water projects.

Well, maybe not. But, at any rate, he's very helpful on a wide range of water issues, and we certainly have plenty of water issues in North Dakota.

To my left is Justin Schardin, who is a staff assistant with me, working on water and other issues.

What I would like to do today is to have two panels to deal with some water issues and flooding issues here in North Dakota.

The purpose of holding this hearing, similar to a hearing I held last evening in Bismarck, is to talk about some flooding events that occurred in our State and to talk about what we believe caused them, hear from you, and what we believe can be helpful in addressing them.

I want to mention as well, that Cathy Schneider is here from Senator Conrad's office, in the back of the room, Cathy, thank you for being here.

Ross Keys is also here, from Congressman Pomeroy's office, over on that side of the room and both Kent and Earl work closely on these issues with me.

As I said, I do have the privilege of chairing the panel in the United States Senate that funds all of our water and energy issues across the country. We certainly have plenty of water challenges this last spring in North Dakota. Most of you know that we have spent a lot of time in the Red River Valley with a major population

center of Fargo and Moorhead, working on flood control issues. First, fighting a flood that became, very nearly, a real disaster in which a substantial part of a major community would have had to have been evacuated. They fought that flood to a standstill, and it was a close call, but they got through it.

Now, we're working on a permanent flood-control project for that part of the Red River, and also working on broader Red River issues. But, as I have indicated to them, flood control is a bottom-up process. We are now waiting for the Fargo and the Moorhead and Cass and Clay County folks to come together and decide what kind of a project they think that they would want to have, using the technical capability of the Corps of Engineers to evaluate and score projects. Because, a project of the—a flood-control project that's going to have Federal participation is a project that has to meet three tests:

It has to be technically sound. That is, it has to be buildable. And, upon completion, it has to be operable by a non-Federal entity.

No. 2, it has to be environmentally sustainable. That means the project design must ensure that the environment of the impacted area is not degraded by the construction of the project, or, if it is, that damages are mitigated.

Three, the project has to be financially viable.

All of that determines whether there would be Federal participation. You have to meet a cost-benefit ratio of 1.0. Following all of that, the local selection and the judgment that this meets the test, that there's a Federal interest, then the Federal Government pays 65 percent of a project.

Now, following the flooding this spring, and the amount of time we spent in the Fargo-Moorhead area, in the Red River Valley, we also have initiated a reconnaissance study on the Sheyenne River system. We also initiated a reconnaissance study on the James River system. Both studies will try to determine what happened in those river systems. The flooding in Valley City which you know is chronic—but, not just Valley City; up and down the Sheyenne. Also the flooding on the James River was very significant.

The areas that we have not yet had information on at a hearing or a factfinding mechanism was, what happened in Bismarck? Why? What might be done to make sure—or try to find a way to make sure that doesn't happen again? What happened in Mercer County, and what happened in Emmons County, down in the Linton area? Up in Beulah, Hazen, Stanton, substantial flash flooding that was very, very significant, and flooding in Emmons County, in the Linton area, was very significant.

So, today what we wanted to do—this is a long introduction to saying—what I wanted to do is make sure we get on the record an evaluation with the Corps of Engineers, with Dale Frink representing the State Water Commission, with the local folks from Emmons County, and then the folks from Mercer County. What happened? What do we think caused it? What kinds of approaches might be desired by local government officials to try to evaluate what could be constructed or what devices might be implemented to reduce the chance of that happening again?

Everyone in this room who's been a part of this understands that there's no merit or value of any way in having to come through a flood fight. When a flood visits your area, it's an unbelievable, devastating occurrence, costs a lot of money, injures a lot of people and their property. I remember being in Lincoln one evening and seeing the pictures of the men who lost the cattle, unbelievable pictures. I mean, I still remember vividly the water that shoved cows up in the front of the car in a garage, laying back-side-up with feet in the air. You know, and that person lost a substantial amount of a cattle herd.

So, we're here to discuss all of this, again, in the context of Statewide officials at the State Water Commission and the Corps of Engineers.

The first discussion we will have today will be with the folks from Emmons County.

Emmons County today is represented by the Mayor of Linton, Tim Volk.

Tim, it's nice to see you again. Thank you for being here.

Glenn McCrory, the chairman of the Emmons County Water Resource Board, Glenn, thank you for being with us.

Sharon Jangula, the coordinator of the Linton Industrial Development Corporation.

And, Sharon, welcome to you.

I'm going to begin, first, by asking Colonel Ruch, from the Omaha Corps of Engineers, to speak. Then I will ask Dale Frink, State Water Commission, and then we will recognize Mayor Volk, Mr. McCrory, and Ms. Jangula.

Colonel, thank you for being with us and why don't you proceed.

**STATEMENT OF COLONEL ROBERT J. RUCH, DISTRICT COMMANDER, OMAHA DISTRICT, CORPS OF ENGINEERS—CIVIL, DEPARTMENT OF THE ARMY, DEPARTMENT OF DEFENSE—CIVIL**

Colonel RUCH. Chairman Dorgan, my name is Colonel Robert J. Ruch. I'm the Commander of the Omaha District for the U.S. Army Corps of Engineers. Thank you for the opportunity to testify today on the 2009 flooding in central and southeastern North Dakota.

I want to assure you that the emergency operations and disaster response are of the upmost importance to the Corps of Engineers. It was identified by the Chief of Engineers as our No. 1 campaign goal, and we stand ready to respond, in a moment's notice, to contingency operations worldwide, including natural disasters, as well as combat and stabilizing operations.

I'd like to give a brief rundown on the conditions leading to this year's flooding, how the Corps responded to requests for assistance, and a summary of post-flood coordination, which is still ongoing.

This year's flooding in North Dakota was the direct result of historic snow over the winter of 2008 and 2009. Many communities in the central part of the State, including the area around Bismarck, recorded more than 100 inches of snow. Rain melting, exasperated by spring rains, resulted in widespread flooding on the Missouri River, the Knife River, the Cannonball, and Beaver Creek, as well as many other streams and tributaries.

With forecasts for a high tributary runoff below Garrison Dam, the Missouri River Water Management Office in Omaha began close coordination with the State of North Dakota and the many

managers from water intakes, powerplants, and other interests along the river upstream from Bismarck.

A substantial ice jam in the Missouri River, south of Bismarck, on March 23, 2009, prompted requests for Corps technical assistance. We deployed ice jam experts from both the Omaha District and the Cold Regions Research and Engineering Laboratory in Hanover, New Hampshire, to advise North Dakota emergency management officers on blasting the jam and other measures to relieve flooding.

Concurrently, another significant jam formed upstream from Bismarck, raising concerns that this jam could break free and move downstream to join the other one. To alleviate the threat, the Corps collaborated with the State to make the unprecedented decision to cut all releases from the Garrison Dam while the downstream jam was blasted and allowed to break up.

One hundred miles east of Bismarck, rapid snowmelt, exasperated by spring rains, resulted in projected runoffs in the James River in excess of the 1997 record pool elevation of both the Pipestem and Jamestown reservoirs.

As engineers from the Corps, Bureau of Reclamation and the National Weather Service analyzed melt and runoff scenarios, the forecast predicted that both dams would see elevations which would overtop the spillway crests, resulting in unregulated releases downstream and the potential for significant flooding.

Through early coordination with the State, the city of Jamestown, and other communities, North Dakota officially requested assistance from the Corps in early March. In response, we constructed advance measures in Jamestown, LaMoure, and Ludden. These measures consisted of temporary levees and flood walls, interior drainage pumps, and 24-hour surveillance and monitoring of both dams.

The event lasted 133 days. Overall, Omaha District committed 177 personnel and expended $7.7 million in emergency funding, $2.4 million in FEMA debris funding, constructed 4.5 miles of temporary levees and flood walls in Jamestown and 4,600 feet of temporary structures in LaMoure. Homes and businesses in Jamestown and LaMoure were not flooded.

As the reservoirs dropped and the James River receded, personnel from our Garrison and Oahe projects were instrumental in opening the lines of communications regarding Corps authorities and programs, which could address flood risks on a long-term basis. The Corps has an array of authorities and programs that may assist local communities with addressing flood risks. As a result of this year's flooding, the Omaha District has received numerous requests from communities in North Dakota: Jamestown, Stutsman County, Emmons County, and Mercer County. We have initiated coordination meetings with these communities and have already conducted site visits to a few with more scheduled in the weeks to come.

Also, the State of North Dakota, FEMA, and the Corps have been developing a charter to establish a Silver Jackets Program for the State. The Silver Jackets Program will establish a coordinating committee to help maintain communications and serve as a clearinghouse for prioritizing activities among the various agencies.

I want to commend the State for taking this initiative. I believe that the visibility that comes with Silver Jackets designation will position the various projects within the State to better compete for limited State and Federal resources.

The Energy and Water Developmental Appropriations Act of 2010 includes $150,000 for the upper James River, as you discussed. We will soon begin coordination with State and local officials to decide how best to proceed on this study.

Also in the James River, the Corps allocated $127,000 from the American Recovery and Reinvestment Act funding, which has been used to develop a new hydrologic forecasting model for the James, upstream from the Jamestown and Pipestem dams and downstream from LaMoure.

The Dam Safety Program has received funding for detailed topographic mapping of the shorelines of the two reservoirs and along the entire James River flood plain, from the dams downstream to the North Dakota/South Dakota State line. New mapping is scheduled for acquisition this fall, with final delivery of the maps in June 2010.

In addition, we continue to work with the North Dakota Task Force on Missouri River Initiatives. Under that authority, we completed an assessment report this past June to help identify sedimentation issues and concerns along the Missouri River. We're currently working with the Task Force Development Plan for moving forward with these projects.

Finally, on October 1, 2009, we initiated a new study to reexamine the original authorized purposes of the Flood Control Act of 1944, also known as the Pick-Sloan Plan. The study was authorized by section 108 of the Omnibus Appropriations Act of 2009 and anticipated to cost of $25 million to complete. The overall purpose of this study is to "review the original project purposes based on the Flood Control Act of 1944, to determine if changes to the authorized project purposes and existing Federal water resource infrastructure may be warranted."

PREPARED STATEMENT

We are currently developing a project management plan and are in the midst of collecting preliminary stakeholder and public input on the engagement strategy in order to develop a comprehensive public involvement plan. Formal scoping of the project is scheduled to commence in April 2010. This study will be a major Corps undertaking, co-led by Omaha and Kansas City Districts, and we plan to work with State, local, tribal, and public interests throughout its duration.

Chairman Dorgan, I appreciate the opportunity to be here today, and I look forward to any questions than we can answer today.

Thank you.

[The statement follows:]

PREPARED STATEMENT OF COLONEL ROBERT J. RUCH

Chairman Dorgan, my name is Colonel Robert J. Ruch, Commander of the Omaha District, U.S. Army Corps of Engineers. Thank you for the opportunity to testify today on the 2009 flooding in central and southeastern North Dakota.

I want to assure you that emergency operations and disaster response are of upmost importance to the Corps of Engineers. It was identified by the Chief of Engi-

neers as our No. 1 Campaign Goal, and we stand ready to respond on a moments notice to contingency operations worldwide in support of natural disasters as well as combat and stabilizing operations.

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This year's flooding in North Dakota was a direct result of historic snow over the winter of 2008–2009. Many communities in the central part of the State, including Bismarck, recorded more than 100 inches of snow.

Rapid melting, exacerbated by spring rains, resulted in widespread flooding on the Missouri River, the Knife River, Cannonball River, and Beaver Creek as well as many other streams and tributaries. With forecasts for high tributary runoff below Garrison Dam, the Missouri River Water Management Office in Omaha began close coordination with the State of North Dakota and managers of water supply intakes, power plants, and other interests along the river upstream from Bismarck.

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A hundred miles east of Bismarck, rapid snow melt, exacerbated by spring rains, resulted in projected runoff in the James River in excess of the 1997 record pool elevations of both Pipestem and Jamestown Reservoirs. As engineers from the Corps, Bureau of Reclamation, and National Weather Service analyzed melt and runoff scenarios, the forecasts predicted that both dams could see elevations, which would overtop their spillway crests resulting in unregulated releases downstream and the potential for significant flooding.

Through early coordination with the State, city of Jamestown, and other communities, North Dakota officially requested assistance from the Corps in early March. In response, we constructed Advanced Measures in Jamestown, LaMoure, and Ludden. These measures consisted of temporary levees and floodwalls, interior drainage pumps, and 24-hour surveillance and monitoring on both dams.

Forecasts for combined releases from both reservoirs were projected to exceed 4,000 cubic feet per second (cfs), more than double the record of 1,800 cfs set during the 1997 event. Releases were gradually increased up to a maximum of 3,200 cfs in late April. They were held steady at that level due to serious infiltration problems with the city's sewer system at higher levels.

Releases remained at the 3,200 cfs level for approximately a month and then were gradually reduced back to normal levels. After the flood threat had passed and the reservoirs were sufficiently drawn back to more normal levels, all the temporary measures were removed. Reservoir storage evacuation was completed by late August.

The event lasted 133 days. Overall, Omaha District committed 177 personnel and expended $7.7 million in emergency funding, $2.4 million in FEMA debris funding, constructed 4.5 miles of temporary levees and floodwalls in Jamestown and 4,600 feet of temporary structures in LaMoure. We deployed more than 1.35 million sandbags, 10 pumps, and 232 rolls of plastic sheeting, as well as 14,000 feet of Hesco Bastions, 3,300 feet of Rapid Deployable Floodwall, and 1,250 linear feet of Portadam products. These efforts prevented an estimated $70 million in damages.

Homes and business in Jamestown and LaMoure were not flooded.

As the reservoirs dropped and the James River receded, personnel from our Garrison and Oahe projects were instrumental in opening the lines of communications regarding Corps authorities and programs, which could address flood risks on a long-term basis. The Corps has an array of authorities and programs that may assist local communities with addressing flood risks. As a result of this year's flooding, the Omaha District has received numerous requests from communities in North Dakota (Jamestown, Stutsman County, Emmons County and Mercer County). We have initiated coordination meetings with these communities and have already conducted site visits to a few with more scheduled in the weeks to come.

Also the State of North Dakota, FEMA, and the Corps have been developing a charter to establish a Silver Jackets Program for the State. The Silver Jackets Program will establish a coordinating committee to help maintain communications and serve as a clearinghouse for prioritizing activities among the various agencies. I

want to commend the State for taking this initiative. I believe that the visibility that comes with Silver Jackets designation will position the various projects within the State to better compete for limited State and Federal resources.

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Also on the James River, the Corps allocated $127,000 from the American Recovery and Reinvestment Act funding, which has been used to develop a new hydrologic forecasting model for the James River upstream from the Jamestown and Pipestem Dams and downstream to LaMoure.

The dam safety program has received funding for detailed topographic mapping of the shorelines of the two reservoirs and along the entire James River floodplain from the dams downstream to the North Dakota-South Dakota State line. The new mapping is scheduled for acquisition this fall with final delivery of the maps in June 2010.

In addition, we continue to work with the North Dakota Task Force on Missouri River Restoration initiatives. Under that authority we completed an Assessment Report this past June to help identify sedimentation issues and concerns along the Missouri River. We are currently working with the Task Force to develop a plan for moving forward with projects.

Finally, on October 1, 2009 we initiated a new study to re-examine the original authorized purposes (Missouri River) of the Flood Control Act of 1944 also known as the Pick-Sloan Plan. The study was authorized by section 108 of the Omnibus Appropriations Act of 2009 and is anticipated to cost $25 million to complete. The overall purpose of the study is to "review the original project purposes based on the Flood Control Act of 1944 . . . to determine if changes to the authorized project purposes and existing Federal water resource infrastructure may be warranted." We are currently developing a Project Management Plan, and are in the midst of collecting preliminary stakeholder and public input on engagement strategies in order to develop a comprehensive public involvement plan. Formal scoping of the project is scheduled to commence in April 2010. This study will be a major Corps undertaking, co-led by Omaha and Kansas City Districts, and we plan to work with State, local, tribal, and public interests throughout its duration.

Chairman Dorgan, I appreciate the opportunity to be here today and I will be happy to answer any questions you may have.

Senator DORGAN. Colonel Ruch, thank you very much.

You have given an overview of flooding, and you indicate you have initiated coordination meetings with a number of communities, including communities in Emmons County and Mercer Counties, so I want to ask questions about that. We'll ask you stay here, as we will Mr. Frink, while we have the other community up, as well, because I want to be asking questions of you.

Let me also say that the section 108—the authorized purposes—that's my legislation that I got passed and I'm going to fund it. That study, I hope, is going to change the way we manage the Missouri River—to have a modern management capability that reflects the realities of the river, rather than the 1940 projections of the river.

Let me call on Dale Frink, the State engineer who represents the State Water Commission.

Mr. Frink.

**STATEMENT OF DALE L. FRINK, STATE ENGINEER, NORTH DAKOTA WATER COMMISSION**

Mr. FRINK. Thank you, Chairman Dorgan. And thank you for the opportunity to discuss issues.

I'm going to start with Emmons County. And, you know, last spring's flooding event wreaked havoc in almost every corner of the State. And Emmons County, and particularly the city of Linton, was one of the most severe areas hit by flooding in the State. In fact, Linton, last year, in 2009, had houses that had been built in

the early 1900s, that had never been flooded, and they were just about demolished this year.

Since the flood, the State of North Dakota has been very involved in Emmons County. The Water Commission and the Emmons County Water Resource District have a study underway to look at the overall flooding issue and to evaluate possible alternative solutions.

Working on flooding issues in a rural area is very different than working on issues in large cities like Fargo and Grand Forks. Federal projects require positive risk-benefit cost ratio, and this is often problematic in a rural setting. Relocating homes and structures out of the flood plain is often the best solution, but there are even issues with this in small cities.

Real estate values are lower in small towns, and often these values are considerably lower than the replacement value of a home. For example, an older home may have a market value of $50,000, but it may have a replacement value—to replace it, it might be over $100,000. And this is especially a concern with somebody on a fixed income. And so, even if you give them the full market value, they still are way short of actually coming up with a new house.

Also, special assessments are a concern. And who pays these special assessments, if they exist, once a house is moved?

The Corps of Engineers and State Water Commission are evaluating several structural measures. Basement storage is being evaluated for both cost and feasibility.

Spring Creek and Beaver Creek also have considerable obstructions in the channel that need to be removed. Sand Creek broke out of its bank and caused severe erosion, which needs a solution.

We are working, at the U.S. Geological Survey and the National Weather Service, on improving flood forecasting on Beaver Creek.

While we had a very large snowpack in 2009, we did not expect the severe flooding that occurred. I believe that during a large flood year, it's easy for agencies to concentrate on large cities and overlook some of the smaller cities. The State Water Commission is working with the U.S. Geological Survey to install two new stream gauges in the Beaver Creek watershed that can be used by the National Weather Service to more accurately forecast flooding and to provide an early warning to the residents.

And last—and I think Colonel Ruch talked about this, and I'd like to talk a little bit about the new Silver Jackets Program. This afternoon, the State Water Commission will be asked to partially fund a new temporary position for this program. We have also asked the State Division of Emergency Services and the FEMA to help fund this program.

The basic concept of Silver Jackets is to bring Federal, State, and local entities together to improve communications for managing natural disasters and work on implementation of the solutions.

The two main Federal agencies are the Corps and FEMA. But, other Federal agencies, like the USGS, the National Weather Service, and the National Resources Conservation Service, can become part of the process.

The two main State agencies will be the State Water Commission and the Division of Emergency Services. And I might add that the Division of Emergency Services is a Division of the National Guard.

So, we've got the tie there. But, we also can bring in other State agencies, like the department of transportation.

PREPARED STATEMENT

The purpose of the new position is to provide a single point of contact for communities that are looking for help in a flood-related problem. Once we receive a request from the community, we will try and form a team of agencies that can best move the project forward.

So, thank you, for holding this hearing. I look forward to working with you on these important issues.

[The statement follows:]

PREPARED STATEMENT OF DALE L. FRINK

Chairman Dorgan, thank you for the opportunity to discuss flooding issues in Mercer County. Last spring's flooding events wreaked havoc in almost every corner of the State. The Knife River watershed was one of the most severe areas hit by flooding.

The Corps of Engineers is taking the lead in Mercer County and they are in the process of initiating a watershed study with the State Water Commission being actively involved throughout the process. Any alternative that moves forward will require non-Federal dollars and the State Water Commission can consider these requests.

The State Water Commission can also work with local sponsors on alternatives that do not meet Federal requirements. Upstream storage is an example of a project that seems to have difficulty meeting Federal feasibility requirements in a rural setting. Relocating structures out of the floodplain and should be evaluated.

As was the situation with Emmons County, there is room for improvement regarding flood forecasting in the rural areas. While we had a significant snowpack in the Knife River basin, we certainly were not expecting the severity of flooding that actually occurred. Stream gages are operated by the U.S. Geological Survey and the State Water Commission will work with the USGS and the National Weather Service to evaluate the need for more gages to improve flood forecasting.

Last, I would like to mention a new program that is being set up called the Silver Jackets. This afternoon, the State Water Commission will be asked to partially fund a new temporary position for this program. We have also asked the State Division of Emergency Services and FEMA to help fund this program. The basic concept behind the Silver Jackets program is to bring Federal, State, and local entities together to improve communications for managing natural disasters and to work on implementation of solutions. The two main Federal agencies are the Corps of Engineers and FEMA, but other Federal agencies like the U.S. Geological Survey, the National Weather Service, and the Natural Resources Conservation Service can become part of the process. The two main State agencies will be the State Water Commission and the Division of Emergency Services but we can call on other State agencies for assistance. The purpose of the new position is to provide a single point of contact for those communities that are looking for help with their flood-related problems. Once we receive a request for assistance, we will form a team of agencies that can best move a project forward.

In closing, thank you for holding this hearing. I look forward to working with you on these important issues.

Senator DORGAN. Mr. Frink, thank you very much.

Next, we will hear from the Mayor of Linton, Tim Volk.

Mr. Volk.

Can I mention to you, Mayor, that I mentioned the vivid imagery of dead cattle, but I also saw the imagery of homes that were destroyed, and that there as a significant part of your community in whose property was ravaged. So, that's also a part of my memory.

**STATEMENT OF HON. TIM VOLK, MAYOR, CITY OF LINTON, NORTH DAKOTA**

Mr. VOLK. Well, thank you, Senator Dorgan.

It's true, it started—say, in February, we started getting some rain, which is unusually un-normal, and then the snow pack, and, as it started melting from—the day that flooding occurred, on that Sunday morning, we were in church, and she started hailing and raining and everything. It was unpredictable how fast the water came up and like Dale is expressing for us to have some way of finding out when the water's going to rise in Beaver Creek could help, but it came up at an alarming rate.

And I have some statistics from route I'll share. And Glenn, here, has some other stuff for the county and the people in town.

You know, looking back at pictures, from back in the 1950s, where Linton had some flooding, it's not even close to what happened this time, so.

Senator DORGAN. All right. Well, I'll have some questions, Mr. Mayor.

Mr. VOLK. Okay.

Senator DORGAN. And if we hear from Glenn and Sharon——

Mr. VOLK. Okay.

Senator DORGAN [continuing]. We'll ask some questions.

**STATEMENT OF GLENN McCRORY, CHAIRMAN, EMMONS COUNTY WATER RESOURCE BOARD**

Mr. MCCRORY. Thank you, Senator, for holding the hearing.

I've said—I'm beginning to feel a little bit like the Red River, because, you know, we've been asking you to help us get water throughout Emmons Country for the drinking water, and now we're asking you for flood help. So, we're kind of like, in this order, the Red River Valley, in some ways.

But, I just wanted to—a few things I wanted to comment on. There's about 665 square miles of drainage area east of Linton. There's 700-and-some total in the Beaver Creek area. But, east of Linton, there are about 665. I've seen different figures on that, but it's in that range.

Now, I called the USGS recently to find out what they thought actually the discharge was through Linton. And they've been working on this. They get their initial readouts, but then they have formulas they've got to go through and stuff. Anyway, the guy told me that they figure there was 20,000 cfs going through there at high tide.

Now, I want you to think about something. In Monday's paper and Tuesday's paper, I looked at the releases from the Garrison Dam. They were at 12,500 cfs. So, if you look—could go—if it wasn't so foggy out, you'd go over to the top of the hill, here, and look at the what's water, going by Bismarck, here. Of course, I know there's some water coming in off the tributaries to the north yet. But, basically, we were at one and a half times what's going down the Missouri River right now, at the high flow, going through there, if those figures are all right. So, that's quite a shock. Of course, it only—you know, this comes in every day, every day, but that will only last for 2 or 3 days, and then it starts to drop off.

Now, the channel capacity, according to some of the old records I've read, is about 2,500 cfs. So, once it started flooding, we went up to 20,000. So, that's just a tremendous amount of water to try to deal with, you know.

Spring Creek is about 1,250 cfs before it comes out of its banks.

So, anyway, I want to thank the State Water Commission, for coming in on this hydrologic study. Hopefully, we're going to get some answers to it. We're fighting Mother Nature there, and it's just a tough deal, because, if you look at the flood plain there—on the south side of Linton, you go can go right up the big hills, so that—the flood plain itself is in Old Town. And trying to get the top off of some of that water so that doesn't get flooded so bad down there is a real challenge. There's been studies done in the past that—the 1967 study that the Corps of Engineers did, I think they had that pegged at 22,000 csf—would have been the banks, and whatever, that they proposed. And so, we'd have been awful close to the top of that—right?

Now, there's one other question that I want people to think about. When it started flooding there in Linton, Sunday and Monday, and then it cooled off and they got a second shot in there. My dad used to call it "Chinook winds." If we'd have had a Chinook wind in there, all that snow that was laying up in those upper regions would have kept on a coming, I wonder how high it could have gotten. So, it's really something, to think about.

And so, those are the main points.

USGS moved their stream-gauge station, in 1989, from just south of Linton, on 83, to west of Linton, by the Golf Course Road. So, we're kind of comparing apples to oranges, because where it's at now takes in most of Spring Creek and Beaver Creek. Where it was before, it was just Beaver Creek flows.

So, the 1952, which we had considered the flood of record before this, they had pegged at 9,800 cfs, without Spring Creek in there. Well, here we're at 20—if that figure of 20,000 is a solid number, we're at almost double.

And so, anyway, at least now, if we get a couple more upstream from it, it should help us figure out just what happened, where it came from and how it went.

So, that's about all I have to say now. I'd be happy to answer any questions.

Again, I want to thank you.

Senator DORGAN. Mr. McCrory, thank you very much.

Finally, we'll hear from Sharon Jangula.

Sharon.

**STATEMENT OF SHARON JANGULA, COORDINATOR, LINTON INDUSTRIAL DEVELOPMENT CORPORATION**

Ms. JANGULA. Good morning, Senator Dorgan.

During the morning hours of Sunday, March 22, as many of us were attending church services or relaxing in our homes, we could hear the thunder, rain, and hail outside. We were unaware of the battle we were about to encounter with Mother Nature and the resulting devastation which would forever change the lives of many. Within hours, we were fighting the worst flood of recorded history.

Spring Creek overflowed its banks to the north of Linton, and Beaver Creek overflowed its banks to the east and south of the city. These two creeks merge on the west side of Linton. As it is the original part of town, it is commonly referred to as Old Town. By Sunday afternoon, people were being advised to evacuate Old

Town. By Sunday evening, U.S. Highway 83 was closed, as it was inundated with water on the north and the south sides of the city. Beaver Creek rose 13 feet in 2 days; 8 feet on Sunday and 5 feet on Monday. There was virtually no advance warning and we simply did not have time to prepare for such floodwaters.

Beaver Creek crested at 18.83 feet, which is 3½ feet higher than the previous recorded reading, and 9 feet above flood stage.

At the previous record of 15.34 feet, Sampson Avenue will flood and homes on the south side of Sampson Avenue will receive some flooding in their basement, mostly from water seepage. We prepared—we were prepared for this type of floods, but not the magnitude of floodwaters that we received. Most every street and avenue in Old Town flooded.

In the Linton area, approximately 100 homes were evacuated; 98 homes received damage. And this represents about 15 percent of all our homes in the area.

There was also a tremendous amount of overland flooding in Emmons County. Approximately 700 miles of roads, 20 bridges, and 1,000 culverts were damaged. There were 300 miles of fence washed away, and over 200 head of livestock killed.

Flood recovery has been a daunting and sometimes overwhelming task. In May 2009, with the assistance of the North Dakota State Flood Recovery Office, the local leadership formed the Linton-Emmons County Flood Recovery Task Force. Our task force has representation from Emmons County Water Resource Board, Emmons County Commission, Linton City Council, North Dakota State Flood Recovery Office, North Dakota Division of Emergency Services, North Dakota State Water Commission, FEMA public assistance, FEMA individual assistance, and FEMA mitigation.

Through June and July, we held weekly task force meetings and biweekly meetings through the months of August through October. Our meetings have been attended by representatives of our congressional delegation as well as other State and Federal entities.

The task force has played a major role in our flood recovery. Through their efforts, we will now have gauges in place to better forecast the amount of water which will flow through the Linton area. This should provide us ample time to build the emergency dike that we have planned for. They have supported us in our mitigation efforts and in our planning for the future. However, we have a very long way to go.

The face of our community has been forever changed by the flood of 2009. Some of our families have chosen to move away from the Linton area; other families are still faced with the heart-wrenching decision of whether or not they should leave their homes and relocate to an area where they should be safe from floodwaters. Five homes have been demolished, and four more are scheduled to be demolished shortly. Approximately 12 homes are substantially damaged and will not be repaired. The local leadership is challenged with the housing shortage that has been created by the flood and the potential buyouts of homes eligible for the acquisition program.

How do we protect or minimize the risk of damage to the remaining 15 to 20 percent of our homes and businesses still in the flood plain? Is a permanent dike the answer? Is it feasible? Can we af-

ford to relocate up to 15 percent of our homes into a new development? We need to research the options of potential funding sources available to us, and this is where we ask your assistance and your help.

Thank you so much for your time and allowing me to testify before you today.

Senator DORGAN. Ms. Jangula, thank you very much for being here.

I have a number of questions. First of all, my understanding is that discussions are underway to put in two additional stream gauges upstream on Beaver Creek. I wonder: what the status of that work is. Will that be helpful, and, if so, how much assistance will these gauges provide in predicting future flooding? Can someone respond to that?

VOICE. It's going to happen—Gregg Wiche, with the U.S. Geological Survey, is in the room.

Gregg, it's going to happen, right?

**STATEMENT OF GREGG WICHE, DIRECTOR, NORTH DAKOTA WATER SCIENCE CENTER, U.S. GEOLOGICAL SURVEY, DEPARTMENT OF THE INTERIOR**

Mr. WICHE. Yes. The gauges have been sited, and they'll be installed, and so they'll be in place and operational next spring.

Senator DORGAN. Is it your assessment that the placing of these additional gauges will be measurably helpful to predict flooding?

Mr. WICHE. Yes. I mean, we looked for good sites for measuring, as well as talked to the river forecast center, to try and get enough of the basin to be of help, so we're working with National Weather Service forecasters.

Senator DORGAN. All right. Let me ask a general question first.

Thank you very much.

You know, I am used to news reports, particularly in the Washington, DC, area, of flash flooding in West Virginia in the hill country, where you have a massive rainfall in a short period, and the creeks rise, and there's flash flooding. Some of it can be very, very significant. But, flash flooding in North Dakota, the kind of flooding you're describing, is where you are sitting in church, with no inkling at all of potential flooding, and you hear rainfall and hail, and all of a sudden water gushes through your town.

So, maybe, Dale Frink, you could describe to me—they're describing a circumstance with no warning. I mean tell me, how? I mean, that just seems strange to me that there wasn't some notion, someplace, that something bad was going to happen.

Mr. FRINK. Well, Mr. Chairman, you know, the forecasting is done by the National Weather Service through their River Forecasting Center. But, flash flooding in North Dakota is uncommon, but it does occur. The Little Missouri, for example, is probably the flashiest river that we have. But, what happened here is that the rain occurred on frozen ground, and that's really what caused the flash flooding.

Senator DORGAN. Was there a quick warming? The Bismarck discussion last evening was about a massive snowfall and then rapid warming. I mean, is that what filled Beaver and so on?

Mr. FRINK. Well, when it rains, the rain is above freezing, and so, that melts a lot of snow. So, you not only pick up the rain that

falls, but you melt a lot of the snowpack at the same time. And then it's all on frozen ground, so all of it runs off. And you don't have a lot of wetlands in that particular area, so you get a very, very quick release of that water. And that's what happened. And it's just not fortunate. But, it does happen—not frequently, but it does happen in North Dakota.

Senator DORGAN. Now, you have a Flood Recovery Task Force, which I know is describing a series of things for recovery. Often it takes a long time for families whose homes have been devastated, to recover from this; and so, too, a small community. Is there, in this same task force, a notion of what kind of protection might be needed, and what kind of additional protection might be available that you are working with the State or the Corps of Engineers? Can someone describe that? What is the search, or what mechanism is used to search, for additional protection devices, in the event that this would threaten to happen again?

Colonel RUCH. I could speak a little bit to the past studies, just to shed some light on what has been done in the past, and then where we are right now.

Senator DORGAN. And someone just mentioned a hydrologic study. Who's doing the hydrologic study?

[Mr. Frink raised his hand responding to the Senator's question.]

Senator DORGAN. You are. Okay.

Colonel RUCH. Okay. There was Beaver and Spring Creeks, in Linton, a section 205 project. The project report was completed in 1967. In that report, we came out with a recommendation for a levee and a cutoff project, with a BC ratio of 1.03. That project was approved in September 1967, but there were problems—the sponsor had problems with the acquisitions of real estate that was actually required to build that project. And the funding ended up being revoked in 1971. There was a follow-on section 205 study in January 1985, where we did not come up with feasible alternatives.

Senator DORGAN. Why would there not have been the same feasible alternatives in 1985 that there were in 1967?

Colonel RUCH. Without having read it, I will tell you that it may have been because we knew that there were land acquisition problems so it was not a buildable project, as you alluded to——

Senator DORGAN. I see.

Colonel RUCH [continuing]. In the beginning.

Senator DORGAN. All right.

Colonel RUCH. Omaha District staff met with State and local officials in the city of Linton on October 15, 2009, visited the affected areas, and had some discussions. The recommendation was section 22. Section 22 is a 50–50 cost-share planning assistance for States. That would be the best way to move forward.

Many of the structures flooded have been condemned and removed from the flood plain already. The city is working with FEMA on possible grants for relocation assessments. Section 22, the outcome of that would be updating flood plain mapping and risks, and developing a flood hazard mitigation plan for the community. The district's working right now on a section 22 cost-share agreement and seeking funding to initiate that study. And funding would probably not be an issue. Section 22 is pretty easy to get to.

Senator DORGAN. But, there needs to be a local sponsor for that. Is that correct?

Colonel RUCH. Yes, Senator. And I believe we have a willing sponsor.

Senator DORGAN. All right.

Mr. McCrory.

Mr. MCCRORY. Yes, Senator. The Local Water Resource Board put in a request to the Corps of Engineers for a study. And so, we would be the local sponsor, between us and the city. And so, when we get this proposal from them, in this section 22, we'll see how that goes. But, it's coming through the State Water Commission, and their cooperation—instead of them coming in and doing a another whole study, the State Water Commission is doing this detailed hydrologic study. So, if they dovetail things together, they should be able to—you know if there are answers. You know.

Senator DORGAN. Yes. I guess one of the questions with respect to this flooding, in Emmons County—and perhaps the Colonel and Dale Frink have a notion, and the mayor, as well—was this sort of a one-time, freakish flooding event that is very unlikely to happen again? It's the first time it's happened at this level in Linton, for example. Or, is this something that you have a responsibility, not only to recover from, but also to try to figure out, what are the additional measures of protection that might be available to us, and what would they cost, relative to the protection they would provide? I mean, how do you see that?

Mayor, is this just something that was so unlikely to have happened, and it's very unlikely to happen again? Or, as mayor, do you and the folks from Linton say, "You know what? It happened. If it happened, it can happen again. And we need to search for mechanisms by which we can better protect ourselves".

Mr. VOLK. Like you said here, hopefully it'll never happen again. But nobody can predict nature, what could happen. And I could foresee it—it's happened since 1985—I've lived in Linton since 1985. It's three times we've been flooded.

Senator DORGAN. Right.

Mr. VOLK. A couple of streets have been underwater. But, this has been the worst that we've followed so far, so.

Senator DORGAN. So, regarding the section 22 study, is that a study that is designed to lead to a conclusion of saying, "Here are devices or protection approaches that might be used to give that region better protection?"

Colonel RUCH. Mr. Frink may comment on this afterwards, on the studies they're doing—but, as I understand the desired outcome of the section 22, it's to update flood plain mapping, risks, and developing a flood hazard mitigation plan for community. So I think the answer really is "no" to your question there. It's not looking at structure. It could lead to some other—I wouldn't say "studies," but it could lead us to some other thoughts.

Obviously, when you have a flood of this proportion, it changes things. The river is not what the river was before the flooding. And I think that's what Mr. Frink's study is getting at.

Senator DORGAN. So, Mr. Frink, is there something underway—and if section 22 is not it, should there be something underway—that evaluates whether there are structures? The reason I ask the

question is, from Colonel Ruch's answer, it sounds to me like, 42 years ago, the Corps did a study and identified certain structures that would be helpful to protect against flooding, and the structures had a better than 1.0 cost-benefit ratio, but did not get built, because they couldn't acquire the land.

So, if that was the case back then, the question in my mind is, is there a desire among local folks to evaluate that again? And how would that evaluation be done by the Corps or whomever?

Mr. Frink, do you want to take a crack at that?

Mr. FRINK. Well, first of all, I wouldn't mind the Corps taking a look at some of the structures, both in terms of dams and dikes, just to make sure that there is not a Federal project that we are looking at—we're looking at some of the storage upstream. We're looking at some dikes. But, we're also looking at flood plain management, or moving some of the structures and relocating.

As I indicated, there are some issues with that. And we may have to do some things differently than we've done. But if you can't get a structural solution that is feasible, then I think the best thing is to look at some relocations. And I know there are some issues with that, but I think that is a solution that we really need to look closely at.

But, I would like the Corps to take another look at some of the solutions, the structural solutions, if it is at all possible.

Senator DORGAN. I'm just trying to understand, under what circumstances would that exist? Section 205, perhaps?

Colonel RUCH. Absolutely. Section 205 lets us construct flood damage, or reduction projects to a limit of $7 million. I guess the first $100,000 is fully Federal. But, once again, that's under section 205, and I think we'll get to that in the next hearing. Whether we're under a current "no new starts"——

Senator DORGAN. Right.

Colonel RUCH [continuing]. Right now it could impact our decision on where we go.

Senator DORGAN. All right, and the folks from Linton, your assessment of this question—Mr. Frink has talked about flood plain management and moving properties, et cetera, which is perfectly understandable; those are always very controversial. The other question is, is there going to be a desire or a priority with the folks from Linton to try to engage the Corps, if it's able to be done, to look at structures?

Ms. JANGULA. I think when we initially started our planning for the future, we were leaning toward structures and how we can actually protect and minimize the risk to the homes that remain there. Throughout the course of planning and the meetings we've been holding, I think there has been discussion that structures may not be feasible, and we may not meet that benefit-cost ratio.

And so, then discussion also then led to relocations. And, of course, when we're looking at the number of homes that need to be relocated, we certainly don't have the infrastructure in place for that type of relocation. And that, too, would cost enormous amounts of money, and we don't know if it's feasible for an undertaking of that kind.

Old Town, as we refer to it, is actually a very lovely part of town. The people that live there enjoy living there. So, I think, initially,

our first preference would be to somehow protect it, if it was feasible. And our second course of action would have been the relocations.

And I think Mr. Frink had touched on this earlier. With some of the homes and the ages that they are, of course, these homes are paid for, and people are living on fixed incomes, in some instances. To replace them is going to be substantially more than where they are at right now.

Senator DORGAN. I think that's a point that you raised earlier in the testimony that's important to understand. In smaller communities, very often the current value of a home is substantially less than the replacement cost. In some cases, it is even very difficult to get financing to build something that, when completed, is going to be worth much less when it's done. So, that's something that we should remember, because that has an impact on moving structures, and so on.

Can you, finally, tell me, Colonel and others, about the Silver Jackets Program. Tell me how that works, and its value, if you would, because, Dale, you mentioned it, and I think the Colonel has, as well.

Mr. FRINK. The Silver Jackets Program, from my understanding, is a program that the Corps of Engineers has actually taken the lead on nationally, so it's a national program. In North Dakota, we're thinking about expanding the general concept of it a little more.

Nationally, they were looking at more of an emergency type of thing, but we would like to expand it, and that's why we're going to hire a temporary full-time employee that can work more directly with the communities, provide a point of contact.

And I know that communities, like General Robinson, and so forth—this is kind of going to replace that particular concept with the Water Commission, and then the Division of Emergency Services, on the State side, kind of taking the leads on that.

So, you know that General Robinson and that group was hired on a temporary basis, just for the short-term flood, but, this is going to be a little longer. It's going to be under the State Water Commission as the primary lead for that employee.

But, it's a concept just to provide a broader array of assistance to the communities. You know, we can bring in Federal agencies, we can bring in other State agencies, and then we can work with the locals and try to develop something that is going to work.

Senator DORGAN. All right, Colonel.

Colonel RUCH. Well described.

I guess the bottom line is, it's collaboration, and it's a way to get at collaboration. The worst thing you can have is a disaster of some sort, and people coming together for the first time to figure out what to do. So, I think all the times, the value of these programs is the forethought that—might not be the actual solution to come out of it; it's the work that goes into getting to those solutions and building the relationships you need when you come to a crisis.

Senator DORGAN. All right.

Mr. McCrory said that there's an irony, in the sense that when they come to Linton—or, to Emmons County, in that region, it is often to talk about moving water to the region through the rural

water program. And that is true. We're working to have broader distribution of the rural water program. It is sort of interesting that we talk about a region that, on this occasion, had way too much water, in a hurry; on other occasions, really needs good-quality water moved around by the rural water system.

I mentioned, last evening, that the dilemma is much more acute with respect to the Red River, because, as you know, there has been a lot of work to try to determine how you move water from the Missouri River to the Red River to make sure that the Red River has an assured supply of water for the future. The Red River has actually run dry, were it to do so again, it would have significant economic consequences up and down the river.

I have explained to the folks in the region that I understand that the people of Fargo and Moorhead, given what they faced this spring, believe that its most significant priority at the moment is flood control. And I understand that. The local folks are moving very quickly now to try to identify the flood-control project they want. But, I've also indicated to them, it's not possible, in this subcommittee or in Congress, for me to describe that the Red River Valley has a significant need for, perhaps, a $1 billion flood control project and then, at the same time, be working on a project to take water from the Missouri to the Red River. Those two projects, both very expensive, would not be something the Congress could understand, very easily, occurring at the same time—too much water and not enough water projects.

So, I have explained that the issue of water to the Red River, regrettably, is going to have to take a backseat to what the local folks in the Red River Valley want at this point, and that is the greater flood-control project for the largest population center on the Red.

I want to thank the three of you from Linton for being here, on behalf of Emmons County. What I'd like to do is keep in close touch with you as the hydrologic study is done, as the section 22 study is done. I understand you have a local sponsor. And we would like them to be in close touch to evaluate what more can be done.

I think that the flood plain management approach is an effective approach, and the Silver Jackets Program should be very helpful. And what I would like to do is just keep in close touch with you to determine if there are things that I can do with the Corps of Engineers to try to help address measures of greater protection for Emmons County, I want to do that.

So, thank you very much for being here and for presenting testimony today.

What I'd like to do is have the Colonel and Dale Frink remain and then ask the folks from Mercer County to come forward.

If I can ask Mr. John Phillips, city administrator of the city of Beulah, Frank Bitterman, Mercer County commissioner, and Greg Lange, secretary treasurer of Mercer County Water Resources District, to come forward, we'd appreciate that.

Thank you very much.

Let me also say—I didn't say at the start—I apologize; there's some inconvenience, I know, for you to travel from Emmons County to Bismarck and Mercer County Bismarck. I'm sorry for the distance you had to travel, but this was the best way for me to be able

to do both at the same time in a central location, so I appreciate your indulgence.

Mr. Frink, you have additional testimony with respect to Mercer County. Would you proceed with that, and then I'll hear from the other three.

Mr. FRINK. Thank you. My testimony, actually, on Mercer County is shorter than it is on Emmons County. And thank you, Mr. Chairman, for holding this, on Mercer County.

The Corps of Engineers has actually taken the main lead on Mercer County at this point. And the Water Commission certainly is going to be actively involved in that process. And certainly any alternative, even if it is a Federal project, will require some non-Federal dollars, and the State Water Commission certainly is looking forward to considering those requests.

The State Water Commission is in Emmons County. We're certainly willing to look at all of the alternatives, some of which would be part of a Corps project, but certainly, I think, relocations and those type of things are something that we're willing to look at.

Also, as in the case of Emmons County, I think we need to look at whether or not some additional stream gauges and some early warning systems would be appropriate for the Knife River Basin. I think, again, we really were surprised by the severity of the flooding that did occur in Mercer County this year.

And I won't go through the Silver Jackets thing again, but the Silver Jackets Program certainly is available for all North Dakotans, including Mercer County, and we're just willing to—at any point, to sit down and talk to you about your flood solutions and your issues that you may have.

So, thank you, Mr. Chairman.

Senator DORGAN. All right, thank you very much. I'm going to ask the Corps later about their discussions with Mercer County.

Mr. Phillips, we appreciate your being here, and why don't you proceed. You're the development director of the city of Beulah, and we appreciate you coming today.

**STATEMENT OF JOHN PHILLIPS, DEVELOPMENT DIRECTOR, CITY OF BEULAH, NORTH DAKOTA**

Mr. PHILLIPS. Thank you, Senator. And it's certainly no inconvenience to come here, considering you're providing your time.

And I'd also like to thank Justin for that, because his telephone is available at any time with that, so we really appreciate that, that your staff is that accommodating to us also with that.

Senator DORGAN. Thank you.

Mr. PHILLIPS. So, thank you. Thank you, Justin, for that, so.

Senator DORGAN. Would you pull that microphone just a little closer to you?

Mr. PHILLIPS. Certainly.

Basically, being from Beulah, I know we are the hardest-hit community, because the Knife River runs right through the community—just remembering, back in 1997, when we were all returning from the State basketball tournament, a pretty exciting time in Fargo with that, and we'd gotten a call the night we were playing in the semifinal game that there was some incident occurring in

Beulah with that. And a certain amount of flooding occurred and the damage had occurred there with them.

In previous flooding, in 1997, a tremendous amount of damage occurred during the flood, and it was really devastating for people. And some people had a lot of difficulty recovering from that and it becomes a very emotional and stressful thing also with that.

Not only in the community, but the immediate agricultural areas of that, there's just a huge amount of cleanup that has to be done that that becomes rather daunting for an individual to accomplish. And typically you have a single farmer or a single individual on the farm with that, or whatever. And when he sees the debris in the pasture, the silt on the cropland with that, the hay gone, and whatever, plus the loss of livestock, it really is kind of a real devastating and emotional time with that. And to work through those times, it really, really requires a lot of patience to do that.

In Beulah this year, the flood was actually much more magnified than in 1997. We got more water with that, and we still have not hit the 100-year curve for that, which has been identified now with that.

We had seven homes where the basement actually failed. They won't be replaced or displaced from the area; you have to be removed with that. There is what we see, in the older home, as Linton is identifying also with that, is that where the structural failure often occurs with that. Again, when you start talking about home displacement, home removal, to replace a home in that area—of course, it's in the flood plain, so it's zero basement, above the base level of elevation of that. But, again with that is that the cost of the home replacement now, versus the one that was built at that time, and then those people that have the affordability to live in those homes, it often becomes a real financial stress for that family or that individual with that. So, that's something there, in the appraised value with that.

Not only, then, during the flood occurrence did we have the water and the devastation going on with the Knife River overflowing its banks—we only get about 12 inches of heavy wet snow with that, where we actually couldn't move, so we had people displaced from that area with that, in the three motels that are part of the north in the city with that. And we have some substantial snow removal equipment in the city to accommodate our needs with that, with that, and we had to use all that equipment to just get access to one hotel to get food up to that hotel where the people that had been displaced with that. So, that was a tremendous amount. And along with that, then, the rural electric had some power poles go down, so we had to stretch it in the rural area, right immediately adjacent to the city, that didn't have electricity for 3 days with that. Had a home burn down, with that. The fire department had trouble getting access to that property, with that. So, there's a multiple of occurrences, you know, in the immediate area, in what we call the "community area," with that, in Mercer County, with that.

We had a Corps study in 1989 completed, with that, to evaluate their flood plain and what were some of the things that maybe could be done to mitigate the water damage or the flow of that river, with that. But, again, is that what typically happens, with

that, is, in that Corps study, we did identify some things where we could plug through some real critical infrastructure within the city, which was done after the 1997 occurrence, with that. In the 1997 occurrence, we couldn't use our water plant. It was actually shut down. Our service system essentially was shut down, with that. And basically what happened, we had such inundation with water, we had a tremendous amount of sewage back up into basements also with that.

We were able to really, really handle that very well this year, with that. The water plant ran the entire time and people had fresh water, where we actually had an area that went beyond the flood plain, that actually had the sewer backup in the basement. All the commercial buildings on Main Street, with that. We were able to put a gate valve into our system, that prevented all of that backflow from occurring. And that was done through your assistance programs, with that, for mitigation. So, that was a tremendous amount of help that we were able to do that this year to minimize some of that.

But, as I said, in that 1989 study, some of the things that probably would have been to reduce the flow, again, didn't meet the matching criteria, with that, and the ratio study, with that. So, we need to rethink that and look at that again.

Basically, what we're looking at is, that we also think that we need to establish a better communication with the National Weather Service, with that. We had the opportunity to meet with the National Weather Service at the League of Cities meeting this year, with that. And sometimes I think we forget that in the rural communities we don't communicate as well as we think we should. And with technology that's available right now, with that, I think it's extremely easy to compete with everyone, with that. I take a look at e-mail, and it's clicked and it's gone, and how many people can you contact, with that? It's a great resource.

So, I think that we've identified the need to have a better communication link with the National Weather Service to provide us some information.

The other thing that we are also looking at now, we need a way to better gauge the flow of that river. The flow points or the identification points of flow that we have are a long ways away, with that. And also, we have Spring Creek, that flows into the Knife River, that provides a tremendous amount of water into the Knife River, as the creek that comes through Zap, North Dakota, that really devastated their park and that area of the city, with that; they had an RV park in there that was just inundated and really damaged, with that.

So, we need to work with those things and I think that, again, we need to reemphasize the importance of a study. And I think one of the things that we look at—we talked about a dike, and one of the things that were addressed in the 1989 study was a dike. And I think the actual reality of that is not real feasible for a rural community, with that. But, I think a statement that was made by Major General Sprynczynatyk, when he visited the site—or, visited our community, is that we need to look at ways to minimize the flow, or control the flow, of that water through the city. We're not going to prevent it from going through the city; we need to look at

ways to minimize and control that flow. And one other project we often relate back to is that we have a watershed on the north side of our community, and we have drainage ditches that come from the north side of the city. And, basically, in the spring, at the watershed area, north there, would flood parts of the city that are actually not even in the flood plain, with that. And working with the State Water Commission at that time, there was a dry dam constructed there. They have never had a problem since. But, again, we control through the city.

PREPARED STATEMENT

We look forward to working with all the agencies. And we do thank and appreciate the work the agencies have done. And we look forward to further working and trying to alleviate the problems in the community, with that.

Thank you.

[The statement follows:]

PREPARED STATEMENT OF JOHN PHILLIPS

Senator Dorgan thank you for taking the time to hear us today regarding the damages and the needs to mitigate future occurrences such as the 2009 flooding event.

In Beulah we had 100+ homes affected by the flood causing various degrees of damage to the residential structures, including some with 3 feet to 5 feet of water in their basements. We also had seven homes that had their basement walls fail and will have to be removed from their location as it is not economically feasible to try and renovate the property.

The city of Beulah had a study done by the Corps of Engineers that was finalized in 1989 and following the 1997 flood incident did "flood proof" critical areas in the cities infrastructure, which were identified in the study. Several projects that provided critical protection and minimized the flood damage in the 2009 incident included; building a dike structure around the water treatment plant, raising and flood proofing two of the primary sewer lift stations, installation of a valve system that prevented any sewer backflow from the "flood area" into an area not affected by the flood waters and securing manholes to restrict water from flowing into them. This work allowed the cities water and sewer system to remain functional during the incident which did not occur during the 1997 flood incident.

Moving forward we still need to address how to mitigate the problem as we can't incur those extensive damages every 10–12 years. Mercer County collectively has "joined forces" and requested the Corps of Engineers to do a Knife River Water Shed Study. We also understand that there is a moratorium on any new studies and also there is no funding currently available. We think it is very important to work on moving the study and funding availability forward as what we have been told the previous studies are obsolete as a result of the 2009 event. We are also requesting to be considered as a part of the Missouri River study as the Knife River was a major contributor to the recent Bismarck flooding event.

The cities of Hazen and Beulah have recently requested the Mercer County Water Board and State Water Commission to initiate a water shed study of both Spring Creek and Antelope Creek as they have been determined to be significant contributing factors to the Knife River flooding. It is also felt this project would be on a much smaller scale, affordable and would be able to be accomplished in a timely manner.

Another area we are in need of support is to encourage the National Weather Service to communicate with the rural as well as urban communities to disseminate information relative to snow pack, water content and projected flooding as a result of weather conditions. This was not done during the last two flood occurrences in Mercer County although they were in daily contact with the "Red River Valley" area. In addition we need more measuring gauges on the Knife River to determine water flows.

Concluding my testimony we look for your continued support and assisting us with cost effective measures to accomplish mitigation. Rural communities don't have the capability of generating "Millions" of dollars for flood protection.

Senator DORGAN. Mr. Phillips, thank you very much. We appreciate that.

Mr. Bitterman, you may proceed.

While you're beginning, let me say that, for this panel and the previous panel, we will keep the record of the hearing open for 2 weeks, and those who wish to present additional views or testimony as part of the permanent record and the published hearing record can do so by e-mail or by snail mail, as long as you get it to us.

Mr. Bitterman, you may proceed.

**STATEMENT OF FRANK BITTERMAN, COUNTY COMMISSIONER, COUNTY OF MERCER, NORTH DAKOTA**

Mr. BITTERMAN. Well, thank you, Senator, for coming to Bismarck for this location.

I lived in Mercer County for, oh, I hate to say this, but a long time. And I look back at the floods that came through Zap at that time, 1943 to me, was a good one. It got up in Main Street, run around the church and run around the other side of town, and it went out. Since that time, I believe the river is wider and it takes more water.

When this year came along and I sat down at the county office with our emergency management person, Peg Sorensen, and we watched that water come in like a bomb, and it was just—we thank God that there was 4 days of weather that it was 15 below at night—or, 15 above zero at night—that held this off, because we had a second flood come in, and it would have been—I think we would have got the 100-year flood.

But, I do want to say that I appreciate what the Water Board is doing. I appreciate the State Water Board. Craig has a got a lot of information, and I think I'm going to turn it over to him.

Senator DORGAN. All right. Mr. Bitterman, thank you very much.

Mr. BITTERMAN. You're welcome.

Senator DORGAN. Greg Lange, thank you for being here.

**STATEMENT OF GREG LANGE, SECRETARY-TREASURER, MERCER COUNTY WATER RESOURCES DISTRICT**

Mr. LANGE. Senator, March 23, 2009, the Spring Creek at Zap, North Dakota, peaked at 21.40 feet. That broke a 37-year-old record. On the next day, those record flows brought the Knife River to Hazen to 31.4 feet. That broke a 43-year-old record by more than 4 feet.

Before they reached the Missouri River at Stanton, those flows damaged approximately 100 homes within or near the communities of Zap, Beulah, and Hazen. And the damage was not confined to those cities, as there was extensive damage to recreational facilities, to county roads, bridges, culverts, as Frank would be very aware of. And agricultural losses were estimated to exceed $1.5 million.

The Knife River flood, then, of 2009 also caused major erosion and tree damage along the banks, and the large quantities of sediment that were scoured up from our boundaries within Mercer County were carried downriver to adversely affect powerplant intakes at Stanton, city water intakes in Washburn, Mandan, Bismarck, and Fort Yates. The unprecedented flows from the Knife

River then went on to contribute significantly to the ice jam and the flooding that took place in the Missouri River, that you heard about last night, near Fox Island.

The Mercer County Water Resource District then, with the active support of the county and several local cities, has taken some leadership here to address these matters and determine what we can do to reduce the impact of such floods in the future.

We began that process by talking to the Corps of Engineers about doing a section 205 study. And the study is to cover the Knife River and its tributaries as they come through Mercer County, and recommend the most cost-effective measures to reduce that flooding in the future. That request was made June 18, 2009, and, I've got to give the Corps credit, Mark Nelson was out here in August, thereafter, to study the area and pick up a little bit of ground knowledge.

So, the groundwork's been laid for a comprehensive study under section 205. But, the Corps has no funding to commence such a study. And I guess we'll talk more about that in a moment.

This lack of funding led the Mercer County District to consider some other alternatives that we might use to control flooding. Mark Nelson suggested that the Corps had some planning and design powers under section 22, as was just addressed, some ability to deal with streambank stabilization through section 14, and a general investigation sort of study, which requires an earmark, which I understand are going to be hard to come by.

None of these alternatives, though, would provide the important combination of a comprehensive study and Federal cost share for subsequent projects that would be available if section 205 was properly funded.

The USDA Natural Resources Conservation Service, or NRCS, also has some authority under the Watershed Protection and Flood Prevention Act, Public Law 83–566, to work with State and local entities and tribes to install watershed projects in small watersheds. I learned recently that in Grand Forks County this project alone has been a basis for 10 dams that now account for a 27,000 acre-feet of water storage in that particular area.

Unfortunately, all of these dams were built about 10 years ago, and the program has not been funded, in adequate numbers anyway, since then to allow for any more.

Rich Axvig, of the Grand Forks Water Resource District, said, and I agree with him, "We need this small watershed program to become active again. It has proven itself successful, time after time." He reported that a Congressman Collin Peterson of Minnesota may be working to increase the funding to address some Red River water concerns with this program, but we need it just as much out here, as you heard from Emmons County, as well.

While that Federal funding for NRCS and Corps of Engineers is pending, the water district intends to work with the State Water Commission. I'll be talking to Dale a little bit more about this afterwards—or private measures to study the potential for flood storage within the smaller watershed that contribute to the Knife River.

While pursuing those studies, we're working on something right now, and that's to mitigate the damage that's already been done.

We've had mapping done on the river that can be seen online now through our Web site, mercerwater.org, which is in my remarks, where you can actually go and actually see the various damages. But, I've canoed the river, and the amount of damage is unprecedented. I've been canoeing that river for 30 years, almost, and I've never seen anything like this. There are trees standing in the middle of the river, and they will create problems in future high water situations. So, we're, and hope to partner, with the State Water Commission to snag and clear some of the worst of those before they contribute to future ice jams and future flooding.

PREPARED STATEMENT

Whatever we do, the best solutions to flooding along the Knife River are going to happen in partnership with properly funded Federal, State, and local people and programs, which emphasizes the importance of these kinds of meetings, the Silver Jacket Program that's been talked about to coordinate the people. But, we also have to coordinate the dollars and we have to get the dollars into the programs that are most well designed to deal with things that we're dealing with.

So, on behalf of the managers of the Water District, I want to thank you, Senator, for this opportunity to present our views and our needs.

[The statement follows:]

PREPARED STATEMENT OF GREG LANGE

On March 23, 2009 the Spring Creek at Zap, North Dakota peaked at 21.40 feet—breaking a 37 year old record. On the next day, these record flows brought the Knife River at Hazen to 31.40 feet—breaking a 43 year old record by more than 4 feet. Before they reached the Missouri River at Stanton, these massive flows damaged approximately 100 homes within or near the communities of Beulah, Hazen and Zap. The damage was not confined to cities as there was extensive damage to recreational facilities, county roads, bridges and culverts, and agricultural losses were estimated to be in excess of $1.5 million.

The Knife River flood of 2009 also caused major erosion and tree damage along its banks. The large quantities of sediment scoured from the banks was carried down river where it adversely affected two power plant intakes at Stanton and city water intakes for the cities of Washburn, Mandan, Bismarck and Fort Yates. The unprecedented flows from the Knife River contributed significantly to the ice jam and flooding on the Missouri River in the Fox Island area south of Bismarck.

The Mercer County Water Resource District, with the active support of the county and several local cities, has taken the lead to determine what steps can be taken to reduce the impact of future floods. The managers of the Water Resource District began by asking the Corps of Engineers to use its authority under section 205 of the 1948 Flood Control Act to study the Knife River and its tributaries in Mercer County, and recommend the most cost effective measures to reduce flooding on the Knife River in the future. Since that request was made on June 18, 2009, Mark Nelson of the Corps visited the area on August 5, 2009. The groundwork has therefore been laid for a comprehensive study under section 205, but the Corps has no funding to commence such a study at this time.

This lack of funding led the Mercer County Water Resource District to consider other alternatives to control flooding on the Knife River. Mark Nelson of the Corps of Engineers mentioned that the Corps has some planning and design powers through "section 22", some ability to deal with stream bank stabilization through section 14, and could do a "general investigation" study by congressional earmark. None of these alternatives would provide the important combination of a comprehensive study, and Federal cost share for subsequent construction projects that would be available if section 205 funding was restored.

The USDA Natural Resources Conservation Service has authority under the Watershed Protection and Flood Prevention Act (Public Law 83–566) to work with State and local entities and tribes to plan and install watershed projects. In Grand

Forks County alone, this program has been used to construct eight flood detention dams on the upper Turtle River watershed, one on the middle south branch of the Forest River, and one on the English Coulee watershed above the city of Grand Forks. Together these dams provide over 27,000 acre feet of flood water storage. Unfortunately, all of these dams were built years ago. While the law remains in effect, it is has not been adequately funded in recent years. As Rich Axvig of the Grand Forks Water Resource District recently said, "We need this small watershed program to become active again. It has proven itself successful time after time." We believe that Congressman Collin Peterson of Minnesota may already be working to increase the funding in this program to address Red River Valley flooding. It is no less needed in the western part of the State.

While Federal funding for the NRCS and Corps of Engineers programs is pending, the Mercer County Water Resource District intends to work with the State Water Commission or private engineering firms to study the potential for flood storage within the smaller watersheds that contribute to the Knife River. While pursuing these various studies, the District will endeavor to mitigate the extensive bank damage to the Knife River between Beulah and Hazen. Hundreds of trees along the banks were undercut and washed into the streambed by the high spring flows. The extensive damage can be seen on the District's Web site at www.mercerwater.org. The District hopes to partner with the State Water Commission to remove these snags from the riverbed before they contribute to future ice jams and flooding in this already vulnerable area.

It is likely that the best solutions to flooding along the Knife River will be arrived at through a partnership of properly funded Federal, State, and local people and programs. The Mercer County Water Resource District looks forward to working with these partners and programs to reduce the impact of future flooding on the Knife River. On behalf of the managers of the District, I thank you Senator Dorgan for this opportunity to present our views and our needs.

Senator DORGAN. Mr. Lange, thank you very much. We appreciate your being here.

Let me ask, what kind of a role did ice play in the problems in Mercer County? Can anyone give me a notion of that?

Mr. BITTERMAN. You know the Knife River extends about 67 miles west of Beulah. The Spring Creek is approximately from 8 to 15 miles north of that. And this year I don't know why—well, we had a cold winter, but we seen ice come down that river, that went into the Missouri, that was 3 feet to 4 feet thick, and some of those blocks were 25 feet long. And, you know, it was a bad winter, and then the bad flood. It just—it broke a lot of trees down.

I went to—I really don't think, right now, that we had a bad enough ice jam at any place that stopped the flow of the water, because the water got where it wanted to go. And we did have ice chunks laying south of the Knife River, 1½ to 2 miles, on top of little hills, little knolls in the fields. And that water must have been—I don't know, you said 32? And it just—a combination of bad things happened.

Senator DORGAN. Let me ask you—the Knife River, Spring and Antelope Creeks, all three were a problem and a contributor. Can you make an assessment about the contribution of each to this flood? I mean, was one an overwhelming contributor, versus the other two?

Mr. BITTERMAN. Let me first say that there's the Coyote, that goes into the Knife, and then there's the Gold Creek, that goes into the Knife, and then there's one of them that's south of Dodge that comes in, that goes in the Knife.

The Spring Creek takes up Goodman Creek. That was where the heaviest snow was, north of Zap and Beulah was the heaviest snow in that area. And I believe it. We had quite a bit more than Bismarck, here. But, Spring Creek—last fall, they drained Lake Iowa.

That had to fill up first, before it got to the Knife River and Beulah. It didn't make any difference what had to be filled up. There was enough water to do everything. I mean, it just came down. And I've never seen water come up that fast. It was running a good speed. I mean, there was no blockage or—wherever we went to look at it, it was flowing at a good speed.

Senator DORGAN. All right.

Mr. Phillips, did you have comment on that?

Mr. PHILLIPS. I'd like to start with—we all see a certain amount of ice, with that, but, I think, you know, basically the ice broke up relatively fast, compared to 1997. In 1997, we certainly had much greater ice jams, and we had ice blocks on Highway 49 that State snow plows had to come in and push them off, with that. So, I think, here, that we did have some ice, certainly, with that, to probably build up the water. I think, for a day, or at least 12 to 14 hours the level at the bridge at Beulah was greater than that as you move farther to the east of that. But, it did break up quicker than it did in 1997.

But, our biggest issue right now, I think, or one of the big things, is, Spring Creek's a large feeder and is a large watershed also, that really, really puts a lot of water in the Knife River, with that. And with the snowpack and—because we actually got a second flood, weeks later, when everybody had their house, that could clean it up and get it sanitized or whatever, a week later—it was Easter Sunday—we had to go on the entire south side and provide another warning that the water was raising again, with that. The water level at that time had gone within inches of going into basements again, with that. It didn't—it never entered another basement, but it really, really devastates the recreation areas. A beautiful park by the river with a large athletic complex, it just literally destroyed that. There was a tremendous amount of damage, with that, that took place.

Senator DORGAN. All right.

I want to ask Colonel Ruch, if you will pass the microphone——

Mr. PHILLIPS. Yes.

Senator DORGAN [continuing]. To the Colonel.

Colonel, as you've been discussing things with the Mercer County region, what kinds of things do you think represent opportunities for them to try to prevent, in the future, that which has happened to them?

Colonel RUCH. To begin with, I'd like to say that I was heartened a bit by Mr. Phillips' comments, where we actually did a study and some of the recommendations took place, and we actually saw the benefit during this last flooding. And, you know, oftentimes it seems that we're sitting here and saying that we did a study and didn't move forward. So, I'm heartened to see that, when we apply these efforts, that you can see results.

We always bring up the 100-year flood or the 50-year flood. That doesn't mean you get 99 years off if you get one flood. It means every year you have a 1-percent chance of getting flooded. And it has nothing to do with the amount of time. I'd just like to say that, because people think that it's based on some historical occurrence. It's a risk number thrown out there.

We have had good discussions with Mercer County. We received a letter on June 18 and very quickly came up here. We visited August 5. Once again we went out and looked at the areas, what happened, and had a good discussion.

Section 205 really does fit the bill, so that's what we have recommended to go forward. We've expressed a capability of $100,000 for fiscal year 2010, with the possibility of initiating a new start for a feasibility study.

The Corps Headquarters is assembling a list of possible new starts for section 205, nationwide, which will be presented to the congressional appropriation committees for approval prior to funding any new starts.

So, this seems to be the right authority to get at the problem. We talk—I heard a little bit about maybe starting a complete new study, if there's a new award next year, perhaps that——

Senator DORGAN. Well, there's only $40 million for the entire country, in section 205, but, assuming, for the moment, that the Corps decides that this is the right approach and that there are new starts available and that it is triggered here, tell me what 205 does for you and will mean for local folks.

Colonel RUCH. Well, you get a little wire look we've talked about several different programs that can look at one section or another. This is a little more comprehensive and it really gets to adopting and building flood damage reduction. I mean, you can end up with a physical project.

Senator DORGAN. And what is the timeline on something like that?

Colonel RUCH. Somewhat dependent, I guess, on the funding, but I believe we say 3 to 5 years, and—what?

VOICE. [Off-mike.]

Colonel RUCH. Thirty-six months, $7 million, yes.

Senator DORGAN. And tell us what the cost share is on that, assuming that——

Colonel RUCH. The cost share for that is 50–50. And I think we—once again, we did have that——

Senator DORGAN. And you have to go through the same studies. Then, ultimately, when you get to that point, you have to have a local sponsor, saying, "All right, here's what we now understand this may cost, and yes, we want to do it," or, "You know what? We're now at this point, now we see what it's going to cost. We may not want to do it," right?

Colonel RUCH. That is correct. So, I would just say that section 22, in the interim, I think, was discussed once again, as planning eight States, and that's also a 50–50 cost share. I don't think we had mentioned that, the cost share there, as well.

Senator DORGAN. My understanding is, from the discussion, there's a substantial problem with bank erosion. Where is that problem most acute?

Mr. LANGE. May I address that?

Senator DORGAN. Yes.

Mr. LANGE. Senator, the mapping just got done on that within the last month. Thanks to higher-than-normal flows on the Knife River for this time of the year, we were able to map those things and complete that. And the worst of it appears to be in the Hazen

area, just starting about Hazen and going below Hazen. And, of course, an ice jam there is going to most affect Hazen, but it's going to affect everything upriver, as well. And I want to second what others have said, that planning—anything that can help us plan and prepare for what's coming downriver, like additional gauges, may be—Antelope Creek primarily affects Hazen. It comes in below Hazen, so it doesn't impact some of the higher ones as much. But, it borders Hazen on the north side, and it's a threat to Hazen, and it got very high.

But, one of the things that we tend to do, as Ms. Jangula indicated earlier, is, we tend to plan for the last flood and think we're okay if we plan for that. And that's very dangerous here, because, as high as this was, it was not as bad as it could have been. As John and Frank indicated, there were certain things that helped—cool weather at nights for several times slowed this down. And a rather unusual amount of storage in the Upper Basin, for what we already have there, because of dry summer. And so, but for a couple of things, this could have been quite a bit worse. And, although Antelope Creek stayed within the controls, it very easily could have been much worse, and Hazen could have been in a very similar situation to Beulah if we had not had the lingering melt that we did.

So, it's safest for us to assume it will be worse, and plan for that aspect. And again, if we have enough warning of snowpack levels and moisture levels within the snowpack, we can plan more for what we're going to get.

Senator DORGAN. Is USGS the agency that is engaged there? Are there additional gauges and measuring devices necessary, do you think?

Mr. LANGE. I think so. And that's something—that's a discussion—I was glad to hear that they're doing more on Beaver Creek. And we'll want to talk to them about that. I think—more on Spring Creek—we don't have much in Upper Basin. I can give you records, because that's where we have stream gauges. But, that's two, and we could use some more, I don't think we have anything on Antelope. And so, that's another one where some siting—we'll talk to USGS about some more siting.

Senator DORGAN. All right. And we'll do that, as well.

Yes, sir? Mr. Bitterman?

Mr. BITTERMAN. Oh, one thing I've been talking to my commissioners about is, we have zoning laws in our county, we have zoning in the city and stuff, and until we get something lined up here, or whatever we're going to do about the flood, I think somewhere along the line, the city and the county—we're going to have to stop people building in these flood areas until we get something settled, because we just can't have $200,000 homes built down there that we know are going to get it, in 2 years or 3 years, Byron, and we're going to look at you and say, "Mr. Senator, what can we do about it?" And I do think that some action should be taken in that direction, too.

Senator DORGAN. All right.

Mr. BITTERMAN. Thank you.

Senator DORGAN. Mr. Phillips?

Mr. PHILLIPS. I think one of the things we need to address—and we talked about the 205 program, but we also talked about the

costs of those things. And we talked about a 50–50 match, with that, you know. And I think we need to address—the 50–50 match is very difficult in a rural area, with that. I mean, it's not like we—we're in Fargo and we can put a half cent on our sales tax and generate a million dollars a year, with that. I mean, that's just not realistic and not feasible.

In some way, we need to address—Greg had identified what they had done in Grand Forks County or in the Grand Forks area, with that, with the NRCS programs. And there again, I think that we go back to what the costs of that dry dam was that was constructed north of our city that certainly has alleviated a tremendous amount of water flow and damage that could have come from that area, with that. And that dry dam cost certainly wasn't what we're talking about with some other projects, with that.

So, I think that, some way, we need to identify some cost-realistic programs and opportunities also, that could mitigate some of the problems we have.

Senator DORGAN. That's a fair point. And it is more difficult for rural areas to come up with the funding. As Dale Frink indicated last evening, of course the State water commission is also, in many cases involved in being helpful with respect to the local funding share.

Let me ask, are there any other comments you wish to make? I wanted to make a couple of comments with respect to both the Emmons County testimony as well as Mercer County testimony.

It seems to me, while there are some differences here, there are also some similarities—the need for additional gauges that are able to be predictive or allow you to be predictive of flood threats. It seems to me that's important, as well as the question of recovery. Also what kinds of things can be done that are cost effective and can be done in a reasonable timeframe that can mitigate flooding threats? Are there studies that can lead to structures that can be helpful? If so, are those structures affordable?

All of those issues, I think, are important. I think both the Corps of Engineers and the State water commission are essential in cases like this, with the Mercer and the Emmons County flood events, to try to think through, What are the range of alternatives that can give us some assurance that there is greater protection against an event like this should it happen again? That's—the purpose of my being here today; as I indicated to you, we're working very hard on Red River Valley issues, the Red River. There are chronic flooding problems there. We have a study of the Sheyenne River system underway. We have a study of the James River system underway. We have, obviously, a larger, more comprehensive study of the Missouri River system that I authored and have funded. That'll be a little longer-period study.

But, let me just say, the reason for that, which I think is so important, is, the water in the Missouri River system is being managed in a way that makes no sense at all. You know, it's being managed in the way that was anticipated, some 60 or 70 years ago, when we are moving water out of reservoirs, when reservoirs didn't have enough water, so that we can support one barge floating downstream that's hauling sand and gravel, a low-value cargo. So,

you know, we have a situation where the management of that river, at this point, doesn't make sense. So, we're working on that.

I talked with the Bismarck folks last night about what can be done here to try to minimize the threat of what happened in Bismarck happening again, because Bismarck very narrowly missed having a very big problem, you know, with massive evacuations and so on.

With respect to Mercer and Emmons, the question is, as I have indicated, what can be done here? And we did want to, not just look at the Red, the Sheyenne, the James and Missouri; we also wanted to look at very significant flooding events in two rural areas of North Dakota that came about in a very surprising way, a completely unexpected way, and yet, delivered a really significant flood threat, with very substantial damage in Linton, for example. I was up and toured in Beulah, of course, and saw what happened there. You mentioned the park. I mean, it looked like moonscape.

VOICE. Right.

Senator DORGAN. As well as the athletic fields, and so on.

So, our purpose in being here is to say this. The Corps of Engineers is our principal instrument with which to try to evaluate and try to make progress in addressing things. Some say the Corps takes, you know, anywhere from 50 to 100 years to do anything. Well, that's not a complete exaggeration, it does take a long time—but, for those that have a view of the Corps of never getting anything done, I would say, go to Grand Forks, North Dakota, and take a look at a really important structural change in that community. It took place over a period of time where that community engaged with the Corps, built a first-class flood-control system, steering that water through that city.

I've been critical of the Corps from time to time, and you could probably hear them gritting their teeth from Omaha to Washington when I became chairman of the subcommittee that funds them.

I have been critical from time to time, but, I've also said, "If you're involved in a big flood fight, I'll tell you, I know who you want on your side and that's the Corps of Engineers." Right in the middle of that fight, you want the Corps with you.

I also think that if you're engaged in trying to evaluate, "What do you do for the future?" the expertise and the ability to think through, strategize, and develop approaches—you want the Corps of Engineers to be involved in that, as well. You also want the State Water Commission and the State, as well.

So, my goal here was to try to evaluate what is happening, how the Corps is engaged, how they are engaged with the State Water Commission and with the two groups of communities in Emmons and Mercer County. Then we will be attentive, as we work with the Corps and the State to evaluate what our committee might need to be doing to be supportive of what is needed in both areas.

So, that's the reason I came and wanted to have this hearing on the record, because this is a State that is not just the Red or the Sheyenne or the James or the Missouri; it's other areas that have also experienced substantial flooding threats with creeks and other rivers.

CONCLUSION OF HEARING

So, thank you all for driving—those of you who have driven long distances this morning, thank you for being here. We'll be in touch and continue to be in close touch with the Corps of Engineers on the plans and events, going forward.

This hearing is recessed.

[Whereupon, at 11:32 a.m., Thursday, November 12, the hearing was concluded, and the subcommittee was recessed, to reconvene subject to the call of the Chair.]

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