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RED RIVER VALLEY WATER SUPPLY PROJECT

HEARING

BEFORE A

SUBCOMMITTEE OF THE

COMMITTEE ON APPROPRIATIONS

UNITED STATES SENATE

ONE HUNDRED NINTH CONGRESS

SECOND SESSION

SPECIAL HEARING

AUGUST 24, 2006—FARGO, NORTH DAKOTA

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RED RIVER VALLEY WATER SUPPLY PROJECT

THURSDAY, AUGUST 24, 2006

U.S. SENATE,
SUBCOMMITTEE ON INTERIOR AND RELATED AGENCIES,
COMMITTEE ON APPROPRIATIONS,
Fargo, ND.

The subcommittee met at 11 a.m., in the Fargo City Commission Chambers, 200 N. 3rd Street, Fargo, ND, Senator Byron L. Dorgan presiding.

Present: Senator Dorgan.

Also present: Congressman Pomeroy.

OPENING STATEMENT OF SENATOR BYRON L. DORGAN

Senator DORGAN. Good morning. We will begin the hearing. This is a formal hearing of the subcommittee, the Interior Subcommittee of Appropriations of the U.S. Senate, and we are making a formal record of this hearing and a transcript of this hearing. I have invited my colleague, Congressman Pomeroy, who is in Fargo this morning, to join me and be a part of the hearing because the hearing is on the subject that is very important to all of our State and to this entire region, as a matter of fact.

I would like to just describe a little of the background and then call on my colleague, Congressman Pomeroy, for a couple of comments. Let me point out that when we passed the Dakota Water Resources Act, that was a piece of legislation that was authored and worked on by myself, Senator Conrad, and Congressman Pomeroy. That became law, and there is a section in that law that directs the Secretary and the State of North Dakota to jointly prepare, I am quoting now, "jointly prepare and complete a draft environmental impact statement considering all feasible options to meet the comprehensive water quality and quantity needs of the Red River Valley and the options for meeting those needs, including delivery of Missouri River water to the Red River Valley." As a result of that, that's a portion of the legislation that we wrote, understanding that part of dealing with the broader water issues of North Dakota is the requirement to deal with the issue in the Red River Valley. The Red River has largely run dry in the past and will perhaps in the future, and the question is how will the development along the Red River from the southern part of our State to the northern part of our State on both sides of the river, how will that development continue to take place if you have a short supply of water? Development is not possible without water. It is the resource that determines whether the development will exist or not. So section 8 of the Dakota Water Resources Act anticipates

this process of evaluating how to connect an assured water supply to the Red River Valley. The Bureau of Reclamation, as you know, has been working on their requirement under section 8 doing studies. The studies have taken much, much longer than we had hoped. I have, in fact, held previous hearings in Fargo for the explicit purpose of kicking and re-kicking the Bureau of Reclamation to try to get them to meet their timelines but it is a big old agency. They have got a lot on their plate and they tend to stretch things out, but it is done and we now have what's called the executive summary here in my hands of the draft environmental impact statement, Red River Valley Water Supply Project. At long last the Bureau of Reclamation provided a series of alternatives, and they are alternatives that have costs attached to them, saying here are the specific recommendations. There are eight potential alternatives, which includes an alternative called no action at all. Well, I think most of us would believe that is not a very good alternative. So of the other alternatives there have been discussions and meetings in the State by the Bureau of Reclamation and the State and local officials to discuss these various alternatives and what the alternatives might cost.

There will be a Federal component of some type when the decision is made exactly which of the alternatives we pursue, and the purpose today is for us to evaluate what it is you want to do. I know from discussions and reports, the preliminary decisions about what alternative might be best for you, what will be the responsibility for those of us in Congress and for the Federal agencies if we pursue one of these alternatives, that's what we hope we might understand today. Getting this information on the record is another step in trying to move towards completion of our goal to get water to the Red River when that water is needed.

There will be an amended version of the environmental impact statement with another public comment period of 45 days, and the final EIS is to be published by December 2006. The BOR says that they intend to hold to that date. So there are a lot of issues that attach to this. This is in some ways controversial, in other ways difficult, likely to face legal challenges, funding challenges. It is not easy to do what all of us would like to see done, but doing things that aren't easy is—if all that we ever did in life were the easy things, we would hardly ever breathe hard. Doing things that aren't easy sometimes is critically important. You have to find a way to make it happen and that's what we're intending to do.

Let me call on my colleague, Congressman Pomeroy, who, as I indicated, has been an integral part of all of this, and whatever we do at the Federal level will be responsible on the House side for making it work and making it happen. So, Congressman Pomeroy, thank you for joining us today.

STATEMENT OF REPRESENTATIVE EARL POMEROY

Mr. POMEROY. Thank you, Senator.

It is a rare privilege for a House Member to participate in a Senate hearing, so I appreciate very much your allowing me to participate, and I want to note for the hearing the attendance of Governor William Guy. Forty-six years ago Governor Guy was elected to office, a young farmer from Casselton, North Dakota. During the 12

years that he served as the leader of our State, prudent statewide development of water resources was one of the clear enduring priorities of the Guy administration. Having his ongoing interest in his private life long after his governorship ended has really been a resource to our entire State. Forty-six years from now you will be talking about water because water and North Dakota are critically linked. What will happen to the future of our State depends upon how we will be able to sustain the water needs of growth.

I think that this hearing, Senator, could not be more timely. We have so often referenced the water experiences of the 1930s in making the case for bringing water west to east—bringing water supply to the Red River Valley. This summer we have an incredible drought that we have experienced. The water utilization restrictions we have seen in the Fargo community are a much more recent demonstration of what's at stake for eastern North Dakota in all of this. We have a dimension of growth unimaginable just a few years ago. Of course, the water needs to sustain it are more intense than ever. But the water availability and assurance is as uncertain as ever, as indicated by utilization restrictions as we have seen this summer. So I am interested in hearing from our experts in terms of water resource management, especially about the concerns that they had to manage through this summer and what's before them that—without an extraordinary response—might impair everything we have now come to know and enjoy about development of the Red River Valley.

Thank you, Senator.

Senator DORGAN. Congressman Pomeroy, thank you very much. Let me echo—I was go to introduce Bill Guy, but Bill Guy's service to our State had a lot to do with water, water policy, and I really appreciate seeing him here. He did spawn a generation of public service by others, including myself, much to the chagrin of some perhaps, I think we have been grappling with these water issues for a long, long time and origin of much of the intellectual bedrock for this has come back in the 1960s and with Bill's work, so thank you for being here, Bill Guy. Thanks to all of you who have come.

We will accept testimony, written testimony, by anyone who wishes to submit written testimony for 15 days after this hearing, and it will become a part of the permanent hearing record for the entire subcommittee of the Senate.

I am going to call on the following folks for opening presentations and then we will have questions. I am going to call on the mayor first, Mayor Dennis Walakar, Fargo, North Dakota, and then I will call on Dale Frink, the State engineer of the State Water Commission, then followed by Dave Koland, general manager of the Garrison Conservancy District, Mike Dwyer, executive director of North Dakota Water Coalition, and then Bruce Furness, chairman, Lake Agassiz Water Authority and former mayor, of course, of Fargo, and Grand Forks city council member, Curt Kreun. So Curt is down at the end. Let me thank the mayor for allowing us to use your city council chambers and congratulate Fargo's new mayor and welcome him to the world of—well, I shouldn't say that—he has been involved in water problems for a long, long time as well, but welcome to the hearing, and Mr. Mayor, thank you very much. Why don't you provide us your testimony?

STATEMENT OF DENNIS WALAKAR, MAYOR, FARGO, NORTH DAKOTA

Mayor WALAKAR. Good morning. I am Fargo Mayor Dennis Walakar. It is my pleasure to welcome the U.S. Senator Byron Dorgan and the U.S. States Representative Earl Pomeroy to the Red River Valley.

Since the 1800s the Red River has been the lifeline to our city by serving as a primary water supply, providing means of barge and steam boat transportation for pioneers and fulfilling various recreational needs. The Red River continues to serve as our primary water supply. It is critical to sustain this current and for the future economy of the city of Fargo and basically for the future of the State of North Dakota.

Our history shows the droughts in the valley can lead to serious water shortages. Add to that the growing population of our area and the potential for problems multiply. You can see on the first slide there of our earlier part of the city, and, you know, that's why we're here. I mean we are here because the railroad came through here and the Red River was our water supply and so forth. That's not the way it is today, but that's the way it was in the early settlement of our city.

The city of Fargo has experienced steady growth for the last 50 years. A fairly consistent population growth of 2 percent per year has occurred with accelerated growth starting in the 1970s and continuing through the year 2000. To plan for future needs several population projection studies have been completed over the past few years and each utilizing different assumptions and methodologies. Such efforts resulted in projected populations ranging from 165,000 as a low to 240,000 to 243,000 as a high by the year 2050. Regardless of method or result, it is certain the city will continue to grow and it is Fargo's intent to be prepared for the associated increase for the demand of water through participation in the Red River Valley Water Supply Project.

On a nationwide basis, residents of North Dakota use water much like their demographically similar neighbors. North Dakotans use considerably less than those in many other States because we try to conserve water. However, historical analysis of the water demand data suggests the residents of the Red River Valley recognize the value of water as a natural resource and use water in a very efficient manner.

With an increase in population for the city of Fargo, the demand for water is anticipated to increase accordingly. Since 1995 the city has been working with U.S. Bureau of Reclamation to address Fargo's future water needs. Based on the range of population projections, methodology utilized by the Bureau of Reclamation to estimate future water needs during a drought the city of Fargo could potentially need 30,000 to 45,000 acre feet of water per year.

Existing and future industrial water demands are a critical component of the economy of the Red River Valley and were considered in the Red River Valley Water Supply Project. To address the issue, the North Dakota State University Department of Agri-Business and Economics was retained by the Bureau of Reclamation to complete an Industrial Water Needs Assessment. Industrial water production methodology and approach involved a review of historical crop productions and industrial water usage rates. Consider-

ation of economic development scenarios and evaluation of factors attracting supply-oriented agricultural processing industries to the Red River Valley. The results of the study indicated that industrial needs attributed to the agricultural economy could increase to 35,000 acre feet per year, and up to 13,000 acre feet of additional water per year is estimated to be needed in the Fargo by the year 2050.

Occurrence of severe low flow conditions in the Red River Valley at Fargo is chronic. Flows in the Red River at Fargo are highly variable by looking at this approach here. That is the history basically of the flows of the Red River here in Fargo. This year was extremely unusual. Most of us had estimated that we were not going to have a serious flood after a wet fall and a wet spring and we still didn't feel we were going to have a major flood, and we did, and that can happen basically as the winds of the weather.

Between 1932 and 1940, according to a report that our Director of Public Works had done in 1940, there were 800 days when the Red River ceased to flow. That's an average of 100 days per year between 1932 and 1940. During that time Fargo's population was 32,580. If that happened today we have 94,000 residents as we speak.

The occurrence of a significant drought is not a future concern. It is a concern today. If a drought of similar duration and magnitude as that of the 1930s happened in the present day, the city of Fargo would experience a water supply shortage during each year of the drought without a reliable and sustainable, supplemental water supply. The city of Fargo will be forced to suffer socioeconomic consequences associated with an inadequate supply of water.

The impact of a drought would be devastating to the city of Fargo. Hydraulic modeling efforts completed by the Bureau of Reclamation indicate that the water supply shortages experienced by the city of Fargo would overwhelm our efforts to reduce water use through the city's recently adopted Drought Management Plan. According to 2005, water demands in a 1930s drought scenario is estimated that half the municipal, rural, and industrial demand in the Red River Valley would be unmet on a worst month basis. As would be expected, a vast portion of this shortage is identified for Fargo, meaning the extent of the local shortages would be magnified significantly. The grim water shortage projections need to be addressed through the implementation of a reliable Red River Water Supply Project alternative.

Fargo fully supports the construction of a pipeline from the Garrison Diversion Unit to Lake Ashtabula to deliver water via the Sheyenne. This is the least expensive option and the one that affords us the most flexibility.

What are the next steps in this process? We must determine local costs, how to finance the project. Then we can make a final commitment to the pipeline. After that we will work with the Lake Agassiz Water Authority to develop an operational plan. We will also continue to work with other metropolitan communities on strategies for treating and distributing the water the pipeline would supply.

The drought conditions we experienced this summer have magnified the significance of this project. After we had water here in the Valley, probably more than anything could use for years and years and years, but right now after a wet fall, a wet spring we haven't had—we are about 5 inches below normal right now.

It is my hope we can move forward in the near future with this plan to provide our water supply needs.

Thank you for the opportunity to present our concerns. I would be happy to answer any questions you have. We have staff present here to address the technical matters.

Senator DORGAN. Mr. Mayor, thank you very much. We appreciate those thoughts.

I would like to next call on Dale Frink who is the State engineer of the State Water Commission. Dale.

STATEMENT OF DALE FRINK, ENGINEER, NORTH DAKOTA STATE WATER COMMISSION

Mr. FRINK. Thank you.

Senator Dorgan, Congressman Pomeroy, former Governor Bill Guy, Governor Guy was governor when I started with the Water Commission, so that's—I have been around a long time, so welcome.

I am Dale Frink. I am the North Dakota State engineer with the North Dakota State Water Commission, and thank you for the opportunity to testify today.

Development of the environmental impact statement for the Red River Valley Water Supply Project is in its fifth year and that is a long time, but one of the things that I have noticed over these 5 years is a change in people's attitude and how people understand the need for the project. You know, initially I heard things like, well, the water—the project just isn't needed. We don't need the water. But I think as more and more studies have gone on, that has changed and, you know, kind of the next step we took, well, you don't—you're not going to need the water if you adjust and control growth. Of course, I am not sure if that's ever—you know, how that is going to happen. But even more recently I think it gets into what the mayor was just talking about. We're short of water even with the existing populations. If you get into a 1930s drought, we're short of water even today. I think that is at least partially responsible for some of the more recent statements in that people are now calling for the allocation of the waters of the Red River. I see Lance Yohe is here of the Red River Basin Committee, and that is one of the things we're looking at. You know, the bottom line there is if you have jurisdictions in North Dakota, Minnesota, and Manitoba and everybody, you know, in a dry period wants their share but, you know, the important thing there is if you get into a 1930s drought and you divide zero by three, you end up with three goose eggs, and we need something better than that.

So today we're here to talk about some of the involvement of the Federal Government as the way I see it. If you look at all the alternatives that have been addressed in the EIS, all of them are very, very costly. To get a supplemental water supply for Fargo and the Red River Valley is costly, and it is going to take a tremendous involvement from the local level. It is going to take involvement from

the State level and it is going to take involvement from the Federal level. I note specifically today in terms of the Federal, you know, the first thing that comes to mind is the Dakota Water Resources Act includes $200 million for the Red River Valley Water Supply Project, but that is reimbursable, which means basically it is a loan that has to be repaid by the user. I think that is going to play a very important role in this project, but the project does need a grant. You know, I think you could get grant possibly by converting the reimbursable to non-reimbursable, and Dave Koland and Mike Dwyer are going to talk about this a little later, you know, we have been talking about maybe we can provide or allocate some of the State's MR&I dollars to the Red River Valley Project. So they are going to go into that in a little more detail, I believe. But at some point we need some Federal grant into this project to make it go.

The second requirement from the Federal Government involves water treatment and the Dakota Water Resources Act does make treatment for biota transfer a Federal responsibility. So that is something that we're going to have to work on. You know, the cost for biota treatment, no matter what type of treatment, it is going to be costly but it is something that we have to work on. We continue to work with the Bureau of Reclamation and the Environmental Protection Agency on biota treatment, not only for this project but for the NAWS project in north central North Dakota. While there, there are many inter-basin transfer projects throughout the United States, and I am not aware of any of them that provide water treatment. Most of them are just raw water treatments from one major basin to another. You know, we are proudly getting to the point right now where it just—it just makes environmental sense to provide the biota treatment and to set a precedence in regard to this.

I think in this project it is important that we develop or come up with a biota treatment process that is affordable, reasonable, and provides the safeguards necessary.

We have made considerable progress in the last 5 years, and I congratulate all of you that have worked so diligently in getting us to where we're at. I am confident that the need that we have been talking about and I have been talking about and the mayor has been talking about, that need is going to be the driving force behind this, and I think because of that, we will—our dream for adequate water supplies for the Red River Valley will become a realty.

So thank you.

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

Next we will hear from Dave Koland, general manager of the Garrison Diversion Conservancy District.

STATEMENT OF DAVE KOLAND, GENERAL MANAGER, GARRISON DIVERSION CONSERVANCY DISTRICT

Mr. KOLAND. Mr. Chairman, I commend you for holding this meeting in North Dakota. The importance of providing a reliable water supply for the Red River Valley is only magnified by the drought that has descended on our State this summer.

Under the very best of conditions it will be at least 6 years before we can provide a supplemental water supply for the Red River Val-

ley. So the next steps are critical to facilitate the timely construction of the Red River Valley Water Supply Project.

I will summarize my written testimony that I submitted, but I want to make a point before I get into those summaries that the Dakota Water Resources Act said that the selection will be made by the Secretary, in consultation and coordination with the State of North Dakota, in coordination with affected local communities. Throughout this process, North Dakota has strived to include water systems up and down the Red River Valley in this process. The affected communities, we have had a process that we have worked through in the State to arrive at the preferred alternative selection that started at the local level and then proceeded to be endorsed as we moved up until the governor finally submitting to the Secretary North Dakota's preferred selection.

The next step for the Department of the Interior is to submit a report to Congress that outlines a detailed description of the proposed features of the project, a summary of the major issues in the environmental impact statement and the likely effects, if any, on Missouri River States and Minnesota and how the features will comply with the Boundary Waters Treaty of 1909.

Congressional authorization is needed for any project feature that would provide water from the Missouri River or its tributaries to the Sheyenne River water supply and release facility. Congressional appropriations, as Dale has pointed out, are needed for the construction of the water treatment and related facilities that are attributed to meeting the requirements of the Boundary Waters Treaty of 1909.

We will need congressional appropriations for the $200 million that's indexed that's authorized in the Dakota Water Resources Act for the Red River Valley Water Supply Project.

North Dakota needs to enter into a cooperative agreement with the Secretary to construct the feature or features authorized by the legislation and execute a master repayment contract with the Secretary and a water service agreement with the Lake Agassiz Water Authority. The State will need a financial plan to provide funding for one-third of the project costs.

PREPARED STATEMENT

Garrison Diversion remains committed to working with our partners at the Federal, State, and local level to find the best solutions for the citizens of North Dakota while respecting all of our neighbors.

Thank you, Mr. Chairman.

[The statement follows:]

PREPARED STATEMENT OF DAVE KOLAND

My name is Dave Koland, General Manager of the Garrison Diversion Conservancy District (Garrison Diversion). I live in Carrington, North Dakota, where Garrison Diversion has its headquarters. The mission of Garrison Diversion is to provide a reliable, high quality water supply for the benefit of North Dakota. Over 77 percent of our state's residents live within the boundaries of the 28 member counties that comprise Garrison Diversion. Garrison Diversion represents the State of North Dakota as the joint lead with the Bureau of Reclamation on the preparation of an Environmental Impact Statement (EIS) [DWRA Section 8(c)] for the Red River Valley Water Supply Project [Section 8(a)].

Mr. Chairman, I would like to commend you for holding this hearing in North Dakota. The importance of providing a reliable water supply for the Red River Valley is only magnified by the drought that has descended on our state this summer. Under the very best of conditions, it will be at least six years before we will be able to provide a supplemental water supply to the Red River Valley.

The next steps are critical to facilitate the timely construction of the Red River Valley Water Supply Project.

Upon completion of the EIS, the Dakota Water Resources Act of 2000 (DWRA) addresses the process for the selection of an alternative. Four reports are required to be delivered to Congress if the Secretary selects a project feature that provides water from the Missouri River or its tributaries to the Sheyenne River water supply and release facility [Section 8(e)].

Section 8(d)(1) provides that after reviewing the Final Report on Red River Valley Water Needs & Options [Section 8(b)] and the Environmental Impact Statement, the Secretary, in consultation and coordination with the State of North Dakota in coordination with affected local communities, shall select 1 or more project features described in subsection (a) [Red River Valley Water Supply Project] that will meet the comprehensive water quality and quantity needs of the Red River Valley.

The "affected local communities" are represented by the Lake Agassiz Water Authority, and the State of North is represented by Garrison Diversion in the preparation of the EIS for the Red River Valley Water Supply Project.

The Lake Agassiz Water Authority is governed by a board of ten locally elected officials representing five cities and five water districts in the Red River Valley. These five cities are Fargo, Grand Forks, Grafton, Valley City, North Dakota and Moorhead, Minnesota. The five water districts are Cass Rural Water, Grand Forks-Traill Water, North Valley Water, Agassiz Water Users, and Southeast Water Users.

The Draft Environmental Impact Statement identified North Dakota's Preferred Alternative as the Garrison Diversion Unit (GDU) Import to Sheyenne River Alternative. The state identified this alternative because it provides the water needed to sustain the region, as well as benefits to the natural environment without any significant negative impacts.

The state's preferred alternative selection process included 20 meetings of the Lake Agassiz Water Authority Technical Advisory Committee before they recommended, on October 4, 2005, the selection of the GDU Import to Sheyenne River Alternative to the Lake Agassiz Water Authority board of directors. The Lake Agassiz Water Authority board voted unanimously on October 4, 2005, to select the alternative as their preferred alternative.

The Public Relations/Red River Valley Committee of the Garrison Diversion Conservancy District recommended the alternative to the Garrison Diversion board of directors on October 4, 2005. The Garrison Diversion board of directors voted unanimously on October 7, 2005, to select the alternative as their preferred alternative.

The North Dakota State Water Commission voted unanimously on November 1, 2005, to endorse the GDU Import to Sheyenne River Alternative as the state's preferred alternative. North Dakota Governor John Hoeven conveyed the state's selection to Secretary of the Interior Gale A. Norton on November 1, 2005.

Additional guidance is provided in Section 8(a)(3)(A) if the Secretary selects a project feature under this section that would provide water from the Missouri River or its tributaries to the Sheyenne River water supply and release facility or from the Missouri River or its tributaries to such other conveyance facility as the Secretary selects under this section. No later than 90 days after the completion of the final environmental impact statement, the Secretary shall transmit to Congress a comprehensive report which provides:

—A detailed description of the proposed project feature;

—A summary of major issues addressed in the environmental impact statement;

—Likely effects, if any, on other States bordering the Missouri River and on the State of Minnesota; and

—A description of how the project feature complies with the requirements of section 1(h)(1) of this Act (relating to the Boundary Waters Treaty of 1909).

Section 8(a)(3)(B) further provides that no project feature or features that would provide water from the Missouri River or its tributaries to the Sheyenne River water supply and release facility or from the Missouri River or its tributaries to such other conveyance facility as the Secretary selects under this section shall be constructed unless such feature is specifically authorized by an Act of Congress approved subsequent to the Secretary's transmittal of the above reports. If the Secretary selects a feature or features using only in-basin sources of water to meet the water needs of the Red River Valley identified in the Report on the Red River Valley Water Needs and Options, such features are authorized without further Act of Con-

gress. The Act of Congress referred to in this subparagraph must be an authorization bill, and shall not be a bill making appropriations.

Section 8(a)(3)(C) states that the Secretary may not commence construction on the feature until a master repayment contract or water service agreement consistent with this Act between the Secretary and the appropriate non-Federal entity has been executed.

Section 8(d)(2) provides that if the Secretary selects only in-basin sources of water, not later that 180 days after the record of decision has been executed, the Secretary shall enter into a cooperative agreement with the State of North Dakota to construct the feature or features selected. If the Secretary selects an option that would require a further Act of Congress, not later than 180 days after the date of enactment of legislation the Secretary shall enter into a cooperative agreement with the State of North Dakota to construct the feature or features authorized by that legislation.

Section 1(h)(1) provides that prior to construction of any water systems authorized under this Act to deliver Missouri River water into the Hudson Bay basin, the Secretary, in consultation with the Secretary of State and the Administrator of the Environmental Protection Agency, must determine that adequate treatment can be provided to meet the requirements of the Treaty between the United States and Great Britain relating to Boundary Waters between the United States and Canada.

Section 1(h)(2) states that all costs of construction, operation, maintenance, and replacement of water treatment and related facilities authorized by this Act and attributable to meeting the requirements of the treaty shall be nonreimbursable.

In summary:

The Secretary of Interior in consultation and coordination with North Dakota shall select one or more project features to meet the comprehensive water quality and quantity needs of the Red River Valley and then report to Congress within 90 days after completion of the Final EIS:

1. A detailed description of the proposed feature,
2. A summary of major issues in the EIS,
3. Likely effects, if any, on Missouri River states and Minnesota, and
4. How the feature complies with the Boundary Waters Treaty of 1909.

Congressional authorization is needed for any project feature that would provide water from the Missouri River or its tributaries to the Sheyenne River water supply and release facility. Congressional appropriations for the construction of the water treatment and related facilities that is attributable to meeting the requirements of the Boundary Waters Treaty of 1909. Congressional appropriations of the $200 million (indexed) authorized in the DWRA for the Red River Valley Water Supply Project.

North Dakota needs to enter into a cooperative agreement with the Secretary to construct the feature or features authorized by the legislation and execute a master repayment contract with the Secretary and a water service agreement with Lake Agassiz Water Authority. The state will need a financial plan to provide funding for one third of the project cost.

Garrison Diversion remains committed to working with our partners at the federal, state, and local level to find the best solutions for the citizens of North Dakota while respecting all our neighbors.

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

Mike Dwyer, executive director of the North Dakota Water Coalition. Mike.

STATEMENT OF MIKE DWYER, EXECUTIVE DIRECTOR, NORTH DAKOTA WATER COALITION

Mr. DWYER. Senator Dorgan, I also would like to thank you for holding this field hearing on really North Dakota's most critical water issue.

I, too, had the privilege of working with Governor Guy on water issues, and I have always considered myself one of the younger people working in water in North Dakota and still do, but Bill said you're looking a little older. But we were reminiscing about our disappointments in the 1984 Garrison Diversion Unit Commission but also about the dream that some day water might be delivered to eastern North Dakota.

I represent, as you indicated, I am the executive vice president of the North Dakota Water Users, but I am also representing the North Dakota Water Coalition, which consists of about 30 organizations statewide who are committed to water development in North Dakota. Through the water coalition we are able to provide a united front for North Dakota's water community for water, water supply, and our water needs. The water coalition is unanimously and vigorously in support of the Red River Valley Water Supply Project and providing for each of North Dakota's water needs through this project.

The subject matter that I will address here is the issue of funding. I would like to thank the congressional delegation for the support that you provided to North Dakota through the Federal Government for the infrastructure that we've had. We have a unique circumstance in our State where major infrastructure has all come together at the same time. We have had the Grand Forks Flood Control Project, Devils Lake, Southwest Pipeline, NAWS, Missouri River irrigation, and they have all come through through circumstances of nature and other issues at the same time. We thank you for the support that the delegation has provided, that the Federal Government has provided because we are nearing completion of the Grand Forks Flood Control Project. Southwest Pipeline is nearing completion of the original phase, about $70 million of the original $200 million State MR&I program were allocated to the Southwest Pipeline to provide water to over 3,000 homes, rural homes in western North Dakota plus 24 or 25 cities, including the city of Dickinson. It's interesting to note that normally the Southwest Pipeline delivers about 120 million gallons of water a month, and this summer it is delivering about 180 million gallons a month. So it is quite a remarkable note of the need for good, quality water.

Anyway, we have serious funding issues in that the 2000 Dakota Water Resources Act provided $200 million for State MR&I, $200 million for Indian MR&I, and $200 million for the Red River Valley Water Supply Project. At that time we felt that the timing would be fairly decent in that we would be well along the way for providing the funding for the $200 million State MR&I and $200 million Indian MR&I so that when the Red River Valley Supply Water Supply Project came on line, those things would, as I said, we would be well under way with those things and then we would be able to provide a significant amount of revenues to the Red River Valley Water Supply Project; however, if you look at the funding that North Dakota has received for MR&I, rural water, from 2004 to 2007, it has been about $10 million a year. That $10 million, it is $10 to $12 million a year, and that $10 to $12 million is split 50/50 with the Indian MR&I and the State MR&I program. Now, the Garrison appropriation has been larger, but some of that has to go for maintaining the canals and some other operation and maintenance that is required for the Garrison project. So about $10 to $12 million is allocated for Indian and State MR&I, and we do have serious needs. The NAWS project, the Southwest Pipeline, rural water systems, the central, south central, Indian MR&I, as I said, the circumstances of nature and drought and other things have brought all of these critical infrastructure together at the same time. Because of the shortage of Federal revenues in this

area, the State has advanced about $17 million for NAWS and other projects just so those projects could be moving forward.

The Garrison Diversion Conservancy District provided for fiscal year 2007 needs in the amount of $36 million for State and Indian MR&I without the Red River Valley Water Supply Project being part of that. So you can see if the Red River Valley Water Supply Project comes on line, construction of this project is able to move forward, as Dave Koland said, the soonest we could provide water would be 6 years, but a lot of that, of course, depends on funding. But if the Red River Valley Water Supply Project comes on line, in addition to the $36 million for the State MR&I and the Indian MR&I, which those projects are critical needs and they have to continue to move forward, we can't fund the Red River Valley Water Supply Project and then provide zero funding for those other critical needs. So when the Red River Valley Water Supply Project comes on line, there is going to have to be funding somewhere in the neighborhood of $50 million a year for the MR&I, Red River Valley, Indian MR&I components. It is such a critical issue because if we're able to get through the steps of congressional approval of a preferred alternative and authorization, then that funding will have to be there in order for us to provide the water supply.

As I said, in the shortage of funding there is a lot of reasons, and certainly by bringing this up is not to affix blame anywhere. It is just to say that in the future, the delegation, the President, the Governor and others are going to have to work together to make sure that we have adequate funding to complete our agreement providing a water supply to eastern North Dakota.

Senator, thank you very much.

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

Former mayor Bruce Furness who is chairman of Lake Agassiz Water Authority. Bruce.

STATEMENT OF BRUCE FURNESS, CHAIRMAN, LAKE AGASSIZ WATER AUTHORITY

Mr. FURNESS. Thank you. Good morning.

Senator Dorgan, thank you for having this hearing here in North Dakota. Congressman Pomeroy, thank you for being part of it, and I want to acknowledge also Senator Conrad and all three of you as a delegation for all of your support on this issue over a long, long period of time.

I would also like to acknowledge Bill Guy, who when I first got involved with water about 12 years ago gave me some very valuable historical perspectives from his point of view as to what had occurred. I want to acknowledge Mayor Lindgren is here. He, of course, had been involved in water for many, many years as well. A lot of us have been working a long time to make this happen.

I am here today representing the Lake Agassiz Water Authority. Dave Koland used the term, "affected local communities". That is Lake Agassiz Authority. That's us. We are the local part of this. Our motto, our slogan or vision, maybe you could call it is planning today for tomorrow's water. So what we want to have accomplished is have water when we need it. We are concerned about both the quantity of water as well as the quality of water.

Lake Agassiz Water Authority is represented of or consists of 13 eastern North Dakota counties plus three cities in Minnesota along the Red River Valley. The area includes 27 water districts and, of course, lots of towns and cities. We have a board of directors of 10 people, 4 represented by North Dakota Cities, 1 from Moorhead and 5 represented from the water districts. Our purpose is to purchase water from Garrison Diversion and, second, to distribute that water to the end consumer.

We have talked a little bit of the studies. I would like to summarize those. The Needs and Options Report that Senator Dorgan talked about actually unequivocally determined that there is a need and that need is substantial. They also talked about the analysis of the seven options, plus the do nothing option. That was an important part of this whole process is to do that analysis, but it has been done. It is completed, and it speaks for itself.

Environmental impact is ongoing but the results to date show an insignificant impact on the environment on any of the solutions and, in particular, the solution that is the preferred option. The preferred option, as Mayor Walakar indicated, was the Garrison Diversion import to the Sheyenne River. The need for that has been identified. It is the least costly process. It has the least environmental impact, and was selected by the Lake Agassiz Water Authority as its preferred option on October 4 of last year.

It was endorsed by the Garrison—or also selected as the unit by Garrison Diversion as a unit representing the State of North Dakota 3 days later and has been endorsed by the State Water Commission. So all that has happened.

What is next? Well, the next option or the—one of the next things to do is to get the preferred option selected by the Department of the Interior and LAWA would certainly encourage and hope that they come up with the same alternative that the State and local users have selected.

Once that is done there are still some other hurdles. There are Canadian concerns obviously. There are Minnesota concerns. There are downstream State concerns. We have a pricing conundrum of the situation where the price of the water is going to determine the participation of people using the water. At the same time the participation of the people using the water is going to depend on the price, so it is sort of a chicken and egg thing that we are currently working through right now at LAWA. Mr. Dwyer mentioned the funding issue. In simple terms what we're hoping for is a funding formula that is one-third local, one-third State, and one-third Federal. As Mr. Frink mentioned, the Federal portion would be wonderful if we could somehow make that a grant as opposed to being reimbursed.

What I would like to leave you with are three mental images. The first if you think of the outline of the State of North Dakota and then think of that outline representing the amount of water that the Missouri River contributes to the State of North Dakota and its blue in color, that blue color would fill that entire outline up of the State of North Dakota except for 4 percent. That little corner down here in southeast North Dakota would be white. That's how much water the Missouri has in it, how much relative to the rest of the water in the State, 96 percent of the water, sur-

face water, in the State of North Dakota is in the Missouri River. So it just makes sense to us local people that that's where we would go to get the water.

The other thing is, and I have used this before, if you think of all the water in the Missouri River as being represented by a pail of water, a gallon of water, what we're talking about taking out of that pail is less than half a thimble full. Actually it is .02 percent of the water in the Missouri is what we're talking about taking out. So we think perhaps the downstream States' concerns are not too serious.

The other point I would make, the other image I would make is that the city of Kansas City, Missouri, is called the city of Fountains, and they use in their fountains more water from the Missouri River than we're talking about taking out to use for consumable use in the Red River Valley.

Over the past 12 years of my involvement in the water, I have become convinced that this project can happen. I am concerned that this project must happen for North Dakota to continue to grow, and I at this point am confident that the project will happen. We have all heard the affirism what the mind of man can conceive and believe, it can achieve.

The promise of water to eastern North Dakota was conceived 60 years ago. The promise is believed now by a lot of the people in this room, and this promise needs to be achieved in the near future. I hope I don't have to wait another 12 years to see this come to fruition.

Thank you once again for this opportunity. I don't have this in a pro's form, but I can certainly provide you with this outline if you would like that.

Thank you.

Senator DORGAN. Thank you very much, Bruce. We appreciate you being here.

Finally, a city council member from Grand Forks, Curt Kreun, is here with you. Thank you for coming down.

STATEMENT OF CURT KREUN, CITY COUNCIL MEMBER, GRAND FORKS, NORTH DAKOTA

Mr. KREUN. Thank you for the opportunity, Senator Dorgan and Congressman Pomeroy and also Governor Guy. I didn't have ability or time to work with any projects but I did go to school with his son. I don't know if that counts for anything or not, at Mayville. But anyway, my name is Curt Kreun and I am the Ward 7 council person from the city of Grand Forks. I also do chair the Safety and Service Committee there, and I am a member of the Lake Agassiz Water Authority, representing the city of Grand Forks. I would like to thank you for the opportunity to testify on behalf of the city of Grand Forks because this is a very important project to us as well.

Even before I was elected to the city council in Grand Forks, I had a strong interest in water. One of the businesses I did own was a water supply business that delivered water to people with inadequate water availability. I know firsthand how difficult and expensive it can be to provide good, quality water in quantities sufficient to meet the community needs. I have also seen the impact upon businesses and individuals when those needs cannot be met. Par-

tially because of those interests, I agreed to represent the city of Grand Forks on the Lake Agassiz Water Authority. I have heard the reports from professionals about the climatic swings we can expect from the Dakotas. It isn't a question if there is going to be a drought. The question is when will the drought occur and how severe will it be?

The technical details of population projections, future water demands, historic river flows, and projected shortages for Grand Forks are contained in the needs and option reports and the draft environmental impact statement prepared for this project. I would request that this document or these documents be incorporated into my testimony by reference.

Senator DORGAN. Without objection they will be incorporated.

[NOTE: The Draft Environmental Impact Statement for the Red River Valley Water Supply Project and other documents are available at http://www.rrvwsp.com.]

Mr. KREUN. Thank you.

Grand Forks is perhaps a bit more fortunate than our neighbors to the south because of the greater drainage upstream. We have fewer periods of low flow or no flow in the Red River; however, the studies have shown that there will be times where there will be no flow in the Red River or the Red Lake River. If there is no water in the rivers there is no water for us to process and to distribute to our customers in Grand Forks. Grand Forks is a regional hub for a variety of services. Altru Clinic and Hospital is a regional supplier for health care. The Columbia Mall and myriad of other retail stores provide the material needs for the area. Grand Forks is a hub for regional agricultural processing. Simplot provides value added products for the potatoes. This is not only a large employer at the processing plant but it is critical to potato growing industry which supports numerous family farms in the area. Similarly, Crystal Sugar in East Grand Forks supports and adds value to our processing of sugar beets as well. Grand Forks customers also include State facilities such as the University of North Dakota, the Dakota Mill and Elevator. A water shortage in Grand Forks would have direct statewide and Federal impact. We deliver water to Federal facilities such as the Grand Forks Air Force Base and regional border patrol offices. All of these facilities provide invaluable services and employment throughout northeastern North Dakota and northwestern Minnesota.

As you can see, impacts to the water supply for Grand Forks has impacts far beyond the actual city limits of Grand Forks. All of the facilities noted above rely on a clean, dependable supply of water. What would happen were there to be no flow from the rivers to process through our water treatment plant, this question has weighed heavily on my mind, as well as the minds of our local leaders. It is obvious to us that the answer to the question lies in a regional solution. Independent actions by individual communities would prove detrimental to the local agricultural community, not to mention being too costly and likely too late.

We are grateful at the Federal level we have people like Senator Dorgan who recognize the potential for problems and has taken action. The Red River Valley Water Supply legislation makes the possibility of a regional solution a reality. We have found what we

think is the best solution available, which is the Garrison Diversion Unit import to the Sheyenne River alternative, say that 10 times real fast each time. This alternative would provide a reliable source of water to meet the needs of the valley. One of the issues with this alternative is that it is an inter-basin transfer of water. We do not feel that this type of transfer would be an impediment to moving forward. There are numerous examples throughout the United States and Canada of inter-basin water transfers. Water technology is available to treat source water to a reasonable degree in order to address harmful biota.

Are there still outstanding questions? Yes, there are. These issues are being worked on through the environmental impact statement. For instance, we recognize that during the drought of the Red River will become affluent dominated. For Grand Forks that raises questions as to the quality of water that will be available for treatment. We may find that downstream users need to include water treatment plan upgrades as a part of the overall project. Those types of issues will need to be worked out as part of the project details. However, we're confident that there are reasonable solutions to this issue and others that may arise during the project development.

Of the alternatives reviewed, the Garrison Diversion Unit import to the Sheyenne provides the best combination of low cost, high environmental benefits, and reasonable operating parameters. We need to remember that this solution does not provide the level of service of many major water projects. This project does not provide a continuous source of water treatment, nor will it provide water to the tap of the end users. Costs will likely dictate that this project will only provide the minimum level of water service necessary for community survival.

During a drought, Grand Forks will lose a lot of the robust recreational opportunities that the river provides. You will no longer see the record 20- and 30-pound catfish pulled out of the Red River that we just had at our popular fishing tournament. During the drought we will have not have the water availability for lawns and gardens. No longer will we see the abundance of the flower beds to improve the look and feel of our community. The quality of life in Grand Forks and throughout the Valley will not be at a level to which we are accustomed to today.

The point is, in other words, this water supply project represents basic needs to minimize direct economic impacts and has little or no provision for wants. Even though the water supply is a critical issue, much of the population of Grand Forks is still concerned with too much water, as was brought out before, and not too little. This spring we saw the fifth highest flood in recent history. As a community we are still focused on the completion of our flood control project. This means support will be highly dependent on cost to consumers. To a large degree this will be looked at as an insurance policy. How much is the consumer willing and able to pay for insurance? Remembering that we are also asking our citizens to pay a part of the flood control project for the next 20 years, which adds up to about $80 million out of our residents. The answers to these questions will need to be addressed through community debate; however, it is clear that the Federal participation contained

in the Red River Valley Water Supply legislation is critical to making a regional solution a reality.

In Grand Forks we are supportive of the Lake Agassiz Water Financing Project, which includes participation of local, State, and Federal governments. As a council person, I hear concerns every day about the cost of taxes and services. Many people are on a fixed income, struggle to meet expenses. Any model that can minimize costs to our local populus and industry will be beneficial.

In summary we support the process of the regional water supply solution. We support the State preferred alternative and we support the concepts of the cost sharing solution.

I would like to thank Senator Dorgan and Congressman Pomeroy again for having this hearing in Fargo and in North Dakota and appreciate the opportunity to testify. If there is any questions, I would be glad to answer them.

Senator DORGAN. Thank you very much. We appreciate that.

Finally, I am going to call on Lance Yohe of the Red River Basin Commission to describe a letter they have sent to Dennis Breitzman, Bureau of Reclamation, just briefly, and then I am going to ask a series of questions and ask Congressman Pomeroy to inquire as well.

STATEMENT OF LANCE YOHE, EXECUTIVE DIRECTOR, RED RIVER BASIN COMMISSION

Mr. YOHE. Senator Dorgan, Congressman Pomeroy, former Governor Guy, panel members, thank you for the opportunity to share some things that we think are important from not only the local perspective in North Dakota but also the larger basin perspective, including Manitoba and Minnesota. South Dakota really doesn't get too involved in this issue because of the head waters down there.

When we look at this from a basin perspective it becomes evident that this is not just a North Dakota concern. It's a concern all over the basin, and the issue of too much water in the spring and a drought now that we have experienced this year is going on everywhere in the basin. Southern Manitoba has as much water supply problems as eastern North Dakota does. So when we looked at that from a basin perspective we realized that drought for the future is there. Some kind of drought will be there. How long it will last, what the need will be, those are the unanswerables and the study the Bureau of Reclamation is working on with the C district will help address some of those concerns in terms of helping us understand that. But what we do about that and how we get there, that's the question. From our perspective, the sooner we do it, the better. Time is of the essence because this drought could go on next year, the year after. Could be another 1930's drought or it could be a century's long drought like this region experienced back in the 1100s. We don't know, but we know we need to address the future. We need to look at what we can do, and with that in mind we have sent a letter, which you have a copy of, that has two points to it. One is that drought is not just an issue that focuses on one area alone. It is something we need to look at together as a basin and we need to look ahead as a basin. So we're working with the group of technical advisors from each of the jurisdictions now to look at that to see if there is something that we can look at for the future

to prepare for a drought where we could look at this resource and figure out what we're going to need, where it is going to be needed, and how we're going to deal with it. That strategy for basin-wide look at it from a drought planning perspective we think is important because particularly related to the differences in water laws between the jurisdictions. Dale Frink made reference to it. We have got nothing but conflict ahead of us if we don't get ahead of this curve. We have got to figure out how we are going to deal with this. Talking now, the only consensus agreement now, it will certainly be a lot better for us than having conflict and legal challenges later. Again, time is of the essence and that will just slow the process down.

The second point we're concerned about is downstream interest and has been made references of several times here. What are the downstream interests exactly? What are people really concerned about? It has been made reference to water quality, biota, the things that are in there, and the need to do something about that. I think everybody is starting to realize something needs to move forward on that. The question is how far do we have to go? Where is the line on the treatment? What is the cost going to be? What kind of a precedent does it set? Those are important questions. If we can get some kind of consensus and agreement on that on that and where the line is and we can define the costs, then we're in a position to have everybody working on this together, the cooperation across the boundaries that will make this happen and allow us to get it done in a timely fashion, so we think that is important. We're working on that. If we can get that before the record of decision we will provide that to Bureau of Reclamation C District and hopefully that will become part of the process in deciding a final solution.

Thank you.

Senator DORGAN. Thank you very much. We will include your statement as part of the formal hearing record and the letter of the Commission to Dennis Breitzman, the Bureau of Reclamation.

[The information follows:]

PREPARED STATEMENT OF LANCE YOHE

Senator Dorgan, Congressman Pomeroy, members of the panel and those in attendance, I appreciate the opportunity to present today and bring the water supply issue into focus from a broader (Red River) basin-wide perspective.

Background.—The Red River Basin Commission (RRBC) is a registered 501(C)(3) tax-exempt organization in the United States and a registered Charity in Canada. The forty-one (41) board of directors are representatives of local, state, provincial, and tribal governments and citizens in Manitoba, Canada and Minnesota, North Dakota and South Dakota in the United States.

The Vision of RRBC is a Red River Basin where residents, organizations and governments work together to achieve basin wide commitment to comprehensive integrated watershed stewardship and management.

The Mission of RRBC is to develop a Red River Basin integrated natural resources framework plan, to achieve commitment to implement the framework plan, and to work toward a unified voice for the Red River Basin.

Statement.—Water supply in the Red River Basin is Goal #10 in the Red River Basin (RRB) Natural Resource Framework Plan (NRFP). The goal reads: Ensure the appropriate use and sustainability of the Basin's surface and ground water. There are three objectives identified to meet this goal: a basin wide strategy to meet current and projected water supply needs; water supply emergency management plans for contamination, drought, and flooding; and to develop an understanding of the ap-

proaches and differences in minimum in-stream flow criteria. The RRBC and others are working to achieve these objectives to meet this basin goal.

The RRBC in reviewing the Draft EIS for the Water Supply Project underway by the Bureau of Reclamation (BOR) and the Dakota Water Resource District highlighted the following:

—In basin solutions fit best with the basin NRFP goals.

—The RRBC is working with the jurisdictions of Manitoba, Minnesota, North Dakota, and South Dakota to determine what the downstream concerns would be if an out of basin supply option is the preferred alternative in the current water supply project. This information, when identified, will be provided to see if these concerns could be addressed in the final recommendations.

—The RRBC is also exploring with the jurisdictions what basin wide drought planning might include and if there is a desire to explore a basin wide drought plan. This plan could include needs and strategies to meet those needs, as well as a basin strategy to utilize water in an extended drought without an adequate supply to meet all needs.

The RRBC letter to the BOR is attached for reference.

There is a growing consensus from around the basin that water supply is one of the major problems that we will face in the future. North Dakota is concerned enough to embark on a multi-year project to bring more water to the North Dakota portion of the Red River Basin. Minnesota is concerned enough to include major cities along the Red River in the North Dakota Study and to begin looking at the supply issue for the other portions of Minnesota in the Red River Basin. Southern Manitoba is concerned enough to have a current project exploring expansion of their water co-op network to forested lands many kilometers east of the Red River. And Winnipeg is concerned enough to explore safeguarding and protecting its usually stable supply of water. Everyone is concerned. Everyone anticipates a need in the future that will stress current supplies and practices. How we approach these anticipated needs together as we look to the future will determine if there is conflict or harmony. The RRB–NRFP identifies the need to use a basin wide approach in seeking solutions to the land and water problems in the Red River Basin. Water supply is one of those problems where a basin wide approach would go a long way in addressing everyone's needs and maximizing resources. RRBC will continue to build consensus toward a basin wide approach to address the water supply issue.

Thank you, for the opportunity to present the RRBC basin wide approach.

RED RIVER BASIN COMMISSION,
410–283 BANNATYNE AVE.,
Winnipeg, MB R3B 3B2, February 9, 2006.

DENNIS BREITZMAN,
Area Manager, Bureau of Reclamation, Dakotas Area Office, P.O. Box 1017, Bismarck, ND.

The Red River Basin Commission (RRBC) is a non-profit international organization that operates in Canada and the United States in the Province of Manitoba and the States of Minnesota, North Dakota, and South Dakota. The RRBC 41 member board represents local, provincial, state, and tribal leaders in the area as well as ex-officio representation from federal agencies and legislators at all levels.

Recently, RRBC has completed a Red River Basin (RRB) Natural Resources Framework Plan (NRFP). The NRFP is enclosed with this letter. This NRFP has 13 basin wide goals of which water supply is #10.

Goal #10 is: Ensure the appropriate use and sustainability of the Basin's surface and ground water.

The 2 Objectives under this Goal are:

—Objective 10.1: Develop a basin-wide strategy to meet current and projected water supply needs.

—Objective 10.2: Develop water supply emergency management plans for contamination, drought and flooding.

Each goal has objectives and an action agenda that reflect actions by others and RRBC that address the Goals and Objectives. The BOR's water supply study relates in part to Objective 10.1 in NRFP.

In addition to the NRFP, RRBC has underlying Guiding Principles. The Guiding Principles are also enclosed with the letter. The basic theme of the Guiding Principles is to work on problems in the basin together and do no harm to others as solutions are implemented. Additionally, the guiding principles identify that "Conservation is a primary consideration in meeting water supply needs identified in the basin."

At recent Plan Management Committee meetings, the DEIS was discussed. As part of the discussion RRBC members presented jurisdictional and personal concerns and identified matters that require further work and consideration. RRBC has encourages the members who provided these comments to evaluate them against the DEIS and to provide comments, as necessary to the BOR. RRBC encourages the BOR to give due consideration to these comments.

RRBC recognizes that there are water supply needs in Eastern North Dakota and Western Minnesota, and also Southern Manitoba. We also recognize that each jurisdiction has the responsibility to address its legitimate and reasonable water supply needs.

RRBC considers in-basin options the most consistent with its Guiding Principles and NRFP goals and objectives. If out-of-basin options are the only reasonable means possible to address the identified needs, then any alternative must adequately protect downstream interests.

RRBC is in the process of developing a strategy to address Objective 10.2 in the NRFP: to facilitate the development of a basin drought plan. In addition RRBC will facilitate discussion between the jurisdictions to address the concerns of downstream interests, such as the identification of what adequate treatment would be in the event that an out-of-basin alternative is selected. RRBC is working to complete these two initiatives before the ROD. RRBC asks that the BOR consider input from these two initiatives in determining its recommendation on a preferred water supply option and finalizing its ROD, if the information is provided before the ROD is finalized.

The RRBC would invite the BOR, the Garrison Conservancy District, and other interested parties to participate in these two initiatives.

Sincerely,

DAN WILKENS,
Chair of RRBC.

LANCE YOHE,
Executive Director, RRBC.

Senator DORGAN. We thank all of you for being here and presenting some information. The first question, I guess, I would ask is perhaps of Dale and the mayor and others. The option that the State has selected, and the option I believe all of you have suggested as the preferred option, an agreement that you have reached almost by unanimous consent? Or are there others who believe there should have been other options selected?

Mr. KOLAND. Senator Dorgan, in my written testimony I outlined the procedure that we went through, starting with the Technical Advisory Committee of the Lake Agassiz Water Authority. That committee made a recommendation to the Lake Agassiz Water Authority, and the Garrison Diversion had a committee that was monitoring all the meetings that were going on with the Lake Agassiz Water Authority called the Public Relations and Red River Valley Committee. That committee made a recommendation to the Garrison Diversion Board. Then the State Water Commission, we held special briefings for the State Water Commission. We kept them up to date as we were going through the process. The point I am getting to to answer your question is that every vote at each of those committees and each of those boards was a unanimous vote. Now, that's not to say that we did not seriously discuss other ways of getting water to the Red River Valley because there are other ways; for instance, putting water in the James River and then bringing it over to the Red River is a way. But the Dakota Water Resources Act, when that deal was struck, specifically eliminated in our viewpoint the option of putting water in the James River. So the other options, there are other options that we could look at, would require us to go back and ask Congress for authorization to implement those type of options. That was just one of the options.

There are the various pipeline versions. I would say that within each of these organizations there are people that lean toward the pipeline. I know a number of the water districts would favor what we call the replacement option, to provide a replacement water supply to every water system in the Red River Valley. We looked at that because we wanted to know what that would cost. It's billions of dollars. It just simply, yes, we would like to do it, but it is simply not affordable for the water users or for the State or for the Federal Government, for that matter, to pursue that option. So yes, we considered many different options and I would say that if you ask any number of people that, well, here is my favorite if someone else will pay for it, but it got down to which option could we meet the needs of the Valley and do the least amount of environmental impact to our system.

Senator DORGAN. What is the condition of McClusky Canal at this point?

Mr. KOLAND. The McClusky Canal has been maintained under contract with the Bureau of Reclamation. We use it to deliver water. We have water contracts with some of the Federal agencies to deliver water for wildlife management areas. So in my opinion it is in very good condition. There is some work in one of the regions of the canal that will have to be addressed. There are slides in some of the areas and that will have to be addressed. If that's the option that is selected, we will then take a look at what it will to correct those.

Senator DORGAN. One of more of you mentioned a new authorization is needed by the Congress if, in fact, the choice of moving Missouri River water to eastern North Dakota is made, and if that selection is determined to be the case, then the Congress will have to pass a new authorization. You also pointed out correctly that the $200 million is reimbursable. You would like it to be nonreimbursable. Let me ask the question. Anticipating that we certainly would be working on those issues, what if, in fact, the $200 million continued to be reimbursable, what does that do to the cost of water delivered to the Red River Valley from the Missouri River?

Mr. KOLAND. It is somewhat problematic to answer it specifically because it depends on how the repayment contract would be negotiated, but a typical repayment contract calls that repayment is based on the amount of water that you use. So theoretically, viewing it that way, that you would not be making payments until you had to call on the supplemental water source. Typically those are over a 40-year period and typically also extended so that it is a 80-year repayment period. So while it is reimbursable, typically it can be negotiated to what would be favorable terms for the water users.

Senator DORGAN. One of the things that exists in government and perhaps in all of our lives is it is much easier to respond to a crisis because you can see it, feel it, there is an urgency to it, and so it is always a circumstance where it is easier to respond to a crisis than it is to respond earlier on to prevent a crisis. I ask the question, you know, the folks in the communities and the Red River Valley who will pay for this or pay for some of this project at least, what kind of opinion exists in the communities with respect to the need for this, the support for it and the urgency of it?

Perhaps Mayor Walakar and Mayor Furness might answer and Curt as well. What is your sense of what the people are saying?

Mayor WALAKAR. Well, after going through the wet period that we have gone through for the last 10 years or more, this was kind of a shock to our people. If you look at the crops and so forth in the Red River Valley, they look pretty good. Why do they look good? Because of our soil and so forth. I think small grains did fairly well and we did get a little bit of rain for the row crops. But we get a lot of calls at the office about the water restrictions and so forth, and there is a concern. All you have to do is—we have five dams on the Red River that the city maintains and we have restructured three of them and we are going to try and restructure the other two that provide reservoirs and so forth in case we go into a drought, but that is just a short-term process. I think the time is right, to answer your question about the reimbursable $200 million, I think that would be difficult because the process of, you know, I like the formula of one-third, one-third, one-third. I think that makes the most sense. As far as reimbursing that over 80 years, I guess I don't have to worry about that, but the process gets to be that if we are going to be partners, that seems like to be a very good scenario to fund the project when you look at the project when you were talking originally it was $800 million to $1 billion. That's an awful lot of money. Even $600 million is an awful lot of money, but to me this alternative that we have in the process is very respectable. I think it is something that can be sold, but what people get down to really, Byron, is what is it going to cost me? What is going to be on our water bill on a monthly basis to provide that? The people came forward in the city of Fargo with a sales tax because it was a good deal. I mean it was a good process for us to fund flood protection and things like that and infrastructure, but it is going to be interesting. This would be the year to continue forward as far as I am concerned because water has not been a real serious problem here since 1989.

Senator DORGAN. Bruce Furness.

Mr. FURNESS. I think the average person has not thought much about this. Maybe now this year with the start of potentially a drought they are more concerned, but they really won't get concerned until they turn the tap and nothing comes out. We have always said, and we haven't really sampled this in any way, but if we could deliver water to the citizens of Fargo, assure them that they would have this additional water, supplemental water supply, for something in the area of $10 a month additional, that that would be a sellable thing to the citizens. I have presented that at various times when I have spoken at service clubs and things like that and gotten a positive response, but it is certainly not any kind of scientific study that was made of this. But we think if we can get it down less than that it would be better, but that's sort of what we—you know, $100 a year we think people would view as the insurance payment to assure that they have water.

Senator DORGAN. Curt, what is your assessment of the Grand Forks citizenry?

Mr. KREUN. Actually our residents haven't given it a lot of thought at this point. We have been trying to bring up the awareness of the studies that have shown that we will have a problem.

We have had some media coverage that has been very positive. The residents then have responded from the media coverage to indicate, yes, we should be looking at this. It does become an issue of how long do we pay the insurance policy before we see the benefit? I guess that is kind of what I stated in there. They view it as an insurance policy, but it is definitely an insurance policy that I think most people when they look at this in depth will see that it is worthwhile as an insurance policy because there will be a point in time, as I stated, it is not if we have a drought, it is just when and how severe. So we have to bring that forward as a governmental body to indicate how this will be affecting their amount of money that they would pay for the insurance policy. But it is slowly taking hold right now. It was very difficult in the beginning to bring this forward but it is starting to take hold right now in Grand Forks to understand because of the dry conditions that we've had in Fargo and the western part of the State. So it is coming.

Senator DORGAN. All right. I am going to call on Congressman Pomeroy to inquire, but I did want to mention we have another former I see in the audience, Jon Lindgren, Jon welcome. Thank you for being here.

Congressman Pomeroy.

Mr. POMEROY. I think it is very interesting as you talk about public awareness about the drought. I mean the searing water events we have had are floods. I am still shaking my head, hearing Denny Walakar talking about not enough water. You know, it's a distinct turn of events although a lot more of a focus this year certainly.

I want to ask Mike a question. I was very interested to see that Southwest water supply demand is up by 50 percent over normal. How is that obviously related to drought? What is causing the additional draw on that water?

Mr. DWYER. It is the drought of the summer. Obviously south of Interstate 94 is a very intense dry period, you know. You know, north of the interstate, you know, we have got some rainfall, but in the southwest part of the State it has been extremely dry, so it is attributed to the drought.

Mr. POMEROY. Would we have had municipal water shortages potentially without Southwest water supply with the summer we have had?

Mr. DWYER. Absolutely. If you remember early back in the 1980s when the Southwest Pipeline was first authorized, Dickinson was out of water and they were recycling their lagoon water for water back then. So Dickinson and a whole number of the other communities would not have had water.

Mr. POMEROY. Dale, you want to elaborate on that?

Mr. FRINK. The Southwest Pipeline started to pump water in 1991 and that winter, if that pipeline wouldn't have been completed at that time Dickinson would have been out of water in that winter and they would have been out of water essentially for 2 years. So, yes, Southwest Pipeline made a very huge impact right out of the chute.

Mr. POMEROY. We in North Dakota talk about the critical link between a pipeline for water supply assurance versus the prospect

of literally running out of water. We have got living, breathing examples of this in North Dakota.

Mr. FRINK. Yes, we do.

Mr. POMEROY. Lance, you mentioned consensus many times. As I look at your board, Manitoba is represented in equal numbers. Is there a developing consensus on need? That we're not just faking it? We're not just wanting some Cadillac water deal—that we face the prospect of not having water for Fargo? I guess, as you have mentioned, that there would also be participation by southern Manitoba as well as cities from Minnesota that are part of the commission. Is there developing consensus on need?

Mr. YOHE. Congressman, yes, I believe there is, and we have talked about that at our board meeting, and there is a general feeling that we're in a period where we really need to take a look at that. The difference has become how great the need is and how we address that need, but the need issue, there seems to be consensus it is there. Southern Manitoba right now all the way from the border to Winnipeg is looking all over southern Manitoba for a new source of water because they are to the point where they feel they can't rely on the Red River because there is nothing in place. So up in that area it is certainly there.

Mr. POMEROY. You know, once there is a developed consensus on need or a spoken consensus on need then there are other ways to continue the debate. Cost is a very effective way to kill a project without saying you are out to kill a project. I have seen it done many times. Mike, I thought your testimony was interesting in terms of the kind of dollars we're going to have to put behind this so the financials work. If you don't get the financials to work, none of it works. Would you care to elaborate a little more on that point?

Mr. DWYER. Well, you know, we certainly need to recognize whether the $200 million Federal component is grant or loan, it still has to be provided. So the $50 to $60 million a year is going to be essential in order to be able to move this project forward. I also might add that there is a State MR&I component of $200 million and it may well be that North Dakota will allocate a share of that to this project. I suspect it will. So those Federal dollars are going to have to be forthcoming in order for us to move this project.

Mr. POMEROY. Federal dollars required depends on design of the project. Is the $50 to $60 million estimate based upon the consensus alternative that has been supported?

Mr. DWYER. That is based on just a general $600 million project with $200 million being local, $200 million being State, and $200 million being Federal. So if we change that and went to a $1.2 billion project, obviously those numbers are way different, but it is based on the $600 million amount.

Mr. POMEROY. I think that that's an important point. In terms of talking about design, let's talk about design. Let's look with an open mind at the alternatives, but in the end let's understand that a $100 million a year funding requirement is unlikely to be committed by the Federal Government at this point in time and that a design that takes you to that dollar figure is essentially a nonstarter. So you can talk about how it is not going to happen which is the same as opposing it outright. I think that we're going to have to reflect long and hard at what appears to be thorough work done

by you all in evaluating the alternatives and arriving at the preferred one that you did. Some are suggesting you jumped the gun a little, you moved up prematurely, picking one alternative when the Corps is still mulling around. If we're to get this thing on track there are finite options. There are a finite number of options. You have done some due diligence in looking at them. I think you have brought us some very good work.

Thank you. That is the end of my questions, Senator.

Senator DORGAN. I want to—first of all, let me say Valerie Gravseth is here in the back with Senator Mark Dayton. Valerie, where are you? Thank you. Your being here reminds us again that while we are on the North Dakota side and talking about principally our North Dakota cities, this issue relates to our region. I think, Lance, your comments are certainly correct about that.

Congressman Pomeroy raised the issue of funding. All of us are committed, very committed to doing what is necessary to authorize what we decide to do here, to try to find ways to provide whatever funding is achievable. Obviously the fiscal policy in our country has deteriorated substantially, and in this oncoming year the increase in Federal indebtedness, not what is advertised in news on what the Federal deficit will be but the increase in indebtedness in the coming fiscal year will be about $600 billion. That's just for the budget debt. The trade debt will be about $750 billion at least. So we have a pretty grim financial picture with respect to budget policy, and I think, as Congressman Pomeroy I think is correct, it is not as easy as it would have been perhaps a decade or two decades ago to achieve all the funding that is necessary. But we have a commitment here in Federal legislation. This entire commitment, including this issue is a part of the bargain that was struck going back to the Pick-Sloan plan, and as a result of that and modifications of that along the way there is a plan that includes benefits to North Dakota, including resolving the issue of a water supply, an assured water supply on the eastern side of our State. It is our responsibility, all of us, to make sure that that commitment is kept. So, you know, I pledged, my colleagues, Senator Conrad and Congressman Pomeroy, pledged to do all we can to try to realize this dream of not being held hostage to a river that runs dry some day. That would have dramatic consequences for our largest metropolitan area in this region, and many other areas as well up and down the river. We have folks here from Pembina and other areas. The consequences are very significant for a pretty substantial part of our population.

I would also like to say, as we conclude today, that there are perhaps those with other viewpoints that wish to express them as we move forward, and we will accept as a part of the formal record any and all additional viewpoints that wish to be submitted by individuals or groups and that will become a part of the record. The development of a record here is very important. I specifically asked that we begin to develop a record in the Appropriations Committee because it is—while we don't have authorization issues, it is also the case that the Appropriations Committee will at some point be required to take a look at this, and I want the record to have been developed on it as well, and that is the purpose of calling today's hearing. I know that a number of you have driven a long ways

today to come with—to be part of this as well and we appreciate that.

[The information follows:]

Matt Blunt, Governor • Doyle Childers, Director

DEPARTMENT OF NATURAL RESOURCES

www.dnr.mo.gov

September 30, 2005

Dennis Breitzman, Area Manager
Red River Valley Water Supply Project
Bureau of Reclamation
Dakotas Area Office
P. O. Box 1017
Bismarck, ND 58502

Dear Mr. Breitzman:

The U. S. Bureau of Reclamation's Needs and Options Study (Study) will need to be significantly revised before it can serve as the basis for an Environmental Impact Statement (EIS). A failure to address the concerns expressed in this letter and to make the proper changes will cause the subsequent Environmental Impact Statement to violate the National Environmental Policy Act (NEPA).

The study fails significantly in major areas. First, the population estimates are so inflated as to render them unsuitable to serve as the basis for an analysis of options. The industrial needs do not match in any way the population studies nor are the results justifiable using any reasonable criteria. The options are inadequately and unevenly assessed rendering a bias to the consideration of options. Finally, a consistent biasing of analyses results in a study that does not address the requirements of the U. S Congress as expressed in the Dakota Water Resources Act nor does it provide a basis for a critical examination of the impacts as required by NEPA.

Population Estimates

The U. S. Bureau of Reclamation (Bureau) has not created reasonable population projection scenarios. The population of the area in 2000, according to the Bureau, was 446,235. The U. S. Census Bureau predicted a population of roughly 502,792 in 2050 while the Bureau's contractor (Northwest Economics Associates), following guidance from the Bureau, estimated a population of 569,867 in 2050. The Bureau's own demographers also ran two projections. In one, a cohort model, the population was predicted to be 546,211 by 2050 while the other predicted a population of 613,136 at that time by including extra in-migration into the area beyond that predicted using standard demographic models. The first three of the projections were completed using standard demographic techniques. The latter three were completed under conditions set by the Bureau itself. Yet the Bureau rejected all of these projections, essentially without explanation.

Instead, the Bureau has chosen two population projections that do not use standard demographic techniques. In their projection called "Scenario 1" (which projects a population of 638,000), the Bureau added population to the projection with the highest population in response to some cities' complaints that the cities' populations were still underestimated by the models. There is no documentation of the process used to add to the population in the records that the Bureau has made available. "Scenario 2" (which has a projected population of 707,704) was created by adding even more population at the request of the cities. This is documented in the letter from the cities to the Bureau that is contained in the Study. The two scenarios chosen by the Bureau project growth rates between 3 and 4 times greater than those predicted by the U. S. Bureau of the Census for the next fifty years.

The two scenarios that the Bureau proposes to use abandon the use of demographically accepted practices and result in grossly inflated population projections. The selection of these two scenarios would introduce a bias into all analyses that use them as a basis for assessing the needs of the service area. The two scenarios selected by the Bureau must be rejected because they are themselves arbitrary and capricious. We suggest an independent assessment of the Bureau's work in projecting the future population of the service area to investigate how their estimates could vary by a factor of more than three from those produced by the U. S. Bureau of the Census. A failure to use projections that are based on sound analysis will likely cause the rejection of the Environmental Impact Statement (EIS) expected to be produced using this Study as a basis. This discussion is summarized on the attached chart.

Industrial Use

The two studies that form the basis for the estimates of the future industrial needs of the service area are similarly flawed. These assessments show no relationship to the inflated population estimates, but rely on methods that produce significant inconsistencies between the population and industrial studies. For example, the Bureau predicts all water systems will have industrial needs for water grow by at least 1.75% per year. This rate greatly exceeds the population growth in the Bureau's two population scenarios in every single part of the North Dakota service area.

Part of the industrial need projection is based on using Provo and Salt Lake City, Utah and Sioux Falls, South Dakota as the bases for comparison. This ignored fundamental differences in demographics (e.g. average age), industrial trends over the last forty years and changes in business practices that reduce water use. The use of Salt Lake City is particularly inappropriate given the Olympics-related economic activity that the city experienced late in the analysis period.

The agricultural industry part of the study that was accepted by the Bureau, without critical review, was completed under the auspices of the Garrison Conservancy District (District). Given the District's stated goal of bringing Missouri River water to the Red River of the North, the Bureau should have taken special care in accepting work sponsored by a party with such a well-documented bias. The documentation provided in this assessment is sorely lacking and falls far short of that to be expected in a document that is part of the NEPA process.

Conservation Measures
The Bureau did not include drought conservation measures in their Study. The Bureau claims that such measures would not make a significant difference in water use during a drought. However, the City of Denver recently noted a nearly 28% drop in water use as a result of drought measures put in place in 2004. While water savings in the Red River Valley may be less, they are likely to be significant and should be included in the analysis of future needs.

During the drought in Missouri during the summer of 2005, many communities invoked either voluntary or mandatory water restrictions to lower demand. At our request, the Bureau asked communities in the Red River Valley about their drought conservation plans. Only Fargo actually had such a plan for reducing demand during periods of short supply. It is particularly glaring that the communities of the Red River Valley are demanding rights to Missouri River water while not imposing conservation measures at least as strict as imposed on those who actually live in the Missouri River Basin.

No True Benefits Estimate
In spite of requests from members of the Technical Team, the Bureau has not determined the demand as a function of time, but uses only the maximum demand in their analysis. By focusing on maximum demand, the Bureau overstates the needs (as opposed to the desires) of those in the basin and thus increases the cost of the project.

It is evident that the Bureau has not followed "Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies " (Principles) while formulating the alternatives.

No cost-benefit can be derived for this project because the Bureau has focused on meeting the maximum desired quantity of water based on unrealistic expectations instead of determining the actual likely need. The Bureau is risking a large federal cost with little benefit. It is completely unclear that this project is justified based on the analysis to date. Furthermore, the benefits determined by the Bureau are likely to be greatly distorted by the unrealistic population and industrial use projections.

The Bureau should also include a more complete cost analysis. Many of the in-basin solutions could be built as needed. These options should be considered and their implications explained. Such an approach would greatly reduce risk of over-building, guarantee that local supplies match local needs and provide for continued analysis of needs, options and likely environmental impacts. Given current fiscal constraints at the federal level, incremental, in-basin approaches need to be carefully considered and given due consideration.

Missouri River Assessment
Any analysis of impacts on the Missouri River basin must be conducted in a similar manner to that in the Red River Valley. Growth rates and needs must be projected using the techniques and methodologies used in the Red River Valley to assure the consistency in approach that is required by NEPA. The growing demands for water use in the basin and likely future diversions needs to be included in the impacts.

Options' Analysis
The Bureau fails to adequately analyze all of the available options. For example, the Bureau dismisses a wide range of options as part of an in-basin solution because individually none can supply all the water needs of the basin. However, in tandem with other in-basin options, these can contribute significantly to an in-basin solution. Specifically, all of the features on pages 3-117 to 3-119 should be retained and viewed as partial solutions. The Bureau was tasked by Congress with examining means to meet the water needs of the Red River Basin. A failure to analyze all potential contributions clearly violates Congress' charge to the Bureau as well as the requirements of the NEPA. In completing the EIS, we encourage the Bureau to ensure that all options are analyzed completely and comparatively as required in Principles.

Other Considerations
Through this project the Bureau appears to be considering the establishment of water rights for those not yet born in the Red River Valley that would be senior to the rights of those living in the Missouri River basin. This topic certainly deserves congressional consideration as it establishes a precedent for future water projects.

The Bureau's analysis offers no consideration of the net loss to evaporation and other processes in the various options. The Bureau, in its EIS must seek to minimize impacts, including impacts on the Missouri River and those who depend upon it. We remind the Bureau that their EIS must consider all likely actions, including additional diversions of water from the Missouri River during the life of the project.

We encourage the Bureau to read the U. S. Army Corps of Engineers EIS on the Devils Lake Outlet. In particular, we would draw their attention to the sections on mussels in the Sheyenne River and the likely impacts of changes in base flow caused by the operation of the proposed outlet. The impacts on these species of a diversion of Missouri River water through the Sheyenne River are similar to those cited by the Corps in its EIS. Many other environmental impacts noted in the Corps' Statement will also apply.

The Bureau should consider an additional cost factor not discussed in this Study. Most of the in-basin alternatives offer the possibility of a "build as needs arise" approach. Such an approach is not possible with out-of-basin options as the pumps and pipes would all be built early on, well before the demand arises. In-basin options could be built gradually thus greatly reducing the potential for significantly overbuilding the necessary infrastructure. Because those being supplied water pay only for that water which they use, any extra costs would be borne by the federal government, not by users.

Summary
The Study contains a number of results that must be altered before this Study can be used as the basis of an EIS. A failure to make the changes likely will cause the EIS itself to be judged arbitrary and capricious. The needs projections are unclear and indefensible while departing from standard professional practices. The industrial assessments are either seriously flawed or questionable because of their source. The Bureau has ignored the Congressional mandate for a

needs assessment and has instead delivered a "desires" assessment. The likely result of a project based upon this study is an unnecessary expenditure of federal funds that can not be justified. We encourage the Bureau to approach the EIS in a professional manner. An honest and complete assessment of the project would in all likelihood conclude that in-basin sources are quite likely to be able to meet the water needs of the Red River basin for the next fifty years. These options greatly reduce the environmental impacts of the project and thus warrant preference in the Environmental Impact Statement to be completed.

If you have any questions concerning the issues raised in this letter, please contact Joe Engeln at (573) 751-9813.

Sincerely,

DEPARTMENT OF NATURAL RESOURCES

Doyle Childers

Doyle Childers
Director

DC:jej

Enclosure

c. Senator Christopher Bond
Senator Jim Talent
Congressman William Lacy Clay
Congressman W. Todd Akin
Congressman Russ Carnahan
Congressman Ike Skelton
Congressman Emanuel Cleaver
Congressman Sam Graves
Congressman Roy Blunt
Congresswoman Jo Ann Emerson
Congressman Kenny Hulshof

Bureau of Reclamation Population Study - Red River Valley

	Actual 2000	2050 estimates					
		Census	NEA mig	Cohort	Migration	Scen. 1	Scen. 2
Population	446235	502792	569867	546211	613136	638600	707704
Annual Growth Rate (%)		0.239	0.490	0.405	0.638	0.719	0.927
Total Growth (population)		56557	123632	99976	166901	192365	261469
Rate compared to Census Bureau		1.000	2.052	1.695	2.667	3.010	3.877

NOTES

Census - U. S. Census Bureau estimate of population
NEA mig - Population estimate from Northwest Economics Associates analysis. NEA is a Bureau consultant.
Chort - Bureau's 2004 cohort model estimate without local migration variations
Migration - This is the Bureau's 2004 cohort model with historical migration trends
Scenario 1 - This is the Bureau's 2004 claimed best estimate of population.
Scenario 2 - Adds population to Scenario 1 at the request of governments and water suppliers in the RRV.
Population - The current and the estimated populations for 2050
Annual Growth Rate - The calculated rate of population growth for 2000-2050. Expressed as a percentage.
Total Growth - Increase in population 2000-2050. Expressed as population.
Rate compared to Census Bureau - compares the projected 2000-2050 rates to the Census Bureau rates
Information from Table on page A-37 and from page 2-44 for Scenario 2

Matt Blunt, Governor • Doyle Childers, Director
DEPARTMENT OF NATURAL RESOURCES
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JUN 15 2006

Red River Valley Water Supply Project DEIS
Attention: Dennis Breitzman
Bureau of Reclamation
Dakotas Area Office
P. O. Box 1017
Bismarck, ND 58502

Dear Mr. Breitzman:

I am writing to submit additional comments from the Missouri Department of Natural Resources on the Draft Environmental Impact Statement (DEIS) for the Red River Valley Water Supply Project. I request that these comments be considered independent of any unannounced deadlines that the Bureau of Reclamation (Bureau) may impose on public comment. We are extremely concerned with the inadequacy of the DEIS and the lack of information regarding the process since the release of that document.

The Bureau has not explained the reasoning for the indefinite extension or of the procedures to be followed during the extension of a comment period, which is contrary to the requirements of the National Environmental Policy Act (NEPA). Without some certainty of schedule, this extension is essentially a series of one-day extensions that do not serve the purposes of NEPA and prevent interested parties from planning for comment or knowing whether any comments submitted will be considered as timely submissions under NEPA. We request that the Bureau send out periodic updates and provide a mechanism for input during this period.

We continue to be concerned by the use of indefensible population estimates. In its response to our comments on the Needs and Options Study, the Bureau claims, "The population projections conducted by Reclamation and Northwest Economic Associates were based on the cohort component method, which is generally regarded as the most comprehensive and reliable method to estimate population change over time. Thus Reclamation maintains that these population projections are the most realistic estimates available." However, the Bureau did not use these methods in the DEIS and their cohort models predict triple the growth predicted by the U. S. Census Bureau and much greater growth than historical trends. We request an explanation of the assumptions used to derive the cohort component models used by both the Bureau and NEA for future population growth. We also reiterate our request for an independent analysis of the population estimates given these discrepancies.

We expect the Bureau to address our previous comments on obvious flaws in Missouri River analyses. We request a comprehensive analysis of impacts to the Mississippi River be presented. We also expect all analyses of impacts on the Missouri and Mississippi Rivers to be comparable to and consistent with the methodologies used in the Red River Basin. As an example, what population and water use growth would be predicted for the Missouri River basin using the Bureau's cohort models? If we are not informed of on-going work on an interim basis, the department is likely to require significant time to complete our analyses after the submission of the next DEIS. The department requests that we be kept informed of changes being made in the analysis of potential impacts on the Missouri River. Given the highly contentious disagreements over how the Corps manages the Missouri River and the expertise available in this department, we expect to be allowed access to the analyses completed in this basin.

The Bureau has no option but to issue a revised Draft EIS to allow for further comment on this project. Given the seriousness and the extent of the comments on the initial DEIS, such a revised draft is necessary to allow the level of public comment required by NEPA and the open process required under the Dakota Water Resources Act. Such a draft should only be released after the Bureau has published their responses to comments received in response to the DEIS and should clearly address all comments received on the DEIS.

The Bureau needs to commit to a full and honest investigation of water resources within the Red River Valley and a comprehensive examination of the impacts of a diversion of water from the Missouri River. Furthermore, it in incumbent upon the Bureau to create a transparent process that allows all interested parties access to participate in the analyses and review of this project. A failure to do so will be considered a violation of NEPA and the Dakota Water Resources Act.

Sincerely,

DEPARTMENT OF NATURAL RESOURCES

Doyle Childers

Doyle Childers
Director

DC:jej

c: Governor Matt Blunt
Attorney General Jay Nixon
Dirk Kempthorne, Secretary of Interior
Senator Christopher Bond
Senator Jim Talent
Congressman William Lacy Clay
Congressman W. Todd Akin
Congressman Russ Carnahan
Congressman Ike Skelton
Congressman Emanuel Cleaver
Congressman Sam Graves
Congressman Roy Blunt
Congresswoman Jo Ann Emerson
Congressman Kenny Hulshof
William Rinne, Acting Commissioner, Bureau of Reclamation
Eric Hansen, Office of Management and Budget
Brigadier General Gregg Martin, Commander, Northwest Division,
US Army Corps of Engineers
Brigadier General Robert Crear, Commander, Mississippi Valley Division,
US Army Corps of Engineers
Jim Gulliford, Regional Administrator, Environmental Protection Agency Region 7
Robert Roberts, Regional Administrator, Environmental Protection Agency Region 8

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APR -4 2006

Red River Valley Water Supply Project EIS
Attention: Dennis Breitzman
Bureau of Reclamation
Dakotas Area Office
P. O. Box 1017
Bismarck, ND 58502

Dear Mr. Breitzman:

I am writing to submit the Missouri Department of Natural Resources' comments on the Draft Environmental Impact Statement for the Red River Valley Water Supply. The Bureau of Reclamation's (Bureau) attempt to justify the transfer of water from the Missouri River poses a threat to use of that water by millions of Missourians. While members of my staff have participated through the technical team, their advice and counsel have been systematically ignored as have been other representatives who have raised similar objections. As a result the document produced by the Bureau fails to fulfill the Bureau's required compliance with the National Environmental Policy Act (NEPA) and the Dakota Water Resources Act (DWRA) for these and other reasons.

The Draft Environmental Impact Statement for the Red River Valley Water Supply (DEIS) is seriously flawed and needs to be substantially changed before being finalized. In summary, the DEIS:

1. Overestimates the water use and population growth in the Red River Valley;
2. Underestimates water use and population growth in the Missouri River Basin;
3. Fails to document the reasons for rejecting more conservative and scientifically-produced estimates of need within the Red River Valley;
4. Ignores some in-basin water sources;
5. Relies on an admittedly unsuitable biota transfer analysis; and
6. Fails to resolve the fiduciary conflict of interest of the Garrison Conservancy District in this study.

The basis for estimating water needs in the Red River Valley, which serves as the basis for the other analyses conducted in the DEIS, is deeply flawed. The Needs and Options Study and the DEIS show a consistent and serious bias towards a solution that requires the transfer of water from the Missouri River Basin to the Red River Basin in spite of a significant amount of objective data that show that such a project is not likely to be

needed. The lack of consistent treatment of the two basins and options for meeting water needs together with the Bureau's failure to deal with conflicts of interest show a definite bias and are particularly troublesome given the importance of this project. Together these documents fail to meet the requirements of the NEPA or the DWRA. Our major concerns are outlined below with more detailed comments provided in the attachment to this letter.

The needs defined by the Bureau in its Needs and Options Study (Needs Study) are not supportable. The Bureau rejected, without a reasonable basis, all of the population projections that were derived using standard demographic techniques in favor of two scenarios that grossly inflate future growth rates compared to both historic rates and those predicted using standard techniques. The Bureau created scientifically and demographically unsupportable projections for future population after rejecting the population estimates of the U. S. Census Bureau, the Bureau's own demographers and those produced by the Bureau's consultants using the Bureau's guidance. The population projections and the resulting needs scenarios used in the DEIS do not recognize, nor are they based upon, current demographic information. Thus, Bureau's claim that the two scenarios presented represent the "range of reasonable alternatives" is patently and provably false. Similarly, the industrial needs projections rely on a group of cities and their historical growth patterns to predict growth in the largest cities in the Red River Valley. These cities are poor models (one, Salt Lake City, was accommodating the needs of an upcoming Olympic Games at the end of the analysis period). In addition, the Bureau ignores the changes in American industry over the last thirty years in using this period as the basis of its as models. The resulting water demands greatly overstate the likely demand in an attempt to justify a federal inter-basin water transfer that is clearly not justified to any reasonable reader of these documents.

The Bureau dismissed a number of options within the Red River Basin that could have contributed to an in-basin response to the water needs of the Red River Basin. The Bureau ignored a number of water sources in the Red River Valley because each would not meet the entire perceived need by itself. The Bureau also has chosen to give short shrift to groundwater resources in the Minnesota portion of the Red River Basin. These supplies, according to reports in the DEIS itself, are sufficient to meet the water needs of the basin for an extended period. Also, in-basin alternatives have a significant added advantage over the out-of-basin transfers because in-basin options can accommodate better a "build as needed" approach that would meet the actual needs of the Red River Basin rather than the inflated needs imagined in the Needs Study.

In stark contrast to the population estimates in the Red River Valley, the Bureau assumes absolutely no growth in water usage for existing municipal, residential and industrial water systems in the Missouri River Basin. The analyses of potential impacts on the Missouri River and the water users there also stands in dramatic contrast to those completed in the Red River Valley. The Bureau uses only those diversion projects currently with written plans in the Missouri River Basin while allowing cities within the Red River Basin to add projects and population to their cities at will. The Bureau has not modeled the drought of the 1930's in the Missouri River basin in a similar manner to the

detailed analysis the Bureau conducted in the Red River Basin. By its own admission, the Bureau underestimates the depletions likely to occur within the Missouri River Basin. The Bureau has failed to conduct a large number of critical analyses on the Missouri River and has ignored many potential impacts on the Missouri River below Nebraska City. In omitting these analyses, the Bureau fails to fulfill the requirement to examine likely impacts under NEPA. These significantly different approaches and missing analyses introduce a critical bias in the Bureau's analyses and result in conclusions that clearly violate NEPA, DWRA and any sense of fairness.

The biota transfer analysis is based on a statistical model that even its authors admit can produce fundamentally different results with very minor changes in the assumptions. This analysis does not account for a likely failure of the biota control system at any time between now and 2050. It fails to address the fact that new technologies without long histories of demonstrated reliability would play the critical role in reducing the risk of biota transfer between basins. By assuming one hundred percent reliability, the biota assessments grossly underestimate the risk. By using a statistical basis and averaging those results to produce a net risk, the Bureau has failed to assess in a substantial manner the real risks and consequences of biota transfer.

The Garrison Conservancy District has been dedicated to the completion of a diversion of water from the Missouri River to the Red River of the North for decades. The District's charter presents them with no option but to advocate for an out-of-basin solution. However, it is the Bureau, as the federal agency, that is required to manage such conflicts of interest. The Bureau has improperly abdicated this responsibility.

We have yet to receive a response to the department's comments on the Needs Study. We therefore, reserve the right to add further comments to this letter when that response is received.

The sum total of all of these faults has the effect of eliminating the credibility of the overall results of the analyses and the conclusions drawn from those analyses. The DEIS fails to achieve the required clear and objective examination of the issues associated with meeting the water needs of the Red River Basin. Unless these faults are corrected in the Final EIS, that document will have to be rejected by both the Secretary of the Interior and the U. S. Congress as not meeting the minimal requirements of the National Environmental Policy Act or the direction given in the Dakota Water Resource Act.

I request that the Secretary of the Interior end this process immediately. In its place, the Bureau should commit to a full and honest investigation of water resources within the Red River Valley, seeking authority from Congress to work cooperatively with the states of North Dakota and Minnesota to meet the immediate needs of the basin and those likely to arise in the next decade. Any attempt to move this project forward based on the haphazard, improper and inaccurate analyses done to date will be met with our strongest objections and leave the State of Missouri with little recourse but to challenge the legality of the proposed actions.

Dennis Breitzman
Page 4

Sincerely,

DEPARTMENT OF NATURAL RESOURCES

Doyle Childers
Director

Enclosures

c. Governor Matt Blunt
Attorney General Jay Nixon
Gale A. Norton, Secretary of Interior
Senator Christopher Bond
Senator Jim Talent
Congressman William Lacy Clay
Congressman W. Todd Akin
Congressman Russ Carnahan
Congressman Ike Skelton
Congressman Emanuel Cleaver
Congressman Sam Graves
Congressman Roy Blunt
Congresswoman Jo Ann Emerson
Congressman Kenny Hulshof
John W. Keys, III, Commisioner, Bureau of Reclamation
Eric Hansen, Office of Management and Budget

Attachment
Red River Valley Water Supply
Draft Environmental Impact Statement
March, 2006

The comments in this attachment are arranged topically. Where appropriate, specific references to the Draft environmental Impacts Statement (DEIS) or other documents are provided.

Needs
The population projections used in the draft Environmental Impact Study (DEIS) were not created with the best science and data available and must be replaced with more reasonable figures. Appendix A of this letter is the Missouri Department of Natural Resources comments on the Needs and Options Study (Needs Study). All of the points raised in that letter remain pertinent. We regret that the Bureau failed to address the many issues raised in that letter and in others received before moving forward with the DEIS. The release of the DEIS as comments were being received on the Needs Study shows a lack of consideration of the legitimate issues raised in our letter and on others. Since we have not received any response to our comment letter on the Needs Study, we reserve our right to provide additional comments if and when the Bureau does fulfill its obligation to respond to our comments on the Needs Study. The Bureau must correct this disregard for the public comment process before preparing the Final EIS.

In the Needs Study, the Bureau examined the population projections for the Red River Valley created by the U. S. Census Bureau and rejected those projections with the explanation that some counties appeared to be incorrect. The Bureau's demographers also created a model for future population, however the Bureau dismissed it without justification. Consultants to the Bureau following the Bureau's own guidance, created an additional population projection that also was rejected without explanation. Three projections, created using accepted demographic techniques, were all rejected without sound reasoning. How did this happen and who is responsible for rejecting the expertise and replacing it with projections produced in an arbitrary and capricious manner?

In place of these projections, the Bureau chose to create two scenarios for future growth. These scenarios take the highest projection listed above and then incorporate the additional population expectations of towns and cities in the Red River Valley (Appendix A). No claim is made that this technique is scientifically valid, is internally consistent or follows any standard practices. Indeed, no such claim could be made. When outrageous claims are made that contradict those of experts, significant support for the claims should be established. In this case, the Bureau offers absolutely no scientifically based support for its scenarios.

The Bureau claims that the two scenarios created in the Needs Study represent a range of reasonable alternatives for future population growth (Page 12 pp2). This claim is unsupported by the Needs Study, which shows that the two scenarios represent population totals significantly higher than those predicted by any demographically sound method. The Bureau notes that only small differences in impacts exist between Scenarios 1 and 2. (Appendix B 1 Page 22 pp1). Most importantly, this claim is patently false and shows a bias in assessment. No analysis of a

true range in reasonable demand values was conducted because the Bureau eliminated all reasonable estimates from consideration.

Because population is a major driver of water demand, these two scenarios introduce an immediate bias into all later documents, including the DEIS. The water shortage predicted to occur is highly dependent on the population assumed (Page 15, pp4) and is the basis for designing the system to meet that need (Page 15 pp4). Similarly, the environmental impacts of each option are greatly dependent on the needs as defined by the Bureau (Page 189 pp3).

It is interesting to note that growth for the period 2000-2003 lags significantly behind that used in the two scenarios (Page 135, pp3). The growth over this period of time can most accurately be described as a continuation of historic trends, not the fantastic increase in the rate of growth assumed by the Bureau. These data support our contention that the Bureau's population projections are very likely to significantly overestimate actual population growth.

The industrial needs are similarly inflated and based on assumption that can not be viewed as reasonable even by the most generous reviewer. The industrial needs assessment is based on assuming that growth in water use in Salt Lake City, Utah, Provo, Utah and Sioux Falls, South Dakota over the last forty years will be matched in the cities of the Red River Valley over the next fifty years. While the Bureau states that these cities were used to show the relationship between population and commercial activity, it fails to note changes in those over the last forty years. This analysis ignores all the changes in industry over the last forty years. Second, it fails to note that Salt Lake City was preparing to host the Winter Olympics toward the end of this time and thus had an accelerated growth rate near the end of this period. It also fails to recognize water saving technologies developed over the last forty years. The average age of those living in those cities in 1970 was significantly lower than that in the cities of the Red River Valley in 2000. Thus, the demographic comparison is seriously flawed because one would assume lower birth and growth rates in the Red River Valley due to its older population.

Another indication of exaggerated demands is the Bureau's assumption of a one and three-quarters percent growth in industrial water demand in every county in the Red River Valley, even as many are predicted to lose population in every single projection presented in the Needs Study! The Bureau states that it will use the best available data to estimate needs, but no basis is provided for this estimate (Page 40 pp2).

The agricultural processing water needs, estimated by North Dakota State University, are projected to increase 79 to 324 percent before 2050. This report fails to support this contention with any facts, but relies upon supposition built upon supposition. Unless one assumes massive irrigation within the basin (not to be supported by this project), the higher end of this range is completely unsupportable. However, it is used in the Bureau's higher use scenario. Large scale agricultural processing in the basin has remained marginal as illustrated by the repeated opening and closing of the existing plants. To assume a nearly three percent annual growth after an extended period of minimal growth, some dramatic change in the market or cropping systems is necessary. None is convincingly offered in this study.

One additional step was taken that inflates the water needs of the basin. The Bureau notes that every option presented, except "No Action", will meet the projected needs of the basin without drought mitigation (Page 47 pp1). This statement is an admission that all of the alternatives are overbuilt, as the Bureau's own analysis suggests that a minimum of seven and a half- percent reduction of use could be accomplished without economic impact. This statement strains credibility with citizens within the Missouri River Basin who have had to obey mandatory water use restrictions because of drought in recent years.

These analyses all serve to inflate the projected water needs of the Red River Basin. Results from standard methodologies were rejected in favor of scenarios produced based on dreams and desires, instead of documented needs. Invalid comparisons were made and arbitrary growth in demand was inferred without any basis in fact. Taken together, they create an enormous, artificial likely future water need.

Unless the Bureau reverts back to more reasoned estimates of population and industrial growth, the final EIS will have to be rejected as not meeting legal requirements. The Bureau did not create a needs study, but a desires study, in direct violation of congressional direction in the Dakota Water Resources Act (DWRA). The troublesome tendency to reject what is inconvenient, create artificial water demand without support, and over-design the options to meet the supposed need introduce a bias into all later analyses.

Options

It is clear from a thorough reading of the Needs Report that the Bureau has not included all of the viable options in its DEIS. That report, together with the DEIS, show a pattern of overestimating needs and underestimating sources within the Red River Valley. The Bureau has also shown a propensity to oversupply even the artificially inflated needs of the basin.

The Bureau has failed to adequately incorporate water availability in Minnesota into its options. For example, contrasting pages 24-26 of the DEIS with the report of Reppe 2005, shows that the Bureau chose to ignore significant water resources within the Red River Basin. The Reppe report shows three major aquifers that have significant potential for future development, but not all are used by the Bureau in its Red River Basin Alternative. Comparing Figure 4 and Table 7, it is even unclear whether the Bureau has decided to use the Pelican River Aquifer or not (Pages 25-26).

The options section of the Needs Report also discards other in-basin sources of water because each was not able, in isolation, to meet the anticipated needs of the Red River Basin. This does not meet the DWRA requirement for the Bureau to examine all reasonable possibilities to meet the water needs of the basin.

The Bureau does note that a build-as-needed approach is possible and that most in-basin options offer this possibility. Recognizing the inflated needs estimates in the Needs Report makes this approach more attractive. Rather than overbuilding a solution based on needs that are highly unlikely to arise, the Bureau can save millions of taxpayer dollars by choosing this approach.

The Bureau's inclusion of the state preferred alternative is questionable (Page 10 pp4). The Bureau is responsible for this EIS under NEPA, a federal law. The inclusion of prejudicial materials, such as this endorsement, is inappropriate and will likely impact the public comment received.

The most glaring example of the Bureau's view of this project occurs in the introduction of the U.S. Geological Survey (USGS) assessment of ground water availability in Minnesota. "One source of water supply under consideration by Reclamation is a diversion of surface water form the Missouri River Basin to the Fargo-Morehead area through the Garrison Diversion-Sheyenne River project (US Department of the Interior, Bureau of Reclamation, 2005). Prior to the allocation of resources to the Garrison Diversion project, an assessment of water supplies, including ground-water resources, was needed to fully describe and develop the project." (Reppe 2005 Page 1 pp7).

The Bureau's "GDU Water Supply Replacement Pipeline Alternative" is clearly beyond the intent of DWRA, which was to meet the needs, not to replace current supplies and thus greatly exceed the needs of the users. This option seems to have been proposed simply to shift the burden for water supply from the citizens of the Red River Basin to the U. S. taxpayers (Page 42 pp4). It is appropriate that this option be deleted from consideration in the EIS.

Section 8 of the DWRA requires the Bureau to examine "all feasible options" to meet the water needs of the Red River Basin (Page 6 pp3). This section of the Act has been violated in the Need Study and in this DEIS because the Bureau deleted potential contributions from in-basin sources. Table 13 (Page 34) is grossly incomplete since the Bureau does not list all of the options or possible features that it has deleted. This has the effect of seriously misleading a casual reader into believing that the Bureau gave thorough consideration to in-basin sources of water.

Rejection of the Devils Lake alternative is justified, however, the Bureau did not include the additional water supplies that are expected to enter the Red River Valley during operation of the Devils Lake outlet (Page 37 pp4). Because these flows are limited to times of low flow in the Sheyenne River, such flows will be entering the Red River at times when water needs are present. The Bureau should use these calculations given that its partner, the State of North Dakota, has made such discharges into the Red River Basin a reality and such discharges are a reasonably expected action. The Bureau's claim that the outlet would never operate at the same time as a diversion into the Sheyenne River is completely unfounded and is not based on any climatic model.

The Bureau does not use a consistent method of determining delivery options. While the Needs and Options Report uses a capacity of 62-97 cfs for the GDU Import to Sheyenne River Alternative, the Bureau discounts their own, most recent work and adopts a value of 78-120 cfs from an earlier report. No justification for rejecting the more recent estimate done by the Bureau is offered, thus this change appears to be arbitrary. This is yet another example of the Bureau ignoring the results of critical analyses in favor of values that appear to be arbitrary and capricious in the absence of any valid reasoning.

The Bureau also underestimates the economically effective reductions in water demand available. The Bureau suggests, based on a cursory analysis, that only a 7.5% reduction in water use is economically feasible in the Red River Valley (Page 46 pp2). A recent comprehensive study by the Pacific Institute entitled, "Waste Not, Want Not: The Potential for Urban Water Conservation in California" suggests that those areas could reduce their urban water demands by an amount approaching one-third of their current use. The Pacific Institute report compared the cost of supplying additional water to the costs of water conservation measures. It found that almost all of these savings (about 28% of the 33%) would cost less than additional infrastructure. Reductions of demand on this scale would make the in-basin options more economically advantageous since those options are more scalable. It would also make some of the discarded options more attractive since those could meet the actual demand.

While the drought contingency assessment does have a rough sensitivity analysis, no similar analysis was done for other aspects of the project (Page 280 pp2). Such an analysis is critical since the needs are so inflated as to be unreasonable. A sensitivity analysis would show how much of the project size is driven by the flawed needs study (Page 282). All of the impacts are based on the Needs Study, yet the chosen scenarios were produced by highly irregular and questionable methods. The sensitivity of the project options, costs, and impacts to the needs must be assessed in the Final EIS because the population and needs projections are so likely to seriously overstate demand.

The Bureau states, "The proposed alternatives were optimized and sized only to meet the minimal demands of the service area." (Appendix B 1 Page 11 pp10). This statement is patently false and misleading. All of the alternatives, except "No Action," meet the needs of the Red River Valley without drought conservation (Page 281 pp4). This implies that all of the options are over built. This is not good policy, does not meet the congressional mandate to meet the water needs of the basin and reflects a consistent bias toward higher water demands and larger projects in the DEIS. In addition, we note the following two statements that also are found in the DEIS,

"**Major MR&I Users (Fargo, Moorhead, West Fargo, Grand Forks, East Grand Forks, Drayton, Grafton, Langdon, and Valley City):** These entities requested water at the rate of peak day demand at all times. Their demands were increased to account for sufficient water in the system for them to draw peak day demand any day of the month. When peak day demands were not needed, the additional flow was available for use by downstream permit holders." (Appendix B.1 Page 10 pp 3)

"**GDU Water Supply Replacement Pipeline Alternative – REPL71** This model run differs from the others, because it is a replacement water supply (sic). This option uses the Replacement Pipeline to import Missouri River to supply the entire MR&I water demand of the service area (sic). Remaining water in the system is available to water users outside the service area, irrigation permits, recreation, and other aquatic environment needs. The pipe was sized to meet all of the water demands (see Reclamation 2005a, chapter two, section2.11)." (Appendix B 1 Page 11 pp4)

The Bureau has greatly expanded this project beyond its congressionally-mandated scope. A complete reassessment and sizing of the alternatives is necessary to fulfill that mandate.

All of the alternatives show essentially no incremental cost to users (Page 283 Table 101). This offers no incentive to properly estimate needs since the federal government would bear the cost. The cities that responded to the Bureau's request to estimate their water needs had no incentive to present reasonable figures since the incremental cost of additional water to their users is essentially borne by others. The greatest failure of this analysis is that it presumes that Missouri River water comes at no cost and that the federal government is willing to subsidize water use in the Red River Basin at the expense of citizen's in the Missouri River Basin.

The Bureau's assumptions about coincident operation of the Devils Lake outlet are very likely to be shown to be false. The assumptions on which this judgment is based (Appendix B 1 Page 53 pp1) are faulty and have been mis-applied. Because water "shortages" hit much faster than lake levels vary, the chance of coincident operations of the Devils Lake outlet and the use of enhanced flows in the RRV is a realistic scenario. A very dry year following a series of wetter years may well result in the coincident operation of the Devils Lake outlet and project features. The state's Devils Lake outlet should be expected to run throughout the period and be limited only by the restrictions imposed upon its operations. The smaller discharge of the State outlet as compared to the federal proposal correlates to a much longer period of operation to reach the desired lake level (Appendix B 1 Page 51). In fact, the state of North Dakota has now acknowledged that the outlet lowers the lake only one to two inches per year. Because the state chose to build and operate the outlet, one must assume its continued operation throughout much of the period from 2005-2050 as a reasonably expected event. The Bureau did not conduct an analysis of operations over the period of record used for the other analyses to support their claim. Such an analysis is clearly warranted as it may impact the use of some of the alternatives or increase the environmental impacts of those alternatives (Appendix B 1 Page 53 pp3).

Together with the inflated needs presented by the Bureau, the underestimation of water conservation creates an unrealistic demand scenario. These factors affect the viable supply options in a fundamental way by eliminating options that could serve the need that will actually exist. All of the options analyzed in the EIS are overbuilt as a result of these factors and need to be re-assessed taking into account reasonable needs and water conservation figures. Unless the Bureau makes significant changes in the final EIS, it will have to be rejected as not meeting the legal requirements to examine all reasonable options.

Inequity and Incompleteness of Missouri River Analysis

The Bureau uses entirely different and less detailed methods to assess impacts of the proposed project on the Missouri River Basin and those living in the basin. This consistently underestimates of impacts within this basin biasing all the results of this DEIS to such an extent that additional analyses will have to be conducted and dramatic changes will have to be made in preparing the Final EIS. The Bureau's complete lack of a critical examination of impacts in the Missouri River basin and disregard for the direction given to them by the U. S. Congress are made clear repeatedly throughout the DEIS. We will note only some of the plethora of examples in this section.

The Bureau assumes zero MR&I growth in existing water systems in the Missouri River basin over the next forty-five years (A Study to Determine the Historic and Present-Level Streamflow Diversions in the Missouri River Basin for the Period 1929-2002) (Diversions). Given current demographics and population trends in major MR&I systems within the Missouri River basin, this assumption is unreasonable. This also stands in stark contrast to the Bureau's grossly inflated estimates of future growth in the Red River Basin. While the Bureau worked with all the major MR&I suppliers in the Red River Valley, the Bureau does not document a single contact with a single water system in the Missouri River Basin or any attempt to incorporate any projections of population or industrial growth. Such an unapologetic bias in approach violates NEPA and any sense of fairness.

The Bureau failed to include depletions downstream of Nebraska City in its estimate of present conditions. This represents approximately one-fifth of the Missouri River Basin and a much higher percentage of its population. "Corps did not want other depletions to be included in the basins below Nebraska City for present-level depletions. Therefore no present-level other depletion estimates were made" (Bureau of Reclamation January 2005, A Study to Determine the Historic and Present-Level Streamflow Depletions in the Missouri River Basin for the Period 1929-2002, Page 19 (Depletions).

The BOR appears to have purposefully erred on the low side in estimating current level of depletions in the Missouri River Basin. "Based on a conversation with the Corps, the other depletions ratio of 7% used for historic depletion estimates in the Upper Missouri River Basin was lowered to 5%. The Corps felt that it was better to err on the low side of depletions for present-level conditions." (Depletions Page 18).

In estimating current level of depletions, Bureau made an arbitrary decision that may lead to an even greater underestimation of depletions for Missouri River Basin. The 1978 MBSA study estimated this ratio to be 176%. The Bureau reportedly examined a sub-watershed in the reach that had a 6% ratio, however they indicated that their decision was arbitrary. "It was arbitrarily decided to use 6% as a present-level ration of other depletions to irrigation depletions." (Depletions Page19). While we appreciate the Bureau's candor in admitting to selecting a number without justification, we object to the use of a value that so seriously differs from an estimate that was derived using an established and documented logic.

The Bureau estimate of depletions in the Missouri River Basin in 2002, greatly under-estimates depletions compared to 1995 USGS estimate. The USGS 1995 estimate of consumptive use of water in the Missouri River Basin at 17.6 Billion Gallons per day = 19.7 MAF/year. (U.S. Geological Survey, 1984; updated using 1995 estimates of water use *Consumptive Use and Renewable Water Supply, By Water Resources Region*). The Bureau's estimate for present-level of depletions used in study is 15.391 MAF (DEIS Page 76), 4.3 MAF less than the USGS 1995 estimate. Because the Bureau makes no effort to detail the basis of its estimate, the Bureau's choice of an estimate appears to be arbitrary and capricious.

The Bureau identified time and funding as a constraint to addressing some of the factors that alter streamflow or should have been included in the Missouri River basin depletion estimates. In the Bureau's Depletions report, this was mentioned 9 times in the 19-page body of the report.

A few of these examples show the divergence of approach in the Missouri and Red River basins. "It was not feasible in the time frame of the present study to collect and compile information for all categories." (Depletions Page 2); "Large capacity wells located near streams can reduce streamflow significantly...Time and financial constraints did not allow for data collection to calculate those depletions" (Depletions Page 10); "We did not have the time in the present study to build upon those techniques and extend the database." (Depletions Page 11); "It would have been more accurate...but that was beyond the resources of this study." (Depletions Page 13); "It would have been desirable for the present study to add to the existing database. However,...would have been difficult and time consuming." In contrast, the Bureau appears to have had no similar limits to the time spent working with water suppliers and others in the Red River Basin to ensure adequate analyses there.

The Bureaus projection of future depletions is inconsistent with the projection for the Red River Valley, and appears to grossly underestimate future conditions. As such it fails to look at "cumulative impacts" of future depletions as suggested in the DEIS. The Missouri River analysis of future depletions (year 2050) included only those "future projects" that were "reasonably certain to occur"..."The inclusion of anticipated future depletions allows Reclamation to look at future depletions from a cumulative impacts perspective". (Corps Aug. 2005, pg. 5) "The Corps used 155,000 acre-feet/year (table B 2.4) for the anticipated future depletions in their analysis (Corps 2005b). This depletion does not include projected increases in existing depletions for entities that are already using the Missouri River System as a water supply. It only includes new future depletions." (DEIS Appendix B.2, pg. B.2-4) This erroneously assumes no increase in depletions from existing sources. It would be unreasonable to assume that depletions would grow by only 0.155 MAF in the next 47 years.

It is unclear whether the Bureau included increased depletions that will result from its own Northwest Area Water Supply (NAWS) project in its assessment. NEPA clearly requires the Bureau to assess the impacts of reasonably foreseeable future actions, thus the NAWS project and others should be included in the analysis.

In summary, the gross inequity of the needs analyses conducted in the Red River and Missouri River basins violate NEPA and the requirements of the DWRA. By treating MR&I growth and other depletions so dramatically differently in the two basins, the Bureau has sacrificed their credibility and the viability of their analyses.

The Bureau consistently uses 1978 data for a baseline and simple extrapolations in the Missouri River analyses (Diversions Page 5 pp3; Page 17 pp2; Pages 18 and 19). This contrasts with a baseline date over 20 years later in the Red River Valley. Such an inequitable choice of baseline dates introduces a bias that diminishes Missouri River impacts relative to those in the Red River Valley. The Bureau offers no analysis to determine whether this approach biases their results. In addition, the simple extrapolations result in great uncertainties that are neither addressed nor assessed in the EIS. The Bureau did not check the results against 2002 or other recent data to validate the models produced.

The Bureau assumed that cropping systems would not change in the Missouri River Basin during the analysis period (Diversions Pages 6 and 7). This stands in dramatic contrast to their

assumption that specialty crops would expand dramatically in the Red River Basin requiring a substantial increase in water use (74-324 %) to process these crops. The Bureau admits to lacking critical inputs for water usage by crops, evaporation or transpiration (Diversions Page 6); all are necessary to create a useful model of water use.

The Bureau assumes no evaporation from the reservoir and that inflow equals outflow (Appendix I 1 Page 6 pp0). These assumptions do not come close to being valid during an extended drought. The conclusions of this section of the DEIS are very likely to be seriously in error. The view of the Missouri River as an inexhaustible supply of water pervades this document. Those living along the river can offer first hand testimony as to the error of this assumption.

None of the Missouri River impacts have been calculated through a drought of the 1930's (Page 49; Appendix B2 Pages 6 and 7) in a similar manner to the methods used on the Red River Valley. This greatly underestimates impacts on the Missouri River. The Bureau makes a compelling case for looking at cumulative, multi-year impacts on the Red River, but fails to attempt a detailed investigation of similar impacts on the Missouri River. It does not allow for a comparison of Missouri River impacts to those on the Red River of the North.

The Bureau uses only those potential depletions that have a planning document in place in the Missouri River (Appendix B 2 Page 4 pp2; Effect of Alternatives Depleting Water From the Missouri River on Missouri River Water Uses and Resources) (Effects) Page 5 pp2). This contrasts with their approach to industrial and agricultural processing needs in the Red River Valley where projects were added that have not even been proposed.

By using the U.S. Army Corps of Engineers Daily Routing Model (Effects Page 1 pp3), the Bureau again chose a model that is not equivalent to the one used in the Red River Valley. No assessment is offered as to the effect of the use of disparate models on the analysis.

The Bureau offers no analysis of a number of environmental factors along the Missouri River. For example, no analysis is made of reduced flows in the Missouri River on water quality. The lower river has the majority of the basin's population and wastewater discharges to the Missouri River. Lower river levels inhibit dilution and mixing of these discharges and may require more stringent treatment limits to protect water quality. The Missouri River serves as a primary drinking water source for significantly more people than the Red River Valley, yet the Bureau did not even attempt to assess impacts on those systems during a drought of the 1930's.

The Bureau has not examined the impact of lower flows on the Missouri River to the thermal discharges from power plants. To avoid thermal exceedences during times of low flow, these plants would have to curtail energy production. No assessment was done of hydropower impacts on the Missouri River as a result of the proposed project.

The Bureau has not assessed completely or properly the loss of critical bird habitat. In recent years, the piping plover and interior least tern have fledged young successfully along the shores of the reservoirs as well as the free-flowing stretches of the Missouri River. Given the current Biological Opinion on the Missouri River and U.S. Fish and Wildlife Service's demand that

Missouri River operations be altered to meet the needs of the species, a complete and credible analysis is critical to this assessment.

The DEIS failed to analyze impacts to Mississippi River navigation, even though the Corps' analysis during the Master Manual revision process showed that increased depletions would cause a substantial negative economic impact (more than any other use). Mississippi River navigation impacts are significant and should have been evaluated under current and future. (Corps March 2004, FEIS for the Review and Update of the Missouri River Master Water Control Manual, pg. 8-51). The analysis of Missouri River navigation used by the Bureau points to the shoddiness of the work done in the Missouri River Basin. The analysis shows that the removal of 1.7 million acre-feet per year of water from the Missouri River system actually leads to longer navigation seasons in drought years. Only one year in 68 has a navigation season shortened by the additional depletion while 18 have longer seasons. This result is contrary to any reasonable expectation, but was not questioned by the Corps or the Bureau.

The Bureau notes that the maximum drop in Lake Sakakawea would be 8 inches. However, the Bureau assumes a reservoir elevation of 1790 ft in their assessment. During a drought of the same scale as that of the 1930's, the lake level is likely to be significantly lower and the lake area smaller. Thus the annual drop caused by the proposed project would be greater. Combined with likely additional diversions of water from the Missouri River over the next forty-five years, this contributes to the Bureau's significant underestimation of the impact of the proposed project on reservoir storage and, consequently, impacts downstream of the reservoirs on the Missouri River.

The Bureau does not appear to have analyzed thoroughly a critical aspect of the plans for diverting water from Lake Sakakawea. Using data and models supplied by the Corps, we have determined that it is likely that the Lake level would fall below 1798 ft for significant lengths of time during a repeat of the drought of the 1930's. The Bureau mentioned the need to trench and extend the Snake River pumping station intake, but did not make clear the added costs associated with that activity or the need or costs for continued maintenance of that trench. The Bureau has not conducted any environmental assessment of this action. Given the volume of material to be used, this presents a significant probability of negative environmental impacts. In addition, this feature may be undersized by a considerable amount in the DEIS if one examines ice conditions and the effect of ice on reducing the effective size of the trenched channel. This increases the likelihood, severity and extent of impacts.

In total, these inequities and missing analyses violate NEPA and are counter to the direction contained in the DWRA to assess impacts in both basins. The Bureau has chosen methods to maximize needs in the Red River Basin while ignoring needs and impacts within the Missouri River Basin. Given the nearly continuous media coverage of battles over water in the Missouri River Basin and the Bureau's partnership with the State of North Dakota, one finds it hard to believe that this was simply an oversight.

Bias

The Bureau, as the federal agency preparing the DEIS, has a responsibility to manage conflicts of interest. It has failed, in the most elementary of ways, to do so. In addition, a pattern of

inequitable analyses, incomplete evaluations and questionable results unsupported by rigorous analysis consistently bias the results of the DEIS.

The Garrison Conservancy District own charter requires the District to seek to deliver Missouri River water to the Red River Valley via the Garrison Diversion Unit. The Bureau's partner is required to seek a solution that is an out-of-basin solution. The district has no requirements to manage this conflict as it is not required to meet the requirements of NEPA; that is the sole responsibility of the federal partner. This creates a direct conflict with the Bureau's charge to evaluate fairly all options available. When questions were raised about the propriety of the District's role, the Bureau shirked its responsibility to mange conflicts of interest and turned to the North Dakota Attorney General for an opinion. The Bureau has failed in its responsibilities under the NEPA and the DWRA. For further details, please refer to the comment letter on the DEIS from the Missouri Attorney General.

We request a complete accounting of all funds transferred between the Bureau and the Garrison Conservancy District. We also request all correspondence between the Bureau and any other entity on the issue of the involvement of the Garrison Conservancy District in this project. We also ask for details of any work done by consultants or other efforts that were funded through the Garrison Conservancy District.

The DEIS contains a State Preferred Alternative though the Bureau claims to have no preferred alternative. The presentation of the State Preferred Alternative within the Draft EIS biases readers by drawing attention from the other alternatives that the Bureau, as least nominally, views as equally valid at this point.

In addition, it is telling that the Bureau is presenting only one of the alternatives in detail at their public meetings. The presentations have included the same alternative at all the sites and do not rotate between alternatives that are supposedly equal options at this point in the analysis. This biases the comments received during and after those meetings and belies the Bureau's statements of having not chosen a preferred alternative.

The Bureau contacted water systems within the service area of the project, but contacted none within the Missouri River Basin according to the DEIS. The Bureau included the imagined growth in water demand from the water systems within the service area, disregarding demographic evidence or models and without a critical examination of these desires. In contrast, the Bureau assumes no MR&I growth within the Missouri River Basin.

The level of analysis between the two potentially affected basins is grossly inequitable. The approaches used to assess impacts in the two basins were completely different (see Missouri River Impacts and Economic Analysis comments contained in this document for more details). The Bureau offers no analysis for much of the Missouri River Basin, including the most heavily populated portion of the basin.

Two particular statements from the DEIS illustrate the Bureau's cavalier attitude toward their charge under the DWRA and their responsibilities under NEPA.

"Major MR&I Users (Fargo, Moorhead, West Fargo, Grand Forks, East Grand Forks, Drayton, Grafton, Langdon, and Valley City): These entities requested water at the rate of peak day demand at all times. Their demands were increased to account for sufficient water in the system for them to draw peak day demand any day of the month. When peak day demands were not needed, the additional flow was available for use by downstream permit holders." (Appendix B.1 Page 0 pp3)

"GDU Water Supply Replacement Pipeline Alternative – REPL71 This model run differs from the others, because it is a replacement water supply (sic). This option uses the Replacement Pipeline to import Missouri River to supply the entire MR&I water demand of the service area (sic). Remaining water in the system is available to water users outside the service area, irrigation permits, recreation, and other aquatic environment needs. The pipe was sized to meet all of the water demands (see Reclamation 2005a, chapter two, section2.11)." (Appendix B 1 Page 11 pp4)

The Bureau has obviously given in to local pressures to exceed their charge under the DWRA. Local requests have become demands and extra water is now available for purposes not allowed under the DWRA. The Bureau even offers to share its presumed largesse with those outside the service area. It is apparent that the Bureau is trying to meet the water desires of the citizens of the Red River Valley rather than their needs.

The inflated water demand scenarios, the inequitable analyses of the Missouri River Basin, the underestimation of in-basin sources and the elimination of in-basin sources from consideration all consistently bias the DEIS toward a solution that may well not reflect the national interest. The Bureau's continued refusal to address the fundamental conflict of interest inherent in the Garrison Conservancy District's representation of the State of North Dakota, despite multiple requests by members of the Technical Team, shows a failure to follow NEPA and other applicable laws.

It is the duty of the Bureau to manage conflicts of interest and to provide an equitable analysis of the options for meeting the water needs of the Red River Basin and the potential impacts of those options. It has utterly failed to do so. In fact, it shows no indication that it cares to do so.

Environmental Analyses
The environmental analyses, though voluminous, are not comprehensive nor, in many cases, conclusive.

The only significant conclusion of this section is that out-of-basin projects have greater areas of impacts for almost all natural communities (Pages 224-230). It is not clear whether these analyses contain many additional distinguishing criteria. In fact, none of the alternatives can be distinguished by their environmental impacts or benefits in the Red River Basin, according to the Bureau's EIS. Therefore impacts on the Missouri River, including endangered species impacts, need to be examined carefully to distinguish between the alternatives. In all cases, the out-of-basin alternatives have greater negative consequences than those alternatives that use only in-basin sources.

The assessment of aquatic habitats is grossly oversimplified. The Bureau has taken the position that more water is better and examines only the 10th and 50th percentiles of flow. By using only the 10th and 50th percentile of water discharge, this assessment ignores aquatic habitat needs as a function of life stage, geomorphic consequences, and sediment impacts. This choice masks environmental impacts that the Bureau must assess as part of the NEPA process.

The Bureau has failed to establish clear guidelines for making judgments on environmental impacts and when those impacts are to be considered important. To cite one example, a potential 31 % increase in sulfate is deemed similar to no action in the Red River upstream of Emerson Manitoba (Page 50). It is impossible to understand the basis for this determination or to distinguish this from impacts deemed important. Thus, it qualifies as being arbitrary and capricious. By failing to provide clear guideline for judging environmental impacts, the Bureau creates a system that is inaccurate, potentially arbitrary and impossible to assess.

In general, the Bureau has simplified its analyses to habitat availability (Appendix E). It has failed to assess hydrogeomorphic changes, sedimentological impacts or other factors that influence habitat suitability and species success. It is not clear that this analysis looked at impacts of sustained higher average flows (Appendix E Page 15 pp2). By using simple analyses that examine only water flow, the Bureau fails to assess variable needs throughout the life spans of the aquatic and riparian species. It also fails to account for species that use multiple habitats of different types at different life stages. The approach to impacts used in Appendix G is protective and proper, however, the Bureau should point out that these maximum estimates should not be used for comparison (Appendix G Page 2 pp1). For example, the "avoid, minimize, mitigate" principle for wetland impacts and the small percentages of acres of wetlands in some areas means that these features will often be avoided completely.

The table that shows the guild of species to be used in the analysis does not include mussel species (Page 181 Table 40). Summer and fall flow requirements often vary for a single species, yet the Bureau uses a "one-flow fits all" approach. The assumption that median flow is always beneficial greatly oversimplifies the actual species needs. For both wetland and aquatic species, variations in flow, not only seasonally, but over shorter periods, are critical.

The assumption that median flow is ideal creates another risk. The U. S. Army Corps of Engineers Environmental Impact Study of the Devils Lake Outlet contains a more complete analysis of the potential impacts of enhanced flows on mussels in the Sheyenne River. The Bureau should consider this document and its implications for mussels in the Sheyenne River in this Final EIS. The Bureau gives only passing attention to the sedimentological and geomorphic impacts of the altered flows. The mussel species (Pages 55 and 56) found in the Sheyenne River, including the state-listed species, are dependent on a riffle and poll structure. Many of these mussel species in the Sheyenne are currently in decline (Page 99 pp3).

The Bureau needs to assess the likely impacts on continued higher flows during time of drought on these species. "Overall species richness showed less variability among sites in the Red River than the Sheyenne River, which may be attributable to more homogenous substrates and prolonged higher flows in the Red River (Page113 pp4)." The Bureau proposes to negate these differences by increasing flows in the Sheyenne River with the GDU Sheyenne River

Alternative, but does not discuss the negative environmental impacts of this choice. Only a brief mention of this issue is made on page 192 and the Bureau does not address the risks and impacts on the species. The report from West Consultant, Inc. suggests fast changes in erosion in response to higher flows (Appendix G Page 4 pp5 and 6). The Bureau does not assess the impacts of changes in erosion and sedimentation on the riffle and pool structure of the Sheyenne River and potential impacts on habitat or species viability.

The Bureau has presented no assessment of the riparian wetlands along Sheyenne River (Page 111 pp2). There is no discussion of the effects of a changed hydrograph without low flow periods associated with drought if flow is enhanced. Because most wetland species are adapted to a variable inundation pattern, the Bureau should consider increased times of inundation and timing of inundation in determining environmental impacts.

The Bureau must incorporate the impacts of the Devil's Lake outlet on this project (Page 9 pp1). Given the state's support, construction and planned operation of such an outlet in spite of its water quality impacts on the Sheyenne and Red Rivers, this feature should be incorporated into the EIS. This is critical because the state of North Dakota is proposing to degrade water quality in one action and then request federal funding to provide water quality improvements through this action.

Table 25 (Page 48) appears to have some errors. Unfortunately, one can not track these errors back to a source. For example, no reduction in extreme low flows in the Red River appears to be achieved by the GDU to Sheyenne River alternative. This result is not only counterintuitive, it conflicts with statements elsewhere in the EIS that suggest that water supplies in the Red River are greatly enhanced by this alternative. Because the Bureau has insisted on meeting peak daily demands at all times, including times of drought, water flow through the Red River is enhanced at all times of drought with the possible exception of that one day (or small number of days) when peak demand is experienced.

The water quality discussion implies that the DWRA requires the Bureau to solve all the water quality problems in the basin. The water quality discussion is entirely one-sided with the Bureau ignoring all potential negative impacts. The idea that more water is always good seems to pervade this document without conclusive evidence supporting that claim.

The Bureau needs to assess negative impacts of the proposed options as well. The Bureau notes that several free-flowing portions of the Sheyenne River are impaired by sediment (Page 80 pp6), but fails to note that options that add to the discharge of the Sheyenne are likely to increase soil erosion. The Bureau notes that Lake Ashtabula suffers from eutrophication but fails to note that this condition is caused by an oversupply of nutrients (notable phosphorus in fresh water systems) and is likely to be made worse by increased erosion upstream of the lake. Similarly, phosphorus in the Red River is above recommended levels over 50 % of the time (Page 79 pp1). Because phosphorus loading is closely tied to soil erosion, options that increase flow, particularly in the tributaries, are likely to cause a decrease in water quality with respect to phosphorus.

The Bureau's assessment, based on all the factors presented in the DEIS, is that all the selected options have minimal impacts on resources in the Red River Valley (Page 235 pp2). Thus the criteria for judging impacts should include:

a. Impacts in the Missouri River Basin, once those are properly assessed (and which are zero for the in-basin options);
b. Economics, once these are adequately assessed and presented;
c. Biota transfer risk posed by the project, which is zero for all in-basin options;
d. Impacts on threatened and endangered species, which are greater for all the out-of-basin options; and
e. Equitable treatment of all needs.

Endangered Species

Given battles over endangered species that rely on the Missouri River and the continued attempts to help these species recover, we are severely disappointed in the cursory examination given to this issue in the DEIS.

These analyses are incomplete, inadequate and fail to satisfy the requirements of NEPA. Given the endangered species issues along the Missouri River and an existing Biological Opinion, the Bureau needs to address these issue in much greater detail than is offered in this DEIS. Because the Bureau failed to assess the 10-year drought of record for the Missouri River properly, the impacts on habitat presented here grossly underestimate the impacts (Appendix I 1 Page 5 pp3). The Bureau's failure to run a 10-year drought assessment compounds this underestimate on impacts by failing to include likely plant growth in areas left dry for multiple years. This error and inequity is compounded by the Bureau's underestimate of depletions and assumption of no increase in depletions caused by MR&I growth in the Missouri River basin.

The Missouri River impacts are generally listed only as percentages, not amounts (Page 206 Table 109). This fails to account adequately for the impacts.

The 1.89 % loss of interior least tern and piping plover habitat along the Missouri River reservoirs and reduction in fishery availability are not converted into a species impact (Appendix I 1 Page 5 pp4). Thus, cumulative impacts are not addressed and are seriously underrepresented by the Bureau (Appendix I 1 Page 7-8). The Bureau appears to assume zero change along the free-flowing Missouri River without presenting any analysis to support that claim. Because of the jeopardy opinion on these species by the U. S. Fish and Wildlife Service (USFWS), the Bureau must conduct a takings analysis on these species before considering the transfer of Missouri River water out of the basin. It is incumbent upon the Bureau to show that the proposed project will not conflict with the USFWS' Biological Opinion on the Missouri River.

Economics

The information in Appendix A is insufficient to determine the accuracy of the economic information. Details on such features as the biota risk reduction system are not documented, but the costs for those systems appear to be included within the cost estimates of the alternatives. Without clear documentation, a proper assessment of this section is impossible. However, some comments can be made based on what information is presented.

There is a significant inequity in analyses between the two basins that could be impacted by this project. By using only those potential depletions that have a planning document in place, the Bureau treats the needs in the Missouri River Basin differently from those in the Red River Valley (Appendix B 2 Page 4 pp2). This creates a bias in their analysis and underestimates impact in the Missouri River basin for the out-of-basin alternatives. This approach violates NEPA and fails to meet congressional direction.

Apparently the Bureau is assuming no growth in MR&I needs in the Missouri River basin (Appendix B 2 Page 4 pp3). This is grossly unrealistic and biases all of their results. The Bureau would have us believe that the rate of growth will greatly increase in the Red River Valley, while the rate of growth will be zero in the Missouri River Basin. The Bureau apparently did not contact water systems in the Missouri River Basin or attempt to incorporate any projections of population or industrial growth and thus assumed no growth. This alone is reason for rejecting this DEIS as it fails to meet the requirements of NEPA or of the DWRA.

The Bureau fails to conduct an equivalent analysis for the period 1931-1999 as in the Red River analyses (Appendix B 2 Page 4 pp3). This is inequitable, underestimates impacts on the Missouri River and prevents Congress from making an informed decision on the project. This analysis masks potentially serious impacts to the Missouri River water users. Taken together with the other major problems in this document and the Needs and Options Study, it brings into question the ability of the Bureau to conduct a balanced examination of this issue.

The lower Missouri River is used for drinking water supply, recreation, power plant cooling, and a myriad of other uses, yet the bureau offers no assessment of how any of these activities would be impacted. Given the much larger population of the Missouri River basin, such analyses are critical if the Bureau intends to provide an honest look at the impacts of the proposed project. The Bureau's consistent bias in these analyses must be eliminated in any Final EIS.

The Bureau uses NED benefits for the Missouri River where such analyses are conducted, but local benefits when assessing gains in the Red River Valley (e.g. Effects Pages 6-8). This analysis is entirely incomplete as the Bureau did not assess economic impacts on the lower Missouri River or hydropower impacts on the Missouri River dams. In addition, the NED analysis did not adequately address impacts downstream of Nebraska City where the effects were likely to be most pronounced because of greater population. The analyses are not comparable and do not provide a basis for a balanced measurement of the economic benefits of the proposed project. By ignoring impacts on the lower Missouri River, the Bureau treats the water as being unlimited. Years of litigation belie this conclusion. The end result of the Bureau's inadequate analysis is the valuation of Missouri River water at zero until such time as it enters the Red River Basin.

The changes in the operation manual for the Missouri River Reservoir System are not accounted for in the DEIS. These changes have significantly shortened the navigation season in 2004 and 2005. The Bureau needs to properly assess the economic impacts and risks of lower reservoir levels on the Missouri River and, as importantly, the Mississippi River between the Missouri River confluence and that of the Ohio River.

Costs are not uniformly susceptible to population estimates (Page 277 Table 93). In-basin alternative costs can be cut appreciably if population estimates are reduced; the same is far less true for out-of-basin options. The costs of completing an out-of-basin project are far less sensitive to population because the basic infrastructure costs do not change nearly as much. (To install a smaller pipe does not yield as great a reduction in costs as not having to build a particular feature at all.) We note that the Bureau conducted no sensitivity analysis on the economic impacts of this project. Therefore, we are unable to estimate how badly unreasonable population and industrial needs projection skew these analyses (Page 277 and 282). The only indication of sensitivity appears on Page 189 (pp3) where a comparison to Scenario 1 suggests a very dramatic reliance of all the results on population and the attendant need. This illustrates just how significantly this entire document relies on the faulty and improperly determined population and needs analysis.

By selecting features from the North Dakota option, all of these options can produce benefits that are much closer rather than as diverse as shown. The apparent differences are largely the result of the Bureau limiting certain beneficial actions to certain alternatives (Pages 184-188). Again, this analysis is biased by choices made by the Bureau. The Bureau's own analysis shows the great sensitivity of the impacts to population models (Page 189 pp3). Given that even scenario one greatly exceeds any of the demographically sound estimates produced during the Needs and Options Study, all the environmental assessments need to redone using reasonable and reasoned population and needs estimates.

The economic model used by the Bureau has a number of hidden assumptions. All new businesses that choose to locate in the Red River Valley are awarded water rights that meet their needs. These rights are established to be senior to the rights of existing businesses in the Missouri River Valley. Similarly, any children born in the Red River Valley are awarded senior rights at their birth. The economic model assumes that water from the Missouri River comes with no incremental costs to the consumers. These assumptions should be discussed and considered openly. The Bureau assumes that no Native American water rights issues will arise to alter the use and availability of water within the Missouri River Basin. The Bureau owes Congress and the reader a full explanation of these assumptions to allow for educated debate on the merits of the options.

Finally, the Bureau should also make clear the hidden costs of this project to taxpayers. Features of the Garrison Diversion that would be used only if a diversion were to be completed would require additional O&M costs and should be included in the economic analysis. A complete economic analysis would include added costs for U. S. Army Corps of Engineers projects as well as those contained within the Bureau's proposed project. By failing to include such costs, the Bureau skews its economic analysis in favor of out-of-basin approaches.

The Bureau used dry removal costs when calculating the expense of excavation to 1766 ft to keep the pumping station operational during a Missouri River drought. This implies that the Bureau will wait for months or years of non-operation before undertaking this task. Such an assumption is unrealistic. The Bureau should include the much higher costs of wet condition excavation in their economic analysis. Those cost are much higher than the estimates contained in the DEIS.

The Bureau has prepared an economic analysis that appears to support an out-of-basin solution by ignoring the federal government's best practices for project assessment, potentially large impacts in the Missouri River Basin, and the reality of limited growth in the Red River Basin. These discrepancies in approach, incomplete analyses and the lack of a sensitivity analysis make the economic assessment essentially worthless.

Biota Transfer

The biota transfer analysis offers statistical analyses in place of real world assessment. Instead of focusing on actual species and performing assessments of methods and risks of transfers, the reports substitute extensive statistical analyses of imagined scenarios. The U.S. Geological Survey's reports, "Risk and Consequence Analysis Focused on Biota Transfers between the Missouri River and the Red River Basins" (Risk) and "Supplemental Report: Risk Reduction and Preliminary Analysis of Economic Consequences Associated with Biota Transfer" (Supplement) are based so completely on unknowable and untested assumptions as to be of little use.

The Risk document clearly shows the conditional nature of the results of these analyses (Risk Page 6 pp2). This paragraph concludes with the statement, "A distribution more heavily weighted toward higher-risk categories would yield substantially higher-weighted averages of consequences." Restoration levels are similarly arbitrary given the uncertainties. "As many as four orders of magnitude difference in offsetting restoration levels exist between the two invasion speeds assumed in this analysis, and one order of magnitude difference is captured by output impacts" (Risk Page 6 pp3). This corresponds to a 10,000 times factor of uncertainty for this one aspect of the model. When compounded by the uncertainties in other parts of the statistical model, these uncertainties easily swamp any useful "signal" that possibly could be gleaned from this analysis. The model is extremely sensitive to dispersal event details, but offers no analysis that suggests that the models used bound reasonable events or represent likely occurrences.

While the Risk report downplays biota transfer risks, these remain a real threat. The potential for the transfer of undocumented species is acknowledged, but is not included in the analysis in a meaningful way.

No mention is made of biota control system reliability (Supplement Page 25 pp3). While pipe breaks and other risks are discussed, critical modes of failure associated with the control system are ignored. The USGS reports assume a perfectly operating system for water treatment. Given the experimental nature of many of the systems mentioned by the Bureau, the assumption that the selected system will work without failure for 50 years strains credulity. Alternatively, adding system redundancy and other back-ups will increase the costs significantly. This option is not discussed in the DEIS and thus is apparently not under consideration.

Perhaps the most telling statement from the USGS Supplement is this one, "As presently configured and presented in the DEIS (Reclamation 2005c), and in the absence of evaluating costs or associated benefits and liabilities, a preliminary analysis of Action Alternatives relative to their risk reduction potential has been completed and placed within the context of the range of risks characterized in USGS (2005)." This raises more questions than are answered in these

reports. Will a more complete analysis be completed? How does one apply, in a meaningful manner, a risk reduction potential to an event with four orders of magnitude of uncertainty?

Ultimately, the supplement concludes that risk reduction depends on the technology implemented. "For example, selection of disinfection technology can be determined once regulatory and management need are addressed, and once the level of disinfection is specified, engineering designs can be specified to yield the necessary contact time for a given level of disinfection." (Supplement Page 37 pp2). This seems to suggest that one needs to make clear decisions before determining technology. However, the Bureau seems to have already determined the costs of the control technology prior to receiving these reports. Nowhere does the DEIS state the required level of risk reduction or, alternatively, the acceptable amount of biota transfer risk. Is this a matter for the Bureau to determine and how will this be determined?

The bases of the risk reduction assessment are risk scores. These fail to correspond to any value in the real world. While statistical analysis is acceptable, and even necessary, for some analyses, it does not offer a methodology for assessing these risks in an appropriate manner. It assumes that one can assign some "acceptable" value and design to that level. However, the uncertainties in the model used in this analysis prevent such a value to be determined.

Given the high sensitivity of the model to multiple inputs, some sort of model validation or testing seems logical. However, no such validation is offered. While the exercise of putting together this model may have been rewarding, it is completely unclear whether this adds any value to the DEIS. What results is an untestable set of results produced using an unvalidated model with inputs of uncertain application based upon the unproven biota control technology. Somehow, we are not reassured by this section of the DEIS.

Other Comments

We strongly support a phased approach to meeting the water needs of the Red River Basin (Page 43 pp2). This is the only logical approach given the inflated population, industrial demand, and water use projections. Together with a reconsideration of other in-basin sources, this offers the best opportunity to meet the actual needs of the basin in the most cost-effective manner. This approach is the only fiscally sound approach given the Bureau's determination to overbuild the systems based on information given in the DEIS and discussed above.

Many of the options presented include a component of Aquifer Storage and Recovery (ASR) (Page 95 pp4; Page 179 pp5). It is not clear that the necessary feasibility studies have been conducted to examine which, if any, of the reservoirs are suitable for this technique. Injecting fresh, oxygen-rich waters into these aquifers may create significant chemical changes in the water withdrawn from those same reservoirs. In addition, the impacts of the resultant chemical reactions may alter reservoir properties and yield over time scales from years to decades.

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September 3, 2006

Via E-mail: Maynard_Friesz@dorgan.senate.gov

Mr. Maynard Friesz
Office of Senator Byron Dorgan
322 Hart Office Building
U. S. Senate
Washington, D. C. 20510

Dear Mr. Friesz:

I understand that you have been designated to compile testimony submitted in connection with Senator Byron Dorgan's August 24, 2006, Senate Interior Appropriations Subcommittee hearing in Fargo, North Dakota, on the proposed Red River Valley Water Supply Project, and to provide copies to the members of the Subcommittee.

I would request that this letter and the attached copies of my October 1, 2005, *North Dakota's Plan for Hijacking the Missouri River, A Review of the U. S. Department of the Interior, Bureau of Reclamation, Dakotas Area Office, Draft Report on Red River Valley Water Needs and Options* and my April 10, 2006, *Comments on the U. S. Department of the Interior, Bureau of Reclamation, Dakotas Area Office and State of North Dakota, Garrison Diversion Conservancy District, Draft Environmental Impact Statement, Red River Valley Water Supply Project* be included in the formal record of Senator Dorgan's August 24, 2006, hearing and that copies be provided to each of the members of the Senate Interior Appropriations Subcommittee.

Among the points documented in these comments are:

- The Bureau of Reclamation's Report on Red River Valley Water Needs and Options (Needs and Options Report) was prepared under undue influence of the Garrison Diversion Conservancy District, which has a vested interest in and a statutory mandate to promote the diversion of water from the Missouri River for municipal and other uses.

- The Bureau of Reclamation accepted the designation of the Garrison Diversion Conservancy District as the State of North Dakota co-lead in preparation of the Environmental Impact Statement (EIS) for the Red River Valley Water Supply Project in violation of State and Federal law.

- The projections of future Red River Valley municipal and industrial water needs used in the Needs and Options Report and the EIS are based on grossly exaggerated future population growth (a growth rate 3.4 times the rate projected by the U. S. Census Bureau), highly speculative and unsubstantiated industrial water use projections, the hypothetical occurrence of a 1930s-type drought in 2050, and the deliberate omission of drought contingency measures to reduce water consumption during droughts.

The population projections used in the Needs and Options Report and EIS assume that the population of the Red River Valley will increase by 192,265 in 2050, with most of the increase occurring in Fargo. However, the North Dakota State Data Center reports that there was virtually no population growth in the Fargo area from 2000 to 2005. The Bureau obviously is aware of these data but chose deliberately to ignore them.

- The EIS summarily dismisses objective consideration of the cumulative and direct environmental impacts of Red River Valley Water Supply Project alternatives involving the diversion of water from the Missouri River, including the impacts on the Missouri River itself.

  Ten days before the North Dakota State Engineer, the Manager of the Garrison Diversion Conservancy District, the Mayor of Fargo, the Executive Director of the North Dakota Water Users Association and the Chairman of the Lake Agassiz Water Authority were advocating the diversion of Missouri River water as the solution to future Red River Valley water needs at Senator Dorgan's August 24, 2006, hearing,, the Associated Press had reported on August 14, 2006, that the U. S. Army Corps of Engineers was predicting that Lake Sakakawea on the Missouri River, which would be the supply source for Red River Valley Water Supply Project alternatives using Missouri River water, ". . . will drop 6 feet over the next few months to a record year-end low of 1808.6 feet, and could fall even lower next year." However, neither the Needs and Options Report nor the EIS considers the impacts of a Red River Valley Water Supply Project on the Missouri River during periods of drought, nor do they consider whether the Missouri River would be a reliable source of water for the Red River Valley during prolonged periods of severe drought.

- The EIS's consideration of the potential impacts resulting from the transfer of Missouri River biota into the Hudson Bay Basin is grossly inadequate and is based largely upon unsubstantiated and frequently questionable assumptions, including the assumption that any adverse impacts could be avoided with the implementation of "restoration measures"—while at the same time admitting that "the feasibility and availability of appropriate restoration measures is not clear at this time."

- Neither the Water Needs and Options Report nor the EIS provides benefit/cost analysis for any of the Red River Valley Water Supply Project alternatives, or any data to show that any of the alternatives would be economically feasible.

- Data in the Water Needs and Options Report and in the EIS show that the non-reimbursed Federal subsidy for the State's Garrison Diversion Unit Import to Sheyenne River preferred alternative would be in excess of $600,000,000.

I would strongly recommend that the Senate Interior Appropriations Subcommittee request that the Government Accountability Office conduct a thorough investigation of this outrageously ill-conceived and irresponsible proposal.

Sincerely,

Gary L. Pearson, D.V.M.

COMMENTS ON THE

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
DAKOTAS AREA OFFICE

and

STATE OF NORTH DAKOTA
GARRISON DIVERSION CONSERVANCY DISTRICT

DRAFT ENVIRONMENTAL IMPACT STATEMENT

RED RIVER VALLEY WATER SUPPLY PROJECT

Prepared by

Gary L. Pearson

National Wildlife Federation Representative
on the
Red River Valley Water Supply Study
Technical Team

April 10, 2006

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Appendix 1: North Dakota's Plan for Hijacking the Missouri River – A Review of the U. S. Department of the Interior, Bureau of Reclamation, Dakotas Area Office, Draft Report on Red River Valley Water Needs and Options

INTRODUCTION

The Dakota Water Resources Act of 2000 (DWRA) modifies the Garrison Diversion Unit Reformulation Act of 1986 (Public Law 99-294, 100 Stat. 418), and Subsection 8(a) authorizes the Secretary of the Interior to construct a Red River Valley Water Supply Project (RRVWSP):

> ". . . capable of delivering 100 cubic feet per second of water or any other amount determined in the reports under this section, for the cities of Fargo and Grand Forks and surrounding communities, or such other features as may be selected under subsection (d)." (DWRA Paragraph 8[e])

Paragraph 8(b)(1) of the Dakota Water Resources Act provides:

> "IN GENERAL – **The Secretary of the Interior shall conduct a comprehensive study** of the water quality and quantity needs of the Red River Valley in North Dakota and possible options for meeting those needs." (Emphasis added)

and Paragraph 8(b)(3) defines the PROCESS by which the Secretary is to conduct the comprehensive study of water quality and quantity needs of the Red River Valley in North Dakota and possible options for meeting those needs directed in Paragraph 8(b)(1):

> "In conducting the study, **the Secretary through an open and public process** shall solicit input from gubernatorial designees from states that may be affected by possible options to meet such needs as well as designees from other federal agencies with relevant expertise. For any option that includes an out-of-basin solution, the Secretary shall consider the effect of the option on other states that may be affected by such option, as well as other appropriate considerations. Upon completion, a draft of the study shall be provided by the Secretary to such states and federal agencies. Such states and agencies shall be given not less than 120 days to review and comment on the study method, findings and conclusions leading to any alternative that may have an impact on such states or on resources subject to such federal agencies' jurisdiction. The Secretary shall receive and take into consideration any such comments and produce a final report and transmit the final report to Congress." (Emphasis added)

Subsection 8(c) of the Dakota Water Resources Act dealing with the "Environmental Impact Statement" for the Red River Valley Water Supply Project provides:

> "(1) IN GENERAL – Nothing in this section shall be construed to supersede any requirements under the National Environmental Policy Act or the Administrative Procedures Act.
>
> (2) DRAFT –
>
> (A) DEADLINE – Pursuant to an agreement between the Secretary and the State of North Dakota as authorized under section 1(g), not later than 1 year after the date of enactment of the Dakota Water Resources Act of 2000, **the Secretary and the State of North Dakota shall jointly prepare and complete a draft environmental impact statement** concerning all feasible options to meet the comprehensive water quality and quantity needs of the Red River Valley and the options for meeting those

needs, including the delivery of Missouri River water to the Red River Valley." (Emphasis added)

Section 1(g) of the Dakota Water Resources Act of 2000 provides:

> "AGREEMENT BETWEEN THE SECRETARY AND THE STATE – The Secretary shall enter into 1 or more agreements with the State of North Dakota to carry out this Act, **including operation and maintenance of the completed unit facilities and the design and construction of authorized new facilities by the State**." (Emphasis added)

In his statement following passage of the Dakota Water Resources Act in the Senate on October 13, 2000, on an unanimous consent agreement without debate, North Dakota Senator Byron Dorgan emphasized that:

> "The bill clearly lays out the process for meeting the water needs for the Red River Valley in Eastern North Dakota. First, **the Secretary of the Interior will identify these water needs and evaluate options** for meeting them. The Department must submit a report on the needs and suggest possible solutions to the Congress. **The Secretary is also required to complete and environmental impact statement**, EIS, on the Red River Valley project and select the best option . . ." (Emphasis added) (Congressional Record – Senate, S105301, October 13, 2000)

It is clear, therefore, that, under the Dakota Water Resources Act of 2000, the Secretary of the Interior was to conduct the study of Red River Valley water needs and options for meeting those needs "through an open and public process," the Secretary was to identify those water needs and options, and the Secretary and the State of North Dakota were jointly to prepare the Draft Environmental Impact Statement (DEIS) for the Red River Valley Water Supply Project.

However, in May, 2000, seven months before the Dakota Water Resources Act of 2000 was passed, the Manager of the Dakotas Area Office of the U. S. Bureau of Reclamation (Bureau), the North Dakota State Water Commission (State Water Commission) and the Garrison Diversion Conservancy District (Conservancy District, GDCD) already had developed a "Memorandum of Understanding:"

> ". . . to provide an organization and a process for cooperation among the State, Federal and local interests in the completion of a special study to evaluate the feasibility of alternatives to meet the future municipal, rural, and industrial water needs in eastern North Dakota." (Sprynczynatyk, et al. 2000)

According to the Memorandum of Understanding, which was signed by the Bureau's Area Manager on July 5, 2000:

> "The MOU will be administered through a Study Management Team comprised of one appointed official from each of the following organizations:
>
> U. S. Bureau of Reclamation
> North Dakota State Water Commission
> Garrison Diversion Conservancy District
>
> The Study Management Team is composed of those agencies directly contributing financial and/or staff resources to the accomplishment of the study. **Per current**

> **legislative initiatives,** it is also likely that this partnership would be responsible for the joint implementation of any activities authorized in the future . . ." (Emphasis added) (Sprynczynatyk, 2000)

Consequently, after the Dakota Water Resources Act was passed on December 15, 2000, both the study of Red River Valley water needs and options authorized in DWRA Paragraph 8(b)(1), which was to be conducted by the Secretary, and preparation of the Draft Environmental Impact Statement for the Red River Valley Water Supply Project authorize in Subparagraph 8(c)(2)(A), which was to be done jointly by the Secretary and the State of North Dakota, were initiated under a Study Management Team consisting of the Area Manager of the Bureau of Reclamation, the North Dakota State Engineer, and the Manager of the Garrison Diversion Conservancy District that had been established seven months earlier by the May 2000 Memorandum of Understanding. (Pearson, 2005c, Appendix 1, pp. 40-43). However, as a result of repeated protests to the Regional Director and the Commissioner of the Bureau of Reclamation by other stakeholders, the Study Management Team finally was abolished in early 2002 and a new Memorandum of Understanding was signed by the Regional Director of the Bureau and the Governor of North Dakota voiding the May 2002 Memorandum of Understanding and dealing only with the Red River Valley Water Supply Project Environmental Impact Statement (Pearson, 2005c, Appendix 1, p. 43). The new Memorandum of Understanding states:

> "In accordance with the DWRA this 2002 MOU establishes the Secretary of the Interior and **the State of North Dakota as co-lead agencies** relative to joint preparation of the Red River Valley Water Supply Project environmental impact statement (EIS). . ." (Emphasis added) (Hoeven and Bach, 2002)

Although the Dakota Water Resources Act of 2000 provides explicitly at Subparagraph 8(c)(2)(A) that:

> ". . . the Secretary and the State of North Dakota shall jointly prepare and complete a draft environmental impact statement concerning all feasible options to meet the comprehensive water quality and quantity needs of the Red River Valley . . ."

under the new Memorandum of Understanding:

> "This 2002 MOU will be administered through a partnership between the State of North Dakota and Reclamation. **The State of North Dakota designates the GDCD** [Garrison Diversion Conservancy District] **to represent its interests in this agreement**. The purpose of the partnership is to jointly prepare the EIS for the Red River Valley Water Supply Project. **The co-lead agencies are Reclamation and GDCD**." (Emphasis added) (Hoeven and Bach, 2002)

The Garrison Diversion Conservancy District has a statutory mandate to pursue, and a long history of promoting, the diversion of Missouri River water to the Red River Valley via the Garrison Diversion Unit, which had been authorized in 1965 but has been stalled because of its adverse environmental impacts and the 1977 recommendation of the International Joint Commission that those portions of the project affecting Canada not be built until or unless international concerns over biota transfer are resolved (Pearson, 2005c, Appendix 1, pp. 7-35).

The Great Plains Regional Office of the Bureau released the *Draft Environmental Impact Statement for the Red River Valley Water Supply Project* on December 30, 2005 (Ryan, 2005).

INELGIBLE STATE CO-LEAD IN JOINT PREPARATION OF THE DRAFT ENVIRONEMNTAL IMPACT STATEMENT

The language of Subparagraph 8(c)(2)(A) of the Dakota Water Resources Act is explicit in stating that:

> ". . . the Secretary and the State of North Dakota shall jointly prepare a draft environmental impact statement concerning all feasible options to meet the comprehensive water quality and quantity needs of the Red River Valley . . ."

but the 2002 "Memorandum of Understanding, Red River Valley Water Supply Project EIS" states that:

> "The State of North Dakota designates the GDCD to represent its interests in this agreement." (Hoeven and Bach, 2002)

This raises the question of the Garrison Diversion Conservancy District's statutory authority to represent the interests of the State of North Dakota. The question of the Governor's authority to designate the Conservancy District to represent the State in the preparation of the EIS was raised at a September 26, 2002, public policy forum on the Red River Valley Water Supply Project held by the Bureau of Reclamation and the Conservancy District in Fargo, North Dakota. In responding to the question, GDCD Manager David Koland said that the Governor could have designated the State Engineer to represent the State, but because the Conservancy District is authorized under North Dakota Century Code (NDCC) Chapter 61-24 to deal with the Federal Government in matters involving the Garrison Diversion Unit, the Governor chose to designate the Conservancy District to represent the State in the preparation of the EIS for the Red River Valley Water Supply Project (Pearson, 2002).

When it was pointed out to Mr. Koland that NDCC Chapter 61-24, which governs the Garrison Diversion Conservancy District, would not authorize the Governor to designate the State Engineer to represent the State's interests in the preparation of the EIS, Mr. Koland then said that it is the North Dakota State Constitution that provides the Governor with that authority. However, when asked to identify the specific section of the State Constitution that provides the Governor with the authority to designate the Conservancy District to represent the interests of the State, Mr. Koland said that it was not his responsibility to identify the authority under which the Governor designated the Conservancy District to represent the interests of the State in the preparation of the EIS, but it was the responsibility of the person posing the question to show that the Governor does not have that authority. (Pearson, 2002)

NDCC Chapter 61-24 deals with the Garrison Diversion Conservancy District. NDCC § 61-24-02 defines the Garrison Diversion Conservancy District to consist of:

> ". . . that **part of the state** that is included within the boundaries of the following counties: Barnes, Benson, Bottineau, Burleigh, Cass, Dickey, Eddy, Foster, Grand Forks, Griggs, LaMoure, McHenry, McLean, Nelson, Pierce, Ramsey, Ransom, Renville, Richland, Sargent, Sheridan, Stutsman, Traill, Ward and Wells." (Emphasis added)

and it goes on to state:

> "The district is a governmental agency, body politic and corporate with **the authority to exercise the powers specified in this chapter**, or which may be reasonably implied." (Emphasis added)

None of the powers specified in NDCC Chapter 61-24 include the authority to represent the interests of the State of North Dakota or to be designated by the governor to represent the interests of the State.

NDCC § 61-24-08 defines the powers and duties of the board of directors of the Garrison Diversion Conservancy District. The powers governing the Conservancy District's relationship with other State and Federal agencies under NDCC § 61-24-08 include:

- "To accept funds, property and services or other assistance, financial or otherwise, from federal, state, and other public or private sources for the purpose of **aiding and promoting the construction, maintenance, and operation of the Garrison Diversion Unit, or any part thereof**." (Emphasis added) (NDCC § 61-24-08[3])

- "To cooperate and **contract with the state**, its agencies, or its political subdivisions, or any agency of the United States, in research and investigation or other activities **promoting the establishment, construction, development, or operation of the Garrison Diversion Unit, or any part thereof**." (Emphasis added) (NDCC § 61-24-08[4])

- "To furnish assurances of cooperation and as principal guarantor or either to enter into a contract, or contracts, with the United States of America, or any department or agency thereof, and with public corporations of North Dakota for the performance of obligations entered into with the United States for the **construction, operation, or maintenance of works of the Garrison Diversion Unit of the Missouri River basin project** as defined by Act of Congress, approved December 22, 1944 [58 Stat. 887], and acts amendatory thereof or supplementary thereto." (Emphasis added) (NDCC 61-24-08[5])

- "To **enter into a contract or contracts for a supply of water from the United States** and to sell, lease, and otherwise contract to furnish any such water for beneficial use to irrigation districts, persons, other public and private corporations, or limited liability companies in the district." (Emphasis added) (NDCC 61-24-08[10])

- "To accept, on behalf of the district, **appointment of the district as fiscal agent of the United States** and authorization **to make collections of money for and on behalf of the United States in connection with the Garrison Diversion Unit**." (Emphasis added) (NDCC 61-24-08[2]).

Consequently, under NDCC 61-24-08, the powers and duties of the Garrison Diversion Conservancy District are limited to promoting the construction, operation, and maintenance of the Garrison Diversion Unit (NDCC 61-24-08 [3, 4, 5]) entering into contracts to supply water from the United States to irrigation districts, persons, or public or private corporations (NDCC § 61-24-01-[10]), and to be appointed as **the fiscal agent of the United States** in connection with the **Garrison Diversion Unit** (NDCC § 61-24-08-12). However, there is no provision in the statute for the Conservancy District to represent the interests of the State of North Dakota in matters

involving the Garrison Diversion Unit or for the Governor to designate the Conservancy District to represent the State in those or any other matters

Thus, under the statute, the relationship of the Conservancy District with the State is limited to cooperating and contracting with the State in activities promoting the Garrison Diversion Unit, rather than representing the interests of the State in the preparation of an objective and unbiased environmental impact statement that evaluates all alternatives for meeting Red River Valley water needs. Furthermore, the language of NDCC § 61-24-08-3 authorizing the Conservancy District to "cooperate and contract with the state" makes it clear that the Conservancy District is not "the State of North Dakota" with which Subparagraph 8(c)(2)(A) of the Dakota Water Resources Act specifies the Secretary is to jointly prepare the EIS for the Red River Valley Water Supply Project. Moreover, the MR&I water supply grant program authorized under Section 7 of the Dakota Water Resources Act has no "connection with the Garrison Diversion Unit."

Article V of the Constitution of the State of North Dakota deals with the Executive Branch, and Section 1 specifies that the executive power is vested in the governor. Section 7 states that:

> "The governor is the chief executive of the state. The governor shall have the responsibility to see that the state's business is well administered and that its laws are faithfully executed."

and:

> "The governor shall transact and supervise all necessary business of the state with the United States, the other states, and the officers and officials of the state."

Thus, the Constitution specifies that the governor shall "transact and supervise" the business of the State with the United States, and it does not authorize the governor to designate an entity other than the State to represent the interests of the State in business with the Federal Government.

Although the Garrison Diversion Conservancy District is:

> ". . . a governmental agency, body politic and corporate with the authority to exercise the powers specified in this chapter [NDCC Chapter 61-24], or which may be reasonably implied." (NDCC § 61-24-02)

under the North Dakota Century Code, the Conservancy District is not "the State of North Dakota," and there is no provision in the State Constitution, expressed or implied, authorizing the governor to designate the Conservancy District to represent the State in business with the Federal Government.

Furthermore, the State Constitution specifies that the governor "shall transact **and** supervise all necessary business of the state with the United States" (emphasis added), but there are no provisions under NDCC Chapter 61-24 for the governor either to transact or supervise business between the Conservancy District and the United States. Therefore, not only is there no provision in the State's Constitution for the governor to designate the Conservancy District to represent the interests of the State in the preparation of the EIS for the Red River Valley Water Supply Project, but doing so violates Section 7 of the Constitution, which specifies that, "The governor shall transact and supervise all necessary business of the state with the United States . . ."

When the Great Plains Regional Office of the Bureau of Reclamation was informed of the absence of constitutional or statutory authority for the Governor to designate the Conservancy District to represent the interests of the State in the preparation of the EIS for the Red River Valley Water Supply Project (Pearson, 2002), instead of addressing the matter substantively as the Federal agency with statutory responsibility for assuring that preparation of the EIS was conducted in compliance with the Dakota Water Resources Act of 2000, the National Environmental Policy Act, and Council on Environmental Quality Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act, the Bureau simply forwarded the information to the Governor's Office (Bach, 2002) with the statement that:

> "As you know, the Dakota Water Resources Act of 2000 stipulates that this EIS is to be jointly prepared by the Secretary and the State of North Dakota. We do not believe that the Bureau of Reclamation, acting for the Secretary, has the authority or responsibility to determine which entity shall represent the State." (Bach, 2002)

The Governor's Office responded with a two-paragraph, one-half-page memorandum from a North Dakota Assistant Attorney General which, instead of addressing the Governor's authority to designate the Conservancy District to represent the State in the preparation of the EIS for the RRVWSP under DWRA Subparagraph 8(c)(2)(A), discussed the authority of the State Water Commission to enter into a joint powers agreement with the Conservancy District to serve as the fiscal agency for the State in handling funds under the Municipal, Rural and Industrial (MR&I) water supply grant program authorized under DWRA Paragraph 7(a)(3) (Bach, 2003; Krenz, 2002).

The Regional Director was informed in a February 6, 2003, email letter of the failure of the response from the Governor's Office to address the issue of the lack of authority for the Governor to designate the Conservancy District to represent the State in the preparation of the EIS for the RRVWSP (Pearson, 2003), but did not respond until June 12, 2003 (Bach, 2003b). In her response, the Regional Director said, in part:

> "Reclamation has forwarded your e-mail to the State for comment. After we receive the State's response we will provide a reply to your message." (Bach, 2003b)

Thirty-four months later, the Bureau still has not provided the State's reply addressing the lack of constitutional or statutory authority for the Governor to designate the Garrison Diversion Conservancy District to represent the interests of the State of North Dakota in the preparation of the EIS for the Red River Valley Water Supply Project.

On March 1, 2005, the National Wildlife Federation sent a letter to the Acting Regional Director of the Bureau of Reclamation expressing concern about the legality and propriety of the Garrison Diversion Conservancy District's role in preparing the environmental impact statement for the Red River Valley Water Supply Project (Hall, 2005). In its letter, the Federation pointed out that:

> "The NEPA regulations, developed by the Council on Environmental Quality (CEQ), make clear that conflicts of interest in the delegation of NEPA responsibilities are to be avoided. Moreover, the delegating authority must participate in the preparation of the EIS, exercise independent oversight authority, and maintain responsibility for the product. In general, any EIS
>
> > prepared pursuant to the requirements of NEPA shall be prepared directly by or by a contractor selected by the lead agency . . . . It is the intent of these

> regulations that the contractor be chosen solely by the lead agency, or by the lead agency in cooperation with cooperating agencies, or where appropriate by a cooperating agency *to avoid any conflict of interest*. Contractors shall execute a disclosure statement prepared by the lead agency . . . specifying that they have no *financial or other interest in the outcome of the project.* If the document is prepared by contract, the responsible Federal official shall furnish guidance and participate in the preparation and shall independently evaluate the statement prior to its approval and take responsibility for its scope and contents.

40 C.F.R § 1506.5(c) (emphasis added). The CEQ has further explained with regard to this regulation that '[i]f a consulting firm has a conflict of interest it should be disqualified from preparing the EIS, to preserve the objectivity and integrity of the NEPA process.' 46 Fed Reg. 18026, 18031 (1981).

The principles articulated by this regulation and the CEQ's interpretation are clear and instructive. In the case of the RRVWSP EIS, these principles dictate that North Dakota must either (1) work on the EIS itself (presumably through a *State* agency such as the State Water Commission) or (2) delegate the matter to an unbiased independent contractor and exercise appropriate supervision. 40 C.F.R. § 1506.5(c). North Dakota, however, has not met the requirements of either of these permissible options.

First, the State is clearly not working on the EIS itself. The GDCD is not a State agency. Rather, it is a consortium of 28 county governments. Its incorporating statute confirms that the GDCD and the State of North Dakota are separate entities, as it authorizes the GDCD to 'cooperate and contract with the state, its agencies, or its political subdivisions.' N.D.C.C. § 61-23-03.4. By no means, therefore, can action by the GDCD be equated with action by the State itself.

Second. The State has not delegated NEPA responsibility to an unbiased contractor in a manner consistent with CEQ principles . . .

As the Federal agency charged with NEPA compliance for [the] Project, the Bureau ultimately bears the responsibility to ensure that the RRVWSP NEPA process is carried out in accordance with the requirements of Federal law. In order to preserve and protect the integrity of the NEPA process, we therefore request that the Bureau suspend all activity on the RRVWSP EIS until an appropriate State partner is designated by North Dakota authorities. We also recommend that you initiate a thorough review and audit of the preparation of the EIS to date to ensure that the 'objectivity and integrity of the NEPA process' have not been compromised." (Hall, 2005

However, rather than addressing substantively and factually the issues of the Garrison Diversion Conservancy District's ineligibility to represent the State and its statutory and historical bias for Missouri River diversion, the Regional Director simply asserted in his July 20, 2005, response that the EIS was being prepared in compliance with the National Environmental Policy Act and Council on Environmental Quality Guidelines and reiterated the Bureau's position that:

> ". . . the State can select any state or local agency of its choosing to facilitate its compliance with the DWRA and assist in the preparation of the DEIS. The State has chosen the GDCD to represent the State. We do not believe that Reclamation, acting for the Secretary, has the authority or responsibility to determine which entity shall represent the State." (Ryan, 2005a)

The Regional Director also did not address the issues of the Conservancy District's statutory and historical bias for Missouri River diversion and its consultants' vested interest in the outcome of the DEIS.

When it was pointed out to the Regional Director that his response to the Federation did not address the issue of the ineligibility of the Conservancy District to represent the State (Pearson, 2005a), he simply asserted that:

> "The December 12, 2002, memorandum from Assistant Attorney General Julie Krenz to Bop Harms, Governor's Counsel, addresses the authority issue from the State's perspective." (Ryan, 2005b)

And, when it was pointed out that the Assistant Attorney General's memorandum did not address the issue of the ineligibility of the Conservancy District to represent the State, rather than citing a legal foundation for the Governor to designate the Conservancy District to represent the State, the Regional Director again simply reiterated the Bureau's arbitrary and unsubstantiated position that:

> "We understand that you disagree with our position regarding the designation of the Garrison Diversion Conservancy District to represent the State of North Dakota as joint lead in preparation of the EIS. However, this does not change our position that the State of North Dakota can select any state or local agency of its choosing to facilitate compliance with DWRA and NEPA . . ." (Ryan, 2005c)

Of course, the Governor did not simply select the Garrison Diversion Conservancy District "to facilitate compliance with DWRA and NEPA," but he designated the Conservancy District to serve as the State co-lead and to represent the interests of the State in the preparation of the EIS.

Consequently, after 43 months, neither the Bureau nor the State has yet provided the requested citation of the legal authority under which the Governor designated the Garrison Diversion Conservancy District to represent the interests of the State of North Dakota in the preparation of the Draft Environmental Impact Statement for the Red River Valley Water Supply Project. Nevertheless, the DEIS now asserts that:

> "Garrison Diversion [Conservancy District] is an instrumentality of the State of North Dakota, authorized to act on behalf of the state."

with a footnote citation to "North Dakota Attorney General 2004-L-56." However, North Dakota Attorney General 2004-L-56 is not listed in the Literature Cited section of the DEIS, nor is it discussed anywhere else in the DEIS, so the reader is not able determine if it is any more relevant than the Assistant Attorney General's December 12, 2002, memorandum in addressing the issue of the Conservancy District's authority to represent the interests of the State in the preparation of the EIS for the Red River Valley Water Supply Project. It also is instructive to note that the Regional Director cited the Assistant Attorney General's December 12, 2002, memorandum in his September 1, 2005, letter, rather than "North Dakota Attorney General 2004-L-56," as addressing the Governor's authority to designate the Conservancy District to represent the State (Ryan, 2005b), and, indeed, examination of North Dakota Attorney General 2004-L-56 discloses why.

North Dakota Attorney General 2004-L-56 is an August 31, 2004, "Letter Opinion" from the North Dakota Office of Attorney General addressed to Garrison Diversion Conservancy District Manager David Koland in response to his request:

> ". . . to clarify the District's status pursuant to a question form the Bureau of Reclamation." (Stenehjem, 2004)

The Letter Opinion does not identify the question from the Bureau of Reclamation regarding which Mr. Koland requested clarification, nor does it indicate whether the question related to the authority of the Governor to designate the Conservancy District to represent the interests of the State in the preparation of the EIS for the RRVWSP. It does, however, state that:

> "You ask whether the District is an instrumentality of the state of North Dakota under Cooperative Agreement No. 6-FC-00210 with the United States Bureau of Reclamation." (Stenehjem, 2004)

The Attorney General responded by noting that the Cooperative Agreement does not explicitly refer to the Conservancy District as an "instrumentality of the state," but rather refers to it in several places as "a public agency of the State of North Dakota" (Stenehjem, 2004) Consequently:

> ". . . it is my opinion that the District is acting on behalf of the state and is therefore an instrumentality of the state under the Cooperative Agreement No. 6-FC-60-00210 with the United States Bureau of Reclamation." (Stenehjem, 2004)

However, as with the Assistant Attorney General's December 12, 2002, memorandum (Krenz, 2002), rather than addressing the authority of the Governor to designate the Conservancy District to represent the interests of the State in the preparation of the EIS for the Red River Valley Water Supply Project under DWRA Subparagraph 8(c)(2)(A), the Attorney General's August 31, 2004, Letter Opinion deals simply with the Conservancy District's authority to serve as the fiscal agency for the statewide MR&I water supply grant program authorized under DWRA Paragraph 7(a)(1). In fact, further examination of the Attorney General's August 31, 2004, Letter Opinion serves only to confirm the Governor's lack of authority to designate the Conservancy District to represent the interests of the State in the preparation of the EIS for the Red River Valley Water Supply Project and the ineligibility of the Conservancy District to serve as the co-lead agency in jointly preparing the EIS. For example, the Attorney General states in his August 31, 2004, Letter Opinion that:

> "In 1986, the North Dakota State Water Commission and the Board of Directors for the Garrison Diversion Conservancy District entered into an **Agreement for the Joint Exercise of Governmental Powers ("Joint Powers Agreement") authorized by N.D.C.C. ch. 54-40 and N.D.C.C. §§ 61-02-24.1 and 61-24-08. The Joint Powers Agreement authorized the Board to act on behalf of the state of North Dakota.** The Board could, among other things, be **the fiscal agency for the state of North Dakota** concerning money received from, and payments made to, the United States **for the municipal, rural, and industrial program (MR&I) authorized by Section 5 of P.L. 99-294 (the Garrison Diversion Unit Reformulation Act of 1986).** Thus, the District was designated to act on behalf of the state as an instrumentality of the state **for the purposes authorized in the Joint Powers Agreement and state law.**

> In November 1986, the District entered into Cooperative Agreement No. 6-FC-60-00210 with the United States Bureau of Reclamation, on behalf of the state of North Dakota. The Cooperative Agreement authorizes the Bureau to provide to the District **75% of the cost, up to $200 million of the design and construction of MR&I water projects**. The Cooperative Agreement recognizes that the District is 'a public agency of the State of North Dakota.'" (Emphasis added) (Stenehjem, 2004)

As discussed on pages 7-8 above, NDCC § 62-24-08 deals with the powers and duties of the Garrison Diversion Conservancy District, and these do not include representing the interests of the State or acting as the fiscal agency for the State in matters involving the United States. Moreover, the MR&I water supply grant program authorized under DWRA Section 7 has no "connection with the Garrison Diversion Unit."

North Dakota Century Code Chapter 61-02 deals with the State Water Commission, and NDCC § 61-02-24.1 provides, regarding **Cooperation and participation of political subdivisions**, that.

> "All political subdivisions, including counties, townships, cities, park districts, and water resource districts may separately or jointly with other political subdivisions, the state of North Dakota through the commission or federal departments or agencies, investigate, plan, and do all other things necessary for participating in or undertaking underground or surface water surveys, development, construction, reconstruction, and maintenance works, dams, and projects for the beneficial utilization and control of water resources, and may enter into contracts with the commission to pay rents, charges, or other payments for the use of works of the commission." (Emphasis added)

However, there is no provision in the statute for authorizing political subdivisions such as counties, townships, cities, park districts and water resource districts to represent the interests of the State in dealing with the United States in those matters, or to serve as the co-lead for the State in the preparation of an environmental impact statement for a Federal water project.

Finally, it should be noted that North Dakota Century Code § 54-40-01 provides only that:

> "1. Two or more governmental units or municipal corporations. . . may jointly or cooperatively exercise their respective separate powers, or any power common to the contracting parties or any similar powers. . . for the purpose of **acquiring, constructing, and maintaining any building for their joint use** . . .
>
> 2. Two or more counties or cities, or any combination of counties or cities . . . by agreement entered into through action of their governing bodies, may jointly or cooperatively exercise their respective separate powers, or any power common to the contracting parties or similar powers, for the purpose of **acquiring equipment or constructing roads, bridges, and road and bridge improvements**.
>
> 3. Any agency, department, or institution of this state may enter an agreement with the **state of South Dakota** to form a bistate authority to jointly exercise any function that the entity is authorized by law to perform . . .
>
> 4. Counties or cities, or any combination of counties or cities, may jointly **issue bonds** in the same manner and for the purposes provided in chapter 21-03." (Emphasis added)

It is important to note, therefore, that North Dakota Century Code Chapter 54-40 deals only with the exercise of joint powers for the purpose of acquiring equipment, constructing and maintaining buildings, roads and bridges and issuing bonds for those purposes. It contains no provision for the State Water Commission to enter into a Joint Powers Agreement with the Garrison Diversion Conservancy District under which the Conservancy District would be authorized to serve as the fiscal agency for the State for the municipal, rural, and industrial water program authorized under either the Section 5 of Garrison Diversion Unit Reformulation of 1986 or Section 7 of the Dakota Water Resources Act of 2000, nor does it contain any provision which would authorize the Governor to designate the Garrison Diversion Conservancy District to represent the interests of the State of North Dakota in the preparation of the EIS for the Red River Valley Water Supply Project, nor does it contain any provision under which the Conservancy District could serve as co-lead with the Bureau of Reclamation in jointly preparing the EIS for the Red River Valley Water Supply Project.

North Dakota Century Code § 54-40-01 further specifies that:

> "**Such agreement must state the purpose of the agreement or the power or powers to be exercised**, and it must provide for the method by which the purpose sought shall be accomplished or the manner in which the power or powers shall be exercised." (Emphasis added)

The new 2002 Joint Powers Agreement between the State Water Commission and the Garrison Diversion Conservancy District states:

> "1. This agreement is between the North Dakota State Water Commission (Commission) and Garrison Diversion Conservancy District (District), concerning the Municipal, Rural, and Industrial (MR&I) water program authorized by § 7, Public Law 106-554, and the Red River Valley Water Supply Project authorized by § 8, Public Law 106-554 (the Dakota Water Resources Act of 2000)."
>
> . . .
>
> 4. It is the intent of the parties to carry out **a process for the expeditious and efficient submission of proposals to the Secretary of the Interior for funding of 'municipal, rural, and industrial water systems to serve areas throughout the State of North Dakota,' § 7, Public Law 106-554**. This agreement also provides a mechanism for using the resources of both the Commission and the District to quickly and efficiently improve the supply of MR&I water throughout the State of North Dakota.
>
> 5. The District shall execute a cooperative agreement with the Secretary of the Interior, pursuant to Public Law 106-554, **to carry out the MR&I provisions of the Red River Valley Water Supply Project provisions** [sic] **for the State of North Dakota.** The District shall, among other things, be **the fiscal agency for the State of North Dakota concerning money received from and payments made to the United States for** the MR&I program and **Red River Valley Water Supply Project** authorized by Public Law 106-554. The District will consult regularly with the Governor to be sure the Governor, Commission, and other State agencies are informed regarding the **status of the Red River Valley Water Supply project**. The State Engineer will continue to be responsible for interstate, international, and general policy issues.

It should be noted that the 2002 Joint Powers Agreement, like the 1986 Joint Powers Agreement, deals specifically with the "Municipal, Rural, and Industrial Water (MR&I) program" authorized in Sections 7 and Section 8 of the Dakota Water Resources Act of 2000, and the only specific authority conferred on the Conservancy District relates to its serving as "**the fiscal agency for the State of North Dakota** concerning money received from and payments made to the United States for the MR&I program and **the Red River Valley Water Supply Project** authorized by Public Law 106-554." (Emphasis added) Nowhere does the Joint Powers Agreement state that its purpose is to authorize the Governor to designate the Conservancy District to represent the interests of the State in the preparation of the EIS for the Red River Valley Water Supply Project or to authorize the Conservancy District to serve as the State co-lead in the preparation of the EIS. Consequently, even if North Dakota Century Code Chapter 54-40 did include provisions under which the Conservancy District could be granted that power, the 2002 Joint Powers Agreement does not authorize the Conservancy District to represent the interests of the State in the preparation of the EIS for the RRVWSP.

Finally, the fact that Attorney the General's August 31, 2005, Letter Opinion cites the 1986 Joint Powers Agreement with the North Dakota State Water Commission as the authority under which the Garrison Diversion Conservancy District is authorized to act on behalf of the State of North Dakota as the fiscal agency for the DWRA MR&I water program further confirms that the Conservancy District is not "the State of North Dakota" and that it is not automatically empowered to represent the interests of the State without specific statutory authority to do so.

Neither the 1986 Cooperative Agreement No. 6-FC-60-00210 with the Bureau of Reclamation, nor the 2002 Joint Powers Agreement between the State Water Commission and the Conservancy District, nor the 2002 Memorandum of Understanding Red River Valley Water Supply Project EIS between the Governor and the Bureau or Reclamation creates, nor can create, authority where none exists under the statutes.

The failure of the Bureau of Reclamation, as the Federal agency with primary responsibility for assuring that the Environmental Impact Statement for the Red River Valley Water Supply Project complies with the requirements of both the Dakota Water Resources Act of 2000 and the National Environmental Policy Act, to address substantively after more than three-and-a-half years the evidence that the Garrison Diversion Conservancy District is not eligible to serve as co-lead in the preparation of the EIS for the RRVWSP raises fundamental questions regarding the validity of the entire DEIS process.

Indeed, the unequivocal evidence of the absence of (1) statutory authority for the Garrison Diversion Conservancy District to represent the interests of the State, or for the Governor to designate the Conservancy District to represent the interests of the State, in the preparation of the EIS for the Red River Valley Water Supply Project, (2) the Conservancy District's statutory and historical bias in favor of alternatives involving Missouri River diversion, (3) its consultants' vested interest in the outcome of the project, and (4) the Bureau's failure to address those issues in a positive and substantive manner even after they were pointed out three-and-a-half years ago, render the DEIS invalid as a matter of law.

The Attorney General's August 31, 2004, Letter Opinion indicates that the Conservancy District might have entered into a Cooperative Agreement with the Bureau under NDCC § 61-02-24.1 to act as the fiscal agency for State in the MR&I water supply grant program authorized by DWRA Section 7. However, it is important to note, as pointed out on page 13 above, that the statute does not provide authority for political subdivisions, such as counties, townships, cities, park districts

and water resource districts, to represent the interests of the State or to function as the fiscal agency for the State when participating with the Federal Government in the development of projects for the beneficial utilization and control of water resources.

In any event, that is not what occurred. As the Attorney General states in his August 31, 2004, Letter Opinion, the Conservancy District entered into Cooperative Agreement No. 6-FC-00210 under a Joint Powers Agreement with the State Water Commission executed pursuant to NDCC Chapter 54-40. However, the joint powers provisions of North Dakota Century Code Chapter 54-40 are expressly limited to (1) the acquisition of equipment, construction, and maintenance of buildings (N.D.C.C. § 54-40-01[1]) and roads, bridges, and road and bridge improvements (N.D.C.C. § 54-40-01[2]), (2) entering into agreements with the State of South Dakota to form a bistate authority (N.D.C.C. § 54-40-01[3]), and (3) the issuance of bonds (N.D.C.C. § 54-40-01[4]). Therefore, the statute provides no authority for the North Dakota State Water Commission to enter into an Agreement for the Joint Exercise of Government Powers with the Garrison Diversion Conservancy District for the Conservancy District to act as the fiscal agency for the State for money received from, and payments made to, the United States for the municipal, rural, and industrial water programs authorized by Section 5 of the Garrison Diversion Unit Reformulation Act of 1986 and by Section 7 of the Dakota Water Resources Act of 2000.

Consequently, this means that the Bureau of Reclamation's Cooperative Agreement No. 6-FC-60-00210 with the Garrison Diversion Conservancy District authorizing the Bureau to provide to the Conservancy District 75 percent of the cost, up to $400 million, of the design and construction of MR&I water projects in North Dakota authorized under Section 5 of the Garrison Diversion Unit Reformulation Act of 1986 and Section 7 of the Dakota Water Resources Act of 2000, is invalid. Of course, this also means that, because the Bureau of Reclamation failed to review adequately the Garrison Diversion Conservancy District's authorities under North Dakota statutes, it has illegally distributed in excess of $200 million in Federal funds to the Conservancy District under the statewide MR&I water supply grant program over the last 20 years.

THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE RED RIVER VALLEY WATER SUPPLY PROJECT

On December 30, 2005, the Great Plains Region Regional Director of the Bureau of Reclamation released a 45-page *Executive Summary, Draft Environmental Impact Statement, Red River Valley Water Supply Project* that included a Compact Disc-ROM containing the:

- *Draft Environmental Impact Statement Red River Valley Water Supply Project*
- *Final Report on Red River Valley Water Needs and Options*
- Appendices
- Supporting Documents

The 45-page *Executive Summary* provided to the public is replete with unsubstantiated statements regarding the need for a Red River Valley Water Supply Project, the alternatives considered, and their environmental impacts. However, in order for the reader to know the basis for those statements and evaluate their validity, it is necessary to (1) have access to a computer and have the time to navigate through hundreds of pages of documents on the CD-ROM, or (2) make a specific request to the Bureau for hard copies of those documents. However, if one requested a hard copy of the *Draft Environmental Impact Statement*, the document supplied by the Bureau did not include the *Final Report on Red River Valley Water Needs and Options*, the Appendices, or any of the other supporting documents. Furthermore, as the U. S. Environmental Protection Agency Assistant Regional Administrator, Ecosystems Protection & Remediation, pointed out in his January 30, 2006, letter to the Regional Director of the Bureau of Reclamation:

> "Further, online availability of the documents proved to be cumbersome and difficult to cross-reference, and our subsequent request for distribution of necessary hard copy documents and CD-ROM electronic copies delayed receipt for use by important EPA reviewers." (Dodson, 2006)

In fact, even when hard copies are requested, some of the appendices are not provided. For example, the *Appendices, Draft Environmental Impact Statement, Red River Valley Water Supply Project* do not include Appendix C (Surface Water Quality), Appendix D (Groundwater), Appendix F (Biota of Concern), or Appendix M (Social and Economic Conditions & Environmental Justice), which are "Reserved for Use in the Final EIS."

Consequently, rather than utilizing technology to expedite and facilitate the public and agency review and comment on the DEIS required under the National Environmental Policy Act, the Bureau has instead managed to manipulate and corrupt technology to transform it into an impediment to the very public disclosure mandated by the Act.

The Draft Environmental Impact Statement for the Red River Valley Water Supply Project states that:

> "The purpose of the action proposed in the DEIS is to meet the 'comprehensive water quality and quantity needs of the Red River Valley' [DWRA (Dakota Water Resources Act) Section 8(c)(2)(A)] through 2050. The quality and quantity needs are defined by DWRA as MR&I supplies, water quality, aquatic environment, recreation, and water conservation measures [DWRA Section 8(b)(2)].

> These needs have been evaluated in the *Report on Red River Valley Water Needs and Options* (Needs and Options Report), which is a needs assessment and engineering study ([Bureau of] Reclamation, 2005[b]). These needs, which address water resource sustainability, were considered in formulating and evaluating alternatives for the DEIS . . ." (DEIS, p. 3)

The DEIS is based in substantial part on the *Report on Red River Valley Water Needs and Options*, but the *Final Report on Red River Valley Water Needs and Options* does not substantially address the comments received on the *Draft Report*. Therefore, incorporated as Appendix 1 to these comments on the *Draft Environmental Impact Statement for the Red River Valley Water Supply Project* is a review of the *Draft Report on Red River Valley Water Needs and Options* entitled, *North Dakota's Plan for Hijacking the Missouri River, A Review of the U. S. Department of the Interior, Bureau of Reclamation, Dakotas Area Office, Draft Report on Red River Valley Water Needs and Options* (Review) (Pearson, 2005c, Appendix 1).

As is pointed out in the appended Review of the *Draft Report on Red River Valley Water Needs and Options*:

> "Four and a half years and undisclosed millions of dollars after the Dakota Water Resources Act of 2000 was passed in December 2000, at the end of May 2005, the Bureau of Reclamation released its *Draft Report on Red River Valley Water Needs and Options* (*Draft Report*) authorized under Paragraph 8(b)(1) and Paragraph 8(b)(3) of the Act (Brietzman, undated). The *Draft Report* contains substantial useful information on surface water and groundwater hydrology and potential water sources within the Red River Valley, but because the 'needs' assessment is based on flawed data, highly questionable assumptions and unconventional and unrealistic water management principles, and because the options are designed to meet those speculative and exaggerated 'needs,' the *Draft Report* lacks scientific credibility and is of little value in making sound decisions regarding future Red River Valley water needs and options for meeting those needs." (Pearson, 2005c, Appendix 1, p. 44)

In announcing the release of the *Final Report on Red River Valley Water Needs and Options* on November 28, 2005, the Bureau of Reclamation stated:

> "Besides the affected states and federal agencies who were mandated to receive the draft report, more than 400 interested agencies, organizations, and individuals also were given copies of the report. Comments were received from 31 entities and are posted on the Dakota Areas Office web site (www.rrvwsp.com). Comments received covered a wide spectrum of issues, including engineering criteria, compliance with the National Environmental Policy Act, agency policy, and legal authority and questions. **Reclamation will provide a response to comments and make the comments and responses available to the public early in 2006**. Comments and responses will be included in a separate document to be posted on our web site. Hard copies of the document will be mailed upon request." (Brietzman, 2005)

However, despite an initial 30-day extension of the comment period for the DEIS (from February 28, 2006, to March 30, 2006) and a second 15-day extension (March 30, 2006, to April 14, 2006), the Bureau did not provide responses to comments on the *Draft Report on Red River Valley Water Needs* until April 7, 2006, a week before the final deadline for submitting comments on the DEIS and after a number of reviewers already had submitted their comments. Although it is not clear to what extent this was due to ineptness or design, it effectively prevented other agencies

and the public from addressing the Bureau's responses comments on the *Draft Report* in their comments on the DEIS.

Unfortunately, despite waiting until the end of the comment period on the DEIS before responding to comments it had received six and a half months earlier on the *Draft Report on Red River Valley Water Needs*, instead of responding thoughtfully, objectively and forthrightly to the issues raised, the Bureau's responses typically are selective, argumentative, unsubstantiated, evasive, non-substantive and/or inconsistent with the facts. For example, a review of the Bureau's responses to the appended comments on the *Draft Report on Red River Valley Water Needs and Options* (Pearson, 2005c, Appendix 1) disclosed that they provide no information to warrant substantive changes in these comments on the DEIS.

Because the *Final Report on Red River Valley Water Needs and Options* does not incorporate the replies of other agencies and the public to the Bureau's responses, and because there are no provisions to assure that they will be incorporated or addressed substantively in the *Final Environmental Statement*, there is a significantly likelihood that the Secretary and other decision-makers will be deprived of the opportunity to evaluate the adequacy of the Bureau's responses.

By not incorporating the comments received on the *Draft Report on Red River Valley Water Needs* substantively in the *Final Report*, not considering them in the DEIS, and not responding to those comments until the end of the comment period on the DEIS, the Bureau has effectively nullified the public participation mandate of Paragraph 8(b)(3) of the Dakota Water Resources Act of 2002 that:

> " In conducting the study, **the Secretary through an open and public process** shall solicit input from gubernatorial designees from states that may be affected by possible options to meet such needs as well as designees from other federal agencies with relevant expertise. . . Upon completion, a draft of the study shall be provided by the Secretary to such states and federal agencies. Such states and agencies shall be given not less than 120 days to review and comment on the study method, findings and conclusions leading to any alternative that may have an impact on such states or on resources subject to such federal agencies' jurisdiction. **The Secretary shall receive and take into consideration any such comments** and produce a final report and transmit the final report to Congress." (Emphasis added)

Because the DEIS does not address, but simply incorporates, the same flawed data, highly questionable assumptions, unconventional and unrealistic water management principles, and options designed to meet speculative and exaggerated 'needs', the environmental impact analyses presented in the DEIS simply perpetuate and compound the flaws and deficiencies of the *Draft Report* so it, too, lacks scientific validity or credibility and is of little value in making sound, informed decisions regarding future Red River Valley water needs and options for meeting those needs.

RED RIVER VALLEY WATER NEEDS

The Draft Environmental Impact Statement for the Red River Valley Water Supply Project states that:

> "The purpose of the action proposed in the DEIS is to meet the 'comprehensive water quality and quantity needs of the Red River Valley' [DWRA (Dakota Water Resources Act) Section 8(c)(2)(A)] through 2050. The quality and quantity needs are defined by DWRA as MR&I supplies, water quality, aquatic environment, recreation, and water conservation measures [DWRA Section 8(b)(2)].
>
> These needs have been evaluated in the *Report on Red River Valley Water Needs and Options* (Needs and Options Report), which is a needs assessment and engineering study ([Bureau of] Reclamation, 2005[b]). These needs, which address water resource sustainability, were considered in formulating and evaluating alternatives for the DEIS . . ." (DEIS, p. 3)

As is pointed out in the appended Review:

> "The *Draft Report* purports to examine future municipal, rural, industrial, recreational and other Red River Valley water needs, but the future needs are driven primarily by projected population growth in the Red River Valley and secondarily by projected growth in industrial water use." (Pearson, 2005c, Appendix 1, p. 44)

<u>Planning Horizon</u>

The DEIS states that:

> "The planning horizon for this Project is the year 2050, and analyses in this DEIS (draft environmental impact statement) focus on water shortages that would occur during a drought similar to the 1930s." (DEIS, p. 1)

However, as pointed out in the appended Review:

> ". . . the Bureau's own March 5, 2003 draft *Needs Assessment Project Mobilization and Study Approach* acknowledged that population and economic development 'are difficult to forecast out 5 or 10 years much less 50 . . .'" (Pearson, 2005c, Appendix 1, p. 45)

Furthermore:

> "It is important to note that no statutory mandate exists to support the Bureau's selection of a 50-year planning period for the Red River Valley Water Supply Study, and even if such authority did exist, it still would not preclude consideration of other more reliable and realistic planning periods. In fact, the Bureau has a responsibility to inform the Congress of the unreliability of water use projections based on such an unrealistically long planning period. Indeed, to argue otherwise would be to argue congressionally mandated ignorance. Consequently, the Bureau has no defensible alternative except to consider other more reliable and realistic planning periods for the Red River Valley Water Supply Study." (Pearson, 2005c, Appendix 1, p. 45)

Never-the-less, the DEIS is based on the same unrealistic and unreliable 50-year planning horizon that can only be explained as an attempt to maximize and inflate the future water needs to be met by a Red River Valley Water Supply Project.

Population Projections

The DEIS states that:

> "Projecting water demands trough 2050 is difficult, so two water demand scenarios were developed to present a reasonable range of future water demands in the Needs and Options Report ([Bureau of] Reclamation 2005[b])." (DEIS p. 13)

and:

> "The Scenario One water demands are based upon Reclamation's population estimates for the Red River Valley . . ." (DEIS p. 13)

> "The Scenario Two water demands are based upon the water users' population estimates . . ." (DEIS p. 14)

These statements reveal three fundamental flaws of the DEIS. First, scenarios are not scientific predictions, but simply speculation based on assumptions, the validity of which cannot be verified because "[p]redicting water demands through 2050 is difficult." Second, simply because the DEIS presents two water demand scenarios based on unreliable data and unrealistic assumptions regarding future population growth in the Red River Valley does not mean that they "present a reasonable range of future water demands." And third, even Reclamation's Scenario One population estimates are substantially higher than those of its own consultant and the U. S. Census Bureau. As is pointed out in the appended Review:

> "The Bureau's disregard for established demographic principles, realistic assumptions and objective data analysis is documented by the *Draft Report* itself. For example, based on **U. S. Census Bureau data**, the population of the Red River Valley region of North Dakota and Minnesota would be projected to grow from 446,2235 in 2000 to 502,792 in 2050, an increase of 56,557, or **12.7 percent**. The Bureau of Reclamation contracted with Northwest Economic Associates 'to conduct an independent population projection analysis for the Red River Valley' (Draft Report, p. 2-24). The **Northwest Economic Associates'** report projected the Red River Valley Population would grow from 445,235 to 569,867 in 2050, an increase of 123,632 or **27.7 percent** (Draft Report, p. 2-24). However, the **Bureau** rejected the projections of both of these independent entities having recognized expertise in demographic analysis and instead based its *Draft Report on Red River Valley Water Needs and Options* on its own inflated projection of the population of the Red River Valley increasing by 192,265 (**43.2 percent**) to 538,600 in 2050 (Scenario One), and the even more exaggerated **municipalities' projections** showing the municipal population of the Red River Valley increasing by 248,687 in 2000 to 507,093 in 2050 (Scenario Two)—an astonishing **104 percent**! (Draft Report, p. 2-25)" (Emphasis added)

Of course, what the Bureau of Reclamation is saying in the DEIS is that Red River Valley population projections for 2050 based U. S Census Bureau data and its own consultant's analysis must be rejected because they are not within a "reasonable range."

As the appended Review points out:

> "Of course, neither of the two scenarios upon which the *Draft Report* is based provides any indication of their extreme unreliability or of how the uncertainties regarding population and water need projections escalate over the 50-year period. Instead, the Draft Report simply presents two figures, Scenario One and Scenario Two, as representing the only choices for making decisions today regarding water needs 45 years in the future.
>
> By using an already unrealistically long 50-year planning period and then inflating population growth over that period by 150 [over Northwest Economic Associates' projection] to 340 percent [over U. S. Census Bureau data] for its Scenario One projection, the *Draft Report* grossly overestimates future water needs in the Red River Valley." (Pearson, 2005c, Appendix 1, p. 48)

Per Capita Water Use

The DEIS states that its projections of future water needs in the Red River Valley were based on the Scenario One and Scenario Two population projections multiplied by the per-capita municipal and rural water demands (DEIS pp. 13-14).

As the appended Review notes, however:

> "Although the *Draft Report* does not hesitate to embrace the most giddily optimistic population projections for estimating water use 45 years into the future, it can foresee no technologic innovations or public policy changes (such as tiered water rates to discourage excessive use) being implemented that would increase the efficiency of water use in the face of declining supplies over the next half century . . .
>
> Unlike other water-short areas of the country where reducing per capita use is an integral part of sound, professionally-developed water management programs, the *Draft Report* proposes to encourage and subsidize profligate water consumption with half-billion-to-billion dollar Federally-financed water projects. (Who really needs to take high volume whirlpool baths—which the *Draft Report* has the audacity to pass off as 'demand'!—during a drought?) Of course, reducing per capita water use would help to preserve existing supplies and reduce future water needs, which would reduce shortages, which would make it more difficult to justify half-billion-to-billion-dollar Federally subsidized water projects." (Pearson, 2005c, Appendix 1, pp, 48-49)

Water Conservation

According to the DEIS, water conservation was incorporated in the estimates of future Red River Valley water needs (DEIS, pp. 13, 14), and:

> "The *Water Conservation Potential Assessment Final Report* ([Bureau of] Reclamation 2004) evaluates potential water conservation measures and identifies reasonable and achievable water reduction measures for the Project. This report shows that approximately 1.4 billion gallons (4,300 ac-ft) of water could be saved annually with reasonable water conservation measures. The water conservation measures would result in reducing future Red River Valley water system per capita water demands by 6.54 to

> 9.02 gallons per person per day depending on the characteristics of water systems. The water conservation savings are reflected in the MR&I water demands (see DEIS chapter two). The methods of estimating costs and tools for implementing water conservation for the project are discussed in detail in the Needs and Options Report ([Bureau of] Reclamation, 2005[b])." (DEIS p. 6)

As is pointed out in the appended Review:

> "However, when the Bureau submitted its draft *Water Conservation Potential Assessment* to its own independent consultant for review, the consultant, '. . put the total savings, or conservation potential, in the range of 15 percent or more, a large portion of which would be due to the plumbing code' (Maddaus, 2004). However, the *Draft Report* uses water conservation savings of half that—and does not mention the report of its independent consultant or even list it in the Literature Cited.
>
> The Bureau's *Water Conservation Potential Assessment Final Report* acknowledges that:
>
> > 'Very few water systems in the Red River Valley have a formal water conservation program in place.' (Bureau of Reclamation, 2004)
>
> and it:
>
> > '. . . defines "economically reasonable" water conservation measures as those measures that reduce water use at a cost equal to or less than the cost of alternative water supplies. Basic economics dictate that water systems will pursue the least costly sources of new water supply whether they are new sources or water conservation. The WCPA only recommends implementation of those water conservation measures estimated to cost less than or equal to the cost of alternative water supply. **The alternative water supply cost used as a basis of comparison was the least costly (per 1000 gallons) alternative estimated in the Phase II Report**. Alternative B (In Basin, Enlarged Lake Ashtabula) at an estimated cost of $1.25 per 1000 gallons had the lowest total allocated cost per 1000 gallons. Therefore, a water conservation measure was considered reasonable and recommended for implementation if it had a cost of $1.25 per 1000 gallons or less.' (Emphasis added) (Bureau of Reclamation, 2004)
>
> However, the Phase II report estimated the construction cost of the Enlarged Lake Ashtabula alternative at $245,862,000 and the annualized cost at $21,500,000, compared with construction costs of $504,888,000 and annualized costs of $32,662,000 for the least costly Garrison Diversion Unit Import to Sheyenne River option identified in the *Draft Report* (p. 4-39). Thus, the *Draft Report* bases its evaluation of water conservation measures on comparisons with an alternative water supply costing half (49%) of, and with annualized costs 34 percent less than, the least costly alternative identified in the *Draft Report*." (Pearson, 2005c Appendix 1, pp. 49-50)

The *Draft Report* did not include costs per 1000 gallons for the various alternative water supplies considered, but the DEIS does list per 1,000 gallon repayment rates for the various alternatives, all of which except for the Garrison Diversion Unit Import to the Sheyenne River are greater than the $1.25 per 1000 gallons rate for the in-basin Expanded Lake Ashtabula (Bureau of Reclamation, 2000), against which water conservation measures are compared. The repayment rates range for Scenario One from $1.17 per 1000 gallons for the Garrison Diversion Unit to

Sheyenne River Import option, to $1.89 per 1000 gallons for the North Dakota In-Basin alternative, to $5.50 per 1000 gallons for the Garrison Diversion Unit Water Supply Replacement Pipeline (DEIS, p. 283).

What the DEIS does not explain is the economic wizardry under which the *Red River Valley Water Needs Assessment* Phase II In Basin Expanded Lake Ashtabula alternative (Bureau of Reclamation, 2000), with construction costs that are **51 percent lower** and annualized costs that are **34 percent lower**, has a water repayment rate ($1.25 per 1000 gallons) that is **7 percent higher** than the rate for the Garrison Diversion Unit Import to Sheyenne River alternative ($1.17 per 1000 gallons) (DEIS, pp. 41, 283).

The DEIS also does not explain why the Red River Basin alternative, which has construction costs only 10.5 percent higher and annualized costs only 17.5 percent higher than the Garrison Diversion Unit Import to Sheyenne River alternative (DEIS p. 41) has a water repayment rate that is 62 percent higher (DEIS p. 283).

The answer, of course, is that substantial portions of the costs of the alternatives utilizing Garrison Diversion Unit facilities are paid by U. S. taxpayers, rather than Red River Valley Water Supply Project beneficiaries. As *The Forum* reported on May 11, 2005, nearly three weeks before the *Draft Report on Red River Valley Water Needs and Options* was released:

> "'It appears the Sheyenne River alternative could be the best solution,' said Dave Johnson, Garrison's [Garrison Diversion Conservancy District] district engineer.
>
> **Because that option would use the McClusky Canal, already built for the planned Garrison Diversion Project, it would be cost effective compared to other options**, Johnson said." (Emphasis added) (Springer, 2005a)

Under Paragraph 1(f)(2) of the Dakota Water Resources Act:

> 'REPAYMENT CONTARCT. – **An appropriate repayment contract** shall be negotiated that provides for the making of a payment for each payment period in an amount that is **commensurate with the percentage of the project that is in actual use during the payment period**." (Emphasis added)

The Snake Creek Pumping Plant has a design capacity of 2,000 cubic feet per second (cfs) and the McClusky Canal has a design capacity of 1,950 cfs (Bureau of Reclamation, 1974), but the Scenario One Garrison Diversion Unit Import to Sheyenne River Alternative pipeline would have a capacity of 78-120 cfs (DEIS, p. 28) and the Scenario Two Garrison Diversion Unit Water Supply Replacement pipeline would have a capacity of 411 cfs (DEIS, p. 33), so Red River Valley MR&I water users would have to repay only 5 to 21 percent of the construction costs of the pumping plant and canal and U. S. taxpayers would end up paying the remaining 79 to 95 percent. The Snake Creek Pumping Plant cost $21,000,000 and the McClusky Canal cost $131,000,000 (Office of Inspector General, 1990), so this represents an U. S. taxpayer subsidy of $120,080,000 (Scenario Two Garrison Diversion Unit Water Supply Replacement) to $144,400,000 (Scenario One Garrison Diversion Unit Import to Sheyenne River) for Red River Valley Water Supply Project alternatives using Garrison Diversion Unit Principal Supply Works features.

It should also be noted that DWRA Paragraph 1(f)(3) provides:

"OPERATION AND MAINTENANCE COSTS. – Except as otherwise provided in this Act or Reclamation law –

(i) **The Secretary of the Interior shall be responsible for the costs** of operation and maintenance of **the proportionate share of unit facilities** in existence on the date of enactment of the Dakota Water Resources Act of 2000 **attributable to the capacity of the facilities . . .that remain unused.**

(ii) **The State of North Dakota shall be responsible for costs** of operation and maintenance **of the proportionate share of existing facilities that are used . . .**" (Emphasis added)

Consequently, the Snake Creel Pumping Plant would have to be maintained (with its pumps operated and maintained at 4 percent of their capacity), and Lake Audubon and the McClusky Canal would have to be maintained at their full design capacities in order to supply 78-120 cfs for the Scenario One Garrison Diversion Unit Import to Sheyenne River Alternative, and the Federal Government would have to pay 95 ercent of those operation and maintenance costs (Bureau of Reclamation, 2005c).

Neither the DEIS nor the Bureau's *River Valley Water Supply Project Financial Analysis of Alternatives* (Bureau of Reclamation, 2005c) shows the total annual operation and maintenance costs of the Garrison Diversion Unit Principal Supply Works for the Red River Valley Water Supply Project alternatives using those features, nor do they show the costs for the unused capacities of those features which would be subsidized by Federal funds. However, interpolating from information in the *Financial Analysis of Alternatives* and assuming the Scenario One Garrison Diversion Unit Import to Sheyenne River were to operate at its design capacity of 78 – 120 cfs, the U. S. taxpayer subsidy of the operation and maintenance costs for the 95 percent unused capacity of the Garrison Diversion Unit Principal Supply Woks feature would appear to be in the range of $43,700,000 over the 40-year operating life of the project. Of course, the project would operate at peak capacity only in the event of a severe drought, so the subsidy actually would be much larger than that. For the Scenario Two Garrison Diversion Unit Water Supply Replacement alternative, the 79 percent U. S. taxpayer subsidy of Garrison Diversion Unit Principal Supply Works operation and maintenance costs over the 40-year operating life of the project would be in the range of $48,152,000.

Based on the information contained in the DEIS and in the Bureau's *Financial Analysis of Alternatives* (Bureau of Reclamation, 2005c), the combined Federal construction and operation and maintenance subsidies for Garrison Diversion Unit Principal Supply Works features would range from approximately $168,232,000 for the Scenario Two Garrison Diversion Unit Water Supply Replacement alternative to $188,100,000 for the Scenario One Garrison Diversion Unit Import to Sheyenne River alternative.

Although the Garrison Diversion Unit Import to Sheyenne River Alternative might be the best solution for the Garrison Diversion Conservancy District and Red River Valley MR&I water users, it clearly is not cost-effective for U. S. taxpayers, who would be saddled with paying 95 percent of the construction and operation and maintenance costs for the Snake Creek Pumping Plant, Lake Audubon and the McClusky Canal. However, by excluding those non-reimbursable Federal costs form alternatives utilizing Garrison Diversion Unit Principal Supply Works features, the DEIS is able to make water conservation measures appear economically infeasible.

It should also be noted that basing the water conservation potential of all alternatives on the least cost option obscures and minimizes the potential for reducing water use under the more costly alternatives. For example, water conservation measures that might not be "economically reasonable" under the North Dakota In-Basin alternative ($1.89 per 1000 gallons) might be entirely reasonable under the Garrison Diversion Unit Import Pipeline ($3.50 per 1000 gallons) (DEIS, p. 283).

What this means, of course, is that more aggressive water conservation measures would be "economically reasonable" under the more costly alternatives, and they in turn would reduce the quantity of water used and, consequently, lower the costs of those alternatives. However, by selecting a single arbitrarily low value for water conservation, the DEIS creates an artificial bias against all alternatives except the Garrison Diversion Unit Import to the Sheyenne River.

Industrial Water Needs

Industrial water use is the factor having the second greatest influence on future Red River Valley water needs, and the DEIS states that Scenario One water demands are based on an intermediate industrial demand scenario and the Scenario Two water demands are based on a high water demand scenario (DEIS pp. 13-14). As the *Final Report on Red River Valley Water Needs and Options* explains:

> ". . . Reclamation is using the Bangsund and Leistritz (2004) intermediate water demand results from Bangsund and Leistritz (2004) intermediate water assessment both for agricultural processing and for nonagricultural manufacturing for Scenario One.
>
> The Scenario Two water demand includes the high industrial water estimates from Bangsund and Leistritz (2004), **as requested by the water users**. . ." (Emphasis added) (Bureau of Reclamation, 2005b, p. 2-67)

Neither the DEIS nor the *Final Report* discloses that the *Industrial Water Needs Assessment for the Red River Valley Water Supply Project* by Bangsund and Leistritz (2004) was prepared by the North Dakota State University Department of Agribusiness and Applied Economics **under contract with the Garrison Diversion Conservancy District**. Consequently, the industrial water needs analyses upon which the DEIS is based are not those of the Secretary of the Interior, nor the Bureau of Reclamation, nor an independent and objective contractor selected by the Bureau, but of the Garrison Diversion Conservancy District and Red River Valley water users, both of whom have vested interests in a Red River Valley Water Supply Project (Pearson 2005c, Appendix 1, pp. 50-51)

The DEIS also does not disclose that the *Industrial Water Needs Assessment* openly admits that:

> "**Forecasts of** trade policy, farm production, per capita incomes, and other factors affecting **demand and supply of agricultural products rarely are made beyond a 10-year period**. Given the complexity of most forecasting methods associated with those studies, **it is impossible, given the limitations of this study, to easily extend those forecasts out another 40 years**." (Emphasis added) (Bangsund and Leistritz, 2004, p. 24)
>
> "**Given the scope of this study, future predictions out to 2050** for all of the factors that might affect non-food based products associated with agricultural processing **is not possible**." (Emphasis added) (Bangsund and Leistritz, 2004, p. 25)

> ". . . **a precise prediction of how the future will unfold** with respect to all the factors influencing agricultural processing activities **over a 50-year planning period is impossible**." (Emphasis added) (Bangsund and Leistritz, 2004, p. 35)
>
> "**There is inherent risk in blindly accepting past changes as a predictor of future change**." (Emphasis added) (Bangsund and Leistritz, 2004, p. 60) (*See* Pearson, 2005, Appendix 1, pp. 54-55)

Because of the admitted impossibility of accurately and reliably projecting future Red River Valley industrial water needs 50 years into the future, rather than providing an objective analysis of those needs, the DEIS rejects the Bureau's own analysis and simply adopts two hypothetical scenarios, developed under contract with the Garrison Diversion Conservancy District, of what might—or might not—occur (Pearson 2005c Appendix 1, pp. 52-54)

As is pointed out in the appended Review:

> "The 400 percent variations from the Low to the High Red River Valley industrial water use scenarios [in the *Industrial Water Needs Assessment for the Red River Valley Water Supply Project* and the *Draft Report on Red River Valley Water Needs and Options*] again demonstrates the irrationality of attempting to design a water project to meet water needs 50 years in the future. However, it is important also to recognize that these are not actual projections of future water needs, but simply hypothetical scenarios displaying what water use might be based on different sets of assumptions, the validity of which cannot be verified. And because the validity of the assumptions cannot be verified, the validity of the scenarios themselves cannot be verified." (Pearson 2005c, Appendix 1, p. 54)

Consequently, because the validity of the scenarios cannot be determined, there is no way to know whether they actually do "present a reasonable range of future water demand" (DEIS p. 13). Indeed, the two scenarios selected in the DEIS most likely do not. As the appended Review also points out:

> "What these 400 percent variations from the low to the high scenarios do show, however, is that designing a water project to meet anything other than the low water use scenario would pose the real and unwarranted risk of committing hundreds of millions of dollars to a water supply project that would never be used at a capacity necessary to justify its cost. Consequently, IF the scenario approach employed by the Garrison Diversion Conservancy District's *Industrial Water Needs Assessment* were to be used as a basis for designing a Red River Valley water supply project, common sense would dictate that the Low Future Scenario figure of 7,688 acre-feet per be used as the year 2050 increased industrial water need. Instead, the *Draft Report* [and the DEIS] uses the Intermediate and High Future Scenario figures of 17,758 and 31,112 acre-feet. " (Pearson 2005c, Appendix 1, p. 55-56)

As a result, the Scenario One and Scenario Two industrial water demands utilized in the DEIS to estimate future Red River Valley water needs are 2.3 to 4 times higher than can be justified on any rational basis.

It should also be noted that Garrison Diversion Conservancy District's industrial water needs report upon which the DEIS is based allocates 36 percent of the year 2050 Scenario One

industrial water demands for the entire Red River Valley to Fargo and Cass County (Bangsund and Leistritz, 2004), which is the only area of the Red River Valley that would have a significant shortage under average conditions (Bureau of Reclamation, 2005b). The Conservancy District's report also allocates 69 percent of the year 2050 Scenario Two industrial water needs for the Red River Valley to Fargo and Cass County and Grand Forks and Grand Forks County (Bangsund and Leistritz, 2004), which again are the only areas of the Red River Valley that would have significant shortages under average conditions (Bureau of Reclamation, 2005b). Therefore, by allocating major portions of the hypothetical increased industrial water demands to the areas of the Red River Valley having marginal supplies under year 2050 average conditions rather than to areas with adequate supplies, the DEIS creates hypothetical shortages.

Future Red River Valley MR&I Water Shortages

According to the DEIS:

> "Reclamation estimates the maximum future MR&I water demand in the Red River Valley service area by 2050 would range from 114,000 to 143,000 ac-ft (acre-feet)." (DEIS pp. 13)
>
> "The total 2050 average and maximum annual future water demands for Scenario One are 86,297 ac-ft and 113,702 ac-ft, respectively, while the average and maximum annual water demands for Scenario Two are 110,875 ac-ft and 142,380 ac-ft." (DEIS p. 14)

However, as is pointed out in the appended Review:

> "According to the *Draft Report*:
>
> > 'West Fargo is the only municipality that has a shortage for both scenarios when compared to their permitted allocation in an average water use year.' (Draft Report, p. 3-47)
> >
> > 'For Scenario Two only, East Grand Forks also has a shortage when compared to its permitted allocation in an average year.' (Draft Report, p. 4-48)
> >
> > '*Municipal Water Demand Conclusions* Of the 16 municipal water systems, **13 have adequate annual permitted allocations to meet their annual maximum month water demands through 2050 for both scenarios** . . .
> >
> > **Fourteen of the 16 water systems have adequate permitted daily withdrawal rates to meet their maximum peak daily water demands through 2050, under both scenarios** . . ." (Emphasis added) (Draft Report, pp. 3-52-3-53)
>
> Under Scenario One, the combined 2050 annual water shortage . . . would be 2,055 acre-feet (Draft Report, p. 3-49). Under Scenario Two, the combined 2050 annual water shortage would be 3,122 acre-feet (Draft Report, p. 3-50). Adding annual maximum industrial water shortages of 556 acre-feet (Draft Report, p. 3-66) increases these shortages to 2,611 acre-feet and 3,678 acre-feet, respectively.
>
> In other words, even after doing everything possible to inflate future water use, including employing an unrealistically long 50-year planning period compounded with grossly exaggerated population projections, and allowing profligate water use to nullify

> conservation measures, the *Draft Report* still shows that significant water shortages would not be expected to occur in the River Valley over the next 45 years. Of course, this is the same conclusion that was reached in the Bureau's 1998 *Red River Valley MR&I Water Needs Assessment Phase I* report (Bureau of Reclamation, 1998).
>
> There was only one thing left to do." (Pearson 2005c, Appendix 1, pp. 56-57)

The Specter of Drought

Current Conditions

Like the *Draft Report on Red River Valley Water Needs and Options*, the DEIS beings with the dire news that:

> "Based on results of surface water hydrology modeling, it is estimated that the present water supplies of the Red River Valley would fall short of meeting the current annual water demand by approximately 16% during a severe drought like the 1930s. Water users in the valley would experience a water supply deficit of approximately 46% during the month of February; the single worst month of a sustained drought." (DEIS p. 1)

However, as is discussed in the appended Review:

> "The 2005 maximum Red River Valley annual MR&I water 'demand' is 65,664 acre-feet (Draft Report, p. 2-90). If a 1930s-type drought were to occur today, the 'worst year' shortage of 7,000 acre-feet (Draft Report, p. B-84) would occur in 2010 (Draft Report, p. 3-103), and the total shortage for the duration of the drought would be 42,000 acre-feet (Draft Report, p. B-84). The 7,000 acre-feet 'worst year' shortage is equivalent to 10.6 percent of the 65,644 acre-feet maximum annual water use.
>
> What the *Draft Report* neglects to mention is that **these shortages would occur only if no drought contingency measures were implemented to reduce water use during a 10-year 1930s-type drought**. . . . the implementation of a Level II drought contingency response to moderate drought conditions, including such measures as implementation of a mandatory lawn watering schedule, prohibiting certain non-essential uses (e.g., ornamental fountains, washing down buildings, parking lots and driveways), and mandatory restrictions on other types of non-essential use, would be expected to reduce water use by 10 to 20 percent, or 6,500 to 13,000 acre-feet per year, or 65,000 to 130,000 acre-feet over the 10-year course of the drought. Consequently, the Red River Valley MR&I water shortage that could develop if a 1930s-type drought were to occur today could readily be eliminated simply by implementing a few reasonable and common sense measures to reduce non-essential water use." (Pearson, 2005c, Appendix 1, p. 58)

The converse of this, of course, is that severe water shortages would occur in the River Valley if a severe drought were to occur today only if reasonable and common sense measures to reduce non-essential water use were not implemented (Pearson, 2005c, Appendix 1, pp. 57-59).

It also should be noted that if a Red River Valley Water Supply Project were to be approved immediately after the Final Environmental Impact Statement is completed in 2007, it likely would be at least 2013—and undoubtedly much longer with current Federal deficits—before it would be able to supply water to cities in the Red River Valley. In the meantime, with a 11.1 percent chance of another 1930s-type drought occurring before 2030, there is a possibility that such a

drought could occur before a Red River Valley Water Supply Project could be completed. The DEIS does not address that possibility. However, it is clear that Red River Valley drought contingency plans should have been developed when the Red River Valley Water Supply Study was initiated in 2001, and that drought contingency plans need to be developed before a Red River Valley Water Supply Project is built. Unfortunately, the Bureau of Reclamation, the State of North Dakota, the Garrison Diversion Conservancy District, the State Water Commission, and the Lake Agassiz Water Authority have ignored this real immediate need while instead focusing for the last five years on speculative needs 45 years in the future.

Future Conditions

The DEIS states that:

> "Modeling predicted that by 2050 if population and industrial water growth increase as predicted and the Project is not constructed by 2050, the maximum water shortage in the Red River Valley could range between 37,000 to 53,000 ac-ft per year during a 1930s-type drought (see [Bureau of] Reclamation 2005[b], chapter three)." (DEIS, p. 15)

It is necessary, therefore, to consider just what the probability is of such drought occurring by 2050.

<u>The Probability of Drought</u>

The DEIS states unequivocally that:

> "A climate study to investigate the frequency of droughts in the Red River Basin by Meridian Environmental Technology, Inc. concluded the Red River Valley would probably experience an extreme drought in the next 50 years (See Reclamation 2005, chapter 3)." (DEIS p. 1)

and:

> ". . . recent research indicates a strong probability of an extreme drought event occurring before 2050 (Meridian Environmental Technology, Inc. 2004)." (DEIS p. 71)

These statements are seriously misleading, if not deliberately false, as is demonstrated by the statement on DEIS page 15 that:

> "Based on a drought frequency investigation, Meridian Environmental Technologies, Inc. (2004:62) identified the 1930s as a 'realistic and statistical representation of an extreme drought in **that it typifies the most extreme drought event anticipated until at least 2050**.' To determine the water shortage during a severe drought, Reclamation modeled future water demands with return flows using 1931 through 1941 flows. . ." (Emphasis added) (DEIS p. 15)

Consequently, the DEIS itself acknowledges that the 1931-1941 drought was selected simply to model the impacts of drought on water shortages, and that such an extreme drought is as likely to occur well after 2050 as before.

As the appended Review points out:

"The *Meridian* report does state in the Executive Summary and Conclusions that:

> 'Recent research indicates a strong probability of an extreme drought event occurring before 2050 AD.' (Meridian Environmental Technology, 2004)

but nowhere does the report identify that 'recent research' or cite scientific data to support the statement. The only specific information provided regarding the likelihood of another 1930s-type drought occurring before 2050 is the statement that:

> 'Recurrence intervals ranging from less than 25 to greater than 100 years were computed for the 1930's drought.' (Meridian Environmental Technology, 2004)

The report cites data showing a 95 percent confidence that the true probability of a drought as severe as the 1988 drought occurring by 2030 is between 29.5 and 54.0 percent, but:

> 'Probably more significant was their statistical conclusion that a very extreme drought event falling within the 95th percentile or greater had an 11.1% chance of occurring by 2030.' (Meridian Environmental Technology, 2004)

Of course, an 11.1 percent chance of a very extreme drought occurring by 2030 does not constitute a prediction of 'a strong probability of an extreme drought event occurring before the year 2050.' Instead, the prediction apparently is based simply on the premise that:

> '. . . the lack of a drought of the intensity of the 1930's drought suggests that there is a greater likelihood of such an extreme drought with time.' (Meridian Environmental Technology, 2004)

In fact, however, the *Meridian* report itself admits that:

> "**The complex nature of droughts does not permit reliable forecasting of their occurrence**, duration or intensity.' (Emphasis original) (Meridian Environmental Technology, 2004)"

(Pearson, 2005c, Appendix 1, p. 60)

It should also be noted that the calculation of an 11.1 percent chance of an extreme drought occurring by 2030 is just that: a statistical calculation. However, a statistical calculation is not a prediction, and the *Meridian* report cites no evidence to substantiate the implication that it is.

On the one hand, the *Meridian* report predicates its calculation of an 11.1 percent chance of an extreme drought occurring by 2030 on the assumption that droughts are independent hydrological events that are subject to the laws of statistical probability. On the other hand, it predicates its claim that the lack of an extreme drought since the 1930s increases the likelihood of another one occurring on the assumption that droughts are not independent events. The *Meridian* report cannot have it both ways, especially when it cites no credible scientific evidence to support either of those implications. Consequently, the DEIS cites no credible scientific evidence to support the fundamental premise upon which it is based and upon which it proposes to spend a half billion to two billion dollars, which is that another 1930s-type drought will occur in Red River Valley in the next 50 years (DEIS, p. 1).

Drought Contingency Measures

The DEIS states that:

> "During years of normal and high precipitation, there would be adequate water sources to meet future water demands in the Red River Valley, but during a severe drought there would be water shortages." (DEIS, p. 15)

Never-the-less, although the DEIS is based on the presumption of an extreme drought occurring in the Red River Valley before 2005, and:

> ". . . a drought of the magnitude of the 1930's drought is a realistic and statistically significant representation of an extreme drought in that it typifies **the most extreme event anticipated until at least 2050**." (Emphasis added) (Bureau of Reclamation, 2005a)

the DEIS summarily dismisses the implementation of drought contingency measures:

> "Because of the uncertainties involved in estimating future water demands and future water supplies, drought contingency measures are reserved as an important safety factor that would be implemented if **unforeseen events** would occur." (Emphasis added) (DEIS, p. 47)

However, as the appended Review points out:

> "Nevertheless, it is instructive to consider how effective implementation of water conservation and drought contingency measures might affect Red River Valley water shortages during a 1930s-type drought under the *Draft Report's* [and the DEIS'] Scenario One and Scenario projections. If it were assumed, for example, that the effective implementation of water conservation measures were to reduce baseline water use by 10 percent and the implementation of a Level III response to severe drought (continuation of Level II measures, plus assessing fines to water wasters, requesting industries and non-municipal water users to eliminate certain uses, and prohibiting all outdoor water use) would reduce water use by another 20-30 percent (Bureau of Reclamation, 2000), the total reduction in water use of 30-40 percent would eliminate even the Scenario One and Scenario Two shortages if a 1930s type drought were to occur by 2050." (Pearson, 2005c, Appendix 1, p. 39)

With a maximum annual water demand of 113,701 acre-feet under Scenario One (DEIS, p. 14), a 37,000 acre-feet shortage could be eliminated by implementing water conservation and drought contingency measures that would reduce water use by 32.5 percent. And with a maximum annual water demand of 142,380 acre-feet under Scenario Two (DEIS, p. 14), a 53,000 acre-feet shortage could be eliminated by implementing water conservation and drought contingency measures that would reduce water use by 37 percent. Thus implementing drought contingency measures could eliminate the need for a Red River Valley Water Supply Project and save from $505 million to $2.2 billion in project construction costs alone (DEIS, p. 41). Of course, water shortages based on more realistic demands could be eliminated with the implementation of substantially less stringent drought contingency measures.

Although the DEIS does not recognize that the implementation of drought contingency measures could eliminate the need for a Red River Valley Water Supply Project even under the exaggerated Scenario One and Scenario Two water demands, it does calculate construction cost savings for the seven project alternatives ranging from$15 million to $373 million for demand reductions ranging from 7.5 to 35 percent under Scenario One (DEIS, p. 45-46). It is instructive to note, therefore, that with implementation of drought contingency measures resulting in a 25 percent reduction in Scenario One water demand, the construction costs for the Red River Basin alternative would be only $3,972,000 more than for the State's preferred Garrison Diversion Unit Import to Sheyenne River alternative, and with a 35 percent reduction in demand, the costs of the Red River Basin alternative actually would be $15,152,000 less (DEIS Table 23, p. 47). And the difference in cost between the Red River Basin and Garrison Diversion Unit Import to Sheyenne River alternatives drops from $44,278,000 without drought contingency measures to $35,068,000 with implementation of drought contingency measures that result in just a 7.5 percent reduction in Scenario One water demand (DEIS, Table 23, p. 47).

However, although the DEIS states that:

> "Although construction costs could be saved, there would be adverse economic impacts of imposing drought contingency measures **greater than 7.5%**. It is estimated that **little economic impact would result from implementing drought contingency goals at a level of 7.5% or less**." (Emphasis added) (DEIS, p. 46)

it does not consider implementing drought contingency measures even at a 7.5 percent demand reduction level despite the potential for saving from $15,907,000 to $57,905,000 in construction costs of the various alternatives (DEIS, Table 21, p. 46).

Instead of addressing drought contingency measure alternatives objectively and substantively as required under Section 102(2)(C)(iii) the National Environmental Policy Act, the DEIS dismisses further consideration of drought contingency measures with the assertion that:

> "From an economic impact standpoint, implementation of drought contingency goals above 7.5% could have severe economic costs far outweighing any short-term construction cost savings (see DEIS chapter four)." (DEIS, p. 46)

However, by dismissing analysis of the **environmental impacts** of drought contingency measures solely on the basis of their direct **economic costs**, the DEIS fails to address either the economic or the environmental benefits and cost savings of those measures, thus further disregarding the mandate of the National Environmental Policy Act for Federal agencies to consider the environmental impacts of proposed actions affecting the environment, including alternatives to the proposed actions.

Moreover, the DEIS employs an analysis of the economic impacts of imposing drought contingency measures during a 1930s-type drought that is based on the grossly exaggerated Scenario Two water demands in order to inflate those economic impacts even further. Indeed, the analysis of the economic impacts of imposing drought contingency measures is so embarrassingly untenable that even the DEIS is constrained to concede that:

> "It should be stressed that there could be a great deal of variation in potential impacts depending on how the reductions are imposed on different sectors." (DEIS, p. 271)

and:

> "There could be a great deal of variability in these impact cost estimates." (DEIS, 272)

Although the technical flaws in the DEIS analysis of the economic impacts of implementing drought contingency measures are substantial, the conceptual flaws are monumental. For example, to justify spending from $504,888,000 to $2,226,667,000 on a Red River Valley Water Supply Project in order to avoid implementing drought contingency measures, the DEIS states:

> ". . . Based on the results from tables 4.4.8 and 4.4.9 in the Needs and Options Report ([Bureau of] Reclamation, 2005[b]), the last column of the table [Table 90, p. 272] shows the estimated economic impact from implementation of drought contingency measures that year. The total estimated impact over the 10-year 1930s-magnitude drought would be $20.7 billion under Scenario Two." (DEIS, p. 272)

Of course, what the DEIS fails to acknowledge or address is that, utilizing this kind of 'smoke and mirrors' economic sorcery, every city in the country could 'justify' spending whatever amount necessary to avoid having to implement drought contingency measures under even the most extreme and speculative drought conditions. Moreover, the DEIS displays its blatant bias by discounting the future economic impacts of biota transfer by a Red River Valley Water Supply Project eliminating the entire Lake Winnipeg commercial fishing industry to present day value "so they can be added up in a meaningful way" (DEIS, p. 215), but then deliberately presenting the future economic impacts of implementing drought contingency measures as their present day costs (DEIS, p. 272) so they cannot be evaluated in a meaningful way. Therefore, the DEIS's analysis of the economic impacts of implementing drought contingency measures is without either economic or rational foundation.

RED RIVER VALLEY WATER SUPPLY PROJECT ALTERNATIVES

Alternatives

The DEIS outlines seven Red River Valley Water Supply Project action alternatives for meeting Scenario One and Scenario Two Red River Valley water needs in the year 2050. (DEIS, pp. 12-33). These are:

Source	Scenario One Construction Cost
Within Red River Basin	
North Dakota In-Basin	$557,859,000
Red River Basin	$549,166,000
Lake of the Woods	$937,228,000
Missouri River	
GDU Import to Sheyenne River	$504,888,000
GDU Import Pipeline	$1,202,248,000
Missouri River Import to Red River Valley	$875,378,000
GDU Replacement Water Supply Pipeline	$2,226,667,000

In addition to these construction costs, there would be an another $753,195,000 infrastructure construction cost for each of the alternatives except the Garrison Diversion Unit Replacement Water Supply Pipeline, bringing the total cost of the State's preferred Garrison Diversion Import to the Sheyenne River (DEIS, p. 32) to $1,258,083,000, or only 3.4 percent less than the Red River Basin alternative and 4.1 percent less than the North Dakota In-Basin alternative (DEIS Table 17, p. 44).

The appended Review points out that:

> "All of the options involve various combinations of pipelines, pumping plants and other structural features designed to create large water supply projects ranging in cost form $504,888,000 to $2,518,023,000 (Draft Report, pp. 4-39, 4-40). The Lake of the Woods option and all of the Missouri River import options are based on large pipelines costing from $395,296,0000 (Scenario One Garrison Diversion Unit Import to Sheyenne River) to $2,109,952,999 (Scenario Two Garrison Diversion Unit Water Supply Replacement Pipeline) as their principal water supply features (Draft Report, pp. 4-26 to 4-35), so they cannot be implemented in increments. Despite being designed to meet speculative water needs projected 45 years in the future, none of the options is designed to be implemented in increments as water needs actually materialize (Draft Report, pp. 4-22 to 4-35), but the North Dakota In-Basin and the Red River Basin options are based on independent water supply features that could be implemented separately (Draft Report, pp. 4-22 to 54-25).
>
> In any event, because the future water needs upon which the *Draft Report* is based are highly speculative, and because the costs of the options identified for meeting those needs

> are so great, the only options that can realistically and responsibly be considered are the North Dakota In-Basin and the Red River Basin options that could be implemented as water needs actually materialize." (Pearson, 2005c, Appendix 1, p. 62)

In its comments on the *Draft Report on Red River Valley Water Needs and Options*, the Government of Canada pointed out:

> "We note that the costs were developed in a standardized manner allowing for cost comparisons among options. However, in each case all the capital costs were assumed to be incurred up front in a one-time manner. Each option offers some opportunity to phase in particular features as water demand increases. In particular, the in-basin alternatives that develop use of ground water would be able to add features as demand grows. Gradually phased development would lower the present value costs and the associated annualized costs. Such adjustments would make the in-basin alternatives more cost effective. For example, if 15% of the capital costs for the in-basin alternative could be delayed 15 years, which would seem entirely reasonable in the 45-year planning cycle, the present value would be about $44 million less. This amounts to the current difference between the capital construction cost for the least cost Missouri basin transfer option and the in-basin option." (McGovern, 2005)

Of course, with the additional $753,195,000 infrastructure construction costs included, the difference between the construction costs of the Garrison Diversion Unit supply options and the construction costs of phased implementation of the North Dakota In-Basin and Red River Basin alternatives becomes dramatically greater. However, rather addressing the cost reductions achievable through phased implementation of in-basin alternatives, the DEIS includes just one page of discussion of "Phasing Construction of Alternatives" (DEIS, pp. 279-280) acknowledging that:

> "The primary advantage in phasing construction is that Project features that are not immediately needed could be built and funded later when size of the features would be better understood and increased population and new industry could help finance these features." (DEIS, p. 279)

However, rather than providing a meaningful economic analysis showing the actual cost reductions that could be achieved with phased implementation of each of the alternatives, the DEIS simply shows the percentage of the total cost for the most expensive feature of each alternative. Consequently, the DEIS deliberately withholds from the public and decision-makers the true costs of the different alternatives and the fact that phased implementation of the North Dakota In-Basin and Red River Basin alternatives would make them far less costly than any of he Garrison Diversion Unit supply alternatives.

Of course, the DEIS also does not identify or describe the environmental impacts of alternatives for meeting future a Red River Valley water needs based on more realistic water use projections and the implementation of standard water conservation and drought contingency measures.

The DEIS also does not consider the alternative of abandoning existing Garrison Diversion Unit features (e.g., Snake Creek Pumping Plant, Lake Audubon, McClusky Canal, New Rockford Canal) to save the Federal costs of perpetual maintenance of those features.

Operation

The appended Review points out that

> "The Garrison Diversion Unit Import Pipeline and the Garrison Diversion Unit Water Supply Replacement options would operate continuously to supply MR&I water to the Red River Valley (Draft Report, pp. 4-7, 4-9). The North Dakota In-Basin, the Red River Basin, the Lake of the Woods, the Garrison Diversion Unit Import to the Sheyenne River and the Missouri River to Red River Valley Import options would operate only as needed to meet water needs during droughts (Draft Report, pp. 4-4,4-6, 4-8, 4-11, 4-14).
>
> It is important to note again that the complex nature of droughts does not permit reliable forecasting of their occurrence, severity or duration (Meridian Environmental Technology, 2004) and that there is only an 11.1 percent chance that a very extreme drought will occur by 2030 (Meridian Environmental Technology, 2004). Therefore, this means that the *Draft Report* is proposing two Red River Valley water supply options costing from $1,202, 248,000 (Scenario One Garrison Diversion Import Pipeline) to $2,518,023,000 (Scenario Two Garrison Diversion Unit Water Supply Replacement) that may never be needed, and five more ranging in cost from $504,888,000 (Scenario One Garrison Diversion Unit Import to Sheyenne River) to $1,112,579,000 (Scenario Two Lake of the Woods) (Draft Report, pp. 4-39, 4-40) that may never be used." (Pearson, 2005c, Appendix 1, p. 62)

However, the DEIS does not address the fact that all seven of the alternatives are predicated on the 11.1 percent chance of the occurrence of an extreme drought like the 1930s, so none of them may ever be needed, and five of the seven alternatives are designed to operate **only** in the event of drought.

ENVIRONMENTAL IMPACTS

Cumulative Environmental Impacts

The DEIS states that:

> "Reclamation and Garrison Diversion [Conservancy District] determined that the following actions are outside the scope of the DEIS:
> - An inlet to Devils Lake,
> - Irrigation along McClusky Canal
> - Irrigation along New Rockford Canal or in Oakes Test Area, and
> - Development of irrigation in the Hudson Bay Basin/Devils Lake Sub-basin."
>
> (DEIS, p. 9)

Devils Lake Inlet

Regarding an inlet to Devils Lake, the DEIS states:

> "Reclamation and the Corps (U. S. Army Corps of Engineers) are satatutorily prohibited from constructing a Devils Lake inlet [DWRA Section 8(f)]. Furthermore, previously constructed or proposed GDU facilities may not be used to transfer Missouri River water from the Missouri River Basin to Devils Lake in the Hudson Bay Basin, so North Dakota could not construct an inlet that conveyed water through GDU facilities. Because no federal, state, or private entity has a viable plan for an inlet to Devils Lake, this is not a reasonably foreseeable future action; therefore, it will not be evaluated in this DEIS." (DEIS, p. 9)

These statements are patently and demonstrably false.

First, Subsection 8(f) of the Dakota Water Resources Act of 2000 does not prohibit the Bureau of Reclamation or the Corps of Engineers from constructing an inlet to deliver Missouri River water to Devils Lake. Section 8(f) simply and explicitly states that:

> "**No funds appropriated under this Act may be used** to carry out the portion of the feasibility study of the Devils Lake basin, North Dakota, authorized under the Energy and Water Development Appropriations Act of 1993 (Public Law 102-377), that addresses the need of the area for stabilized lake levels through inlet controls, or to otherwise study any facility or carry out any activity that would permit the transfer of water from the Missouri River drainage basin to Devils Lake, North Dakota." (Emphasis added)

Consequently, either the Bureau or the Corps of Engineers could construct an inlet to deliver Missouri River water to Devils Lake with funds appropriated under another Act, such as another Energy and Water Development Appropriations Act or a rider attached to an Omnibus Appropriations Bill similar to the one under which the Dakota Water Resources Act itself was passed (Pearson, 2005c, Appendix 1, pp. 32-35)

Second, the Warren Act includes provisions for permitting the delivery water from Federal water project facilities for non-Federal uses, and former Garrison Diversion Conservancy District Manager Warren Jamison told National Wildlife Federation officials on September 9, 2001, that

it was the Conservancy District's intent to utilize those provisions of the Warren Act to increase the supply of water from the Missouri River for irrigation along the James River under the Dakota Water Resources Act of 2000 (Pearson, 2005c, Appendix 1, p. 34). Those same provisions of the Warren Act could be used to deliver Missouri River Water via the Garrison Diversion Unit Principal Supply Works to Devils Lake.

Third, in August 1, 1997, letters to the U. S. Senate Majority Leader and the Speaker of the U. S. House or Representatives, North Dakota Governor Edward T. Schafer and the majority leaders of the North Dakota House and Senate stated:

> "There are no **immediate** plans to build an inlet to bring Missouri River water into Devils Lake. The conditions do not require it. Five years ago Devils Lake was a shrinking body of water in danger of losing its multimillion dollar fishery. That situation may occur again. **Stabilization of Devils Lake is essential for the long-term economic health for the region and our state**.
>
> . . .
>
> We ask that you consider alternative language that provides funding for an emergency outlet while **not shutting the door permanently on an inlet**." (Emphasis added) (Schafer, et al., 1997a, 1997b)

On September 26, 1997, the Governor and the North Dakota Senate and House majority leaders then sent similar letters to the North Dakota Congressional Delegation stating:

> "A ban on the inlet is an extremely high price to pay for the outlet language. **An inlet** is important to ensure the long-term economic stability of the Devils Lake region, and **is a significant component of the state's water-development plan**. Strong support still exists for an inlet in the region.
>
> . . .
>
> **Everything possible must be done to keep the inlet viable in Congress as a long-term option**. We ask that this letter be included as part of a legislative history that should emphasize **the state's interest in revisiting an inlet when the circumstances dictate**." (Schafer, et al., 1997c, 1997d, 1997e)

That same day, North Dakota Senator Byron Dorgan was quoted in *The Forum* (Fargo, North Dakota) as stating that he would being back the inlet debate in future sessions of the Congress (Condon, 1997).

It is relevant to note in this context that the DEIS is based on the assumption that a Red River Valley Water Supply Project is necessary because an extreme drought will occur in the region before 2050 (DEIS. p. 1).

Finally, the statement that no federal, state, or private entity has a viable plan for an inlet to Devils Lake (DEIS, p. 9) is refuted by the map prepared by the North Dakota State Water Commission featured in the 2003 Special Edition Irrigation Issue of *North Dakota Water*, which shows among proposed water facilities a "Devils Lake Inlet/Outlet" leading from the Sheyenne River to West Bay of Devils Lake (North Dakota Water Education Foundation, 2003).

It should be noted that it would be relatively easy and inexpensive for the State to install a release feature in a Garrison Diversion Unit alternative to deliver treated water from a McClusky Canal pipeline to the headwaters of the Sheyenne River either by discharging the water into the McClusky Canal downstream from the continental divide or via another conveyance feature from the pipeline to the Sheyenne River (See DEIS pp. 28, 29, 33).

Irrigation along the McClusky Canal

The DEIS states:

> "Although development is authorized, irrigation along the McClusky Canal will not be evaluated in this DEIS because that irrigation development does not depend on any action alternatives and is already occurring." (DEIS, p. 9)

Dakota Water Resources Act Paragraph 5(a)(5) states:

> "PRINCIPAL SUPPLY WORKS. – **The Secretary shall maintain the Snake Creek Pumping Plant**, New Rockford Canal, **and McClusky Canal features of the principal supply works**. Subject to the provisions of **Section 8 of this Act**, the Secretary shall select a preferred alternative to implement the Dakota Water Resource Act of 2000. In making this selection, one of the alternatives the Secretary shall consider is whether to connect the principal supply works in existence on the date of enactment." (Emphasis added)

Irrigation development along the McClusky Canal clearly is dependent upon maintenance of the Snake Creek Pumping Plant, Lake Audubon, and the McClusky Canal as specified in DWRA Paragraph 5(a)(5). The maintenance of the Snake Creek Pumping Plant, Lake Audubon, and the McClusky Canal are in turn linked in DWRA Paragraph 5(a)(5) to the selection of a Red River Valley Water Supply Project alternative under Section 8 of the Act. Consequently, irrigation development along the McClusky Canal does depend on actions authorized by the Dakota Water Resources Act, including maintenance of the Principal Supply Works and Red River Valley Water Supply Project action alternatives. Furthermore, the fact that some of that irrigation development is already occurring does not exempt it from the requirements of Section 102(2)(C)(iii) of the National Environmental Policy Act.

Irrigation along the New Rockford Canal or in the Oakes Test Area

The DEIS states:

> "Actions that could supply water to the James River and the Oakes Test Area during periods of reduced water demand in the Red River Valley are outside the scope of this Project. Such water delivery would require construction of a release structure from McClusky Canal to the James River above Arrowwood National Wildlife Refuge. These actions are infeasible due to the high cost of using treated water for irrigation; the unreliability of the source (because it could be delivered only when excess water was available); and potential impacts to the wildlife refuge. It is not reasonably foreseeable that a release structure on the James River would be built." (DEIS, p. 9)

These statements ignore a number of relevant facts.

First, delivery of water to the James River and the Oakes Test Area would not require construction of a release structure from the McClusky Canal to the James River above the Arrowwood National Wildlife Refuge. All that would be necessary would be to construct a release feature in the pipeline from the McClusky Canal to Lake Ashtabula or the Red River Valley in a Garrison Diversion Unit alternative where the pipeline crosses the James River.

Second, as is pointed out in the appended Review:

> ". . . there is no question that, once a Garrison Diversion Unit Import to Sheyenne River were built, the Garrison Diversion Conservancy District and others of the North Dakota political/water development establishment would soon begin lobbying to put the 'idle' McClusky Canal and 129 miles of pipeline, which would have no use except in a severe drought, to 'economical use' to deliver Missouri River water to the Sheyenne River where it would be available for irrigation development under State initiative.
>
> It also is important to recognize that the Garrison Diversion Unit Import to the Sheyenne River—which is capable of supplying from 52,553 to 80,976 acre-feet of Missouri River water annually (Draft Report, p. 5-13)—is the only option utilizing Garrison Diversion Unit principal supply works features that is not designed for continuous operation to supply Red River Valley MR&I needs. This means that the full capacity of the pipeline could be made available for irrigation development except in the unlikely event of an extreme drought. And, because the pipeline also crosses the James River, it would be simple and relatively inexpensive for the State to install a release feature in the pipeline to permit the delivery of Missouri River water to the James River for development of irrigation in the LaMoure and Oakes areas. With Jamestown Reservoir on the James River and Lake Ashtabula on the Sheyenne River, ample storage would be available for the delivery of water throughout the year for use during the irrigation season.
>
> It is particularly significant to note that Subsection 9(a) of the Dakota Water Resources Act of 2000 explicitly delays the decision on the transfer of the title to the Oakes Irrigation Test Area on the James River to the State until up to two years after the record on the decision on a Red River Valley Water Supply Project." (Pearson, 2005c, Appendix 1, p. 66)

Under DWRA Subparagraph 1(h)(A)(2):

> "All costs of construction, operation, maintenance, and replacement of water treatment and related facilities authorized by this Act and attributable to meeting the requirements of the [Boundary Waters] treaty referred to in paragraph (1) shall be nonreimbursable."

Consequently, because the costs for treatment of the water are Federal non-reimbursable costs, it would not be infeasible for farmers along the James and Sheyenne riversto use treated water for irrigation.

Because the State's preferred Garrison Diversion Unit Import to Sheyenne River alternative (DEIS, p. 32) is designed to deliver MR&I water to the Red River Valley only during times of extreme drought, and because the likelihood of such a drought occurring is low and the duration would be limited if it were to occur, much, if not all, of the capacity of the pipeline would be available to supply irrigation water in most years.

Furthermore, because an Arrowwood National Wildlife Refuge Bypass Project already has been constructed to divert Garrison Diversion Unit flows delivered to the James River around the refuge, the potential impacts to the refuge would be minimal.

Finally, the DEIS cites absolutely no foundation for its assertion that it is not reasonably foreseeable that a release structure on the James River would be built.

Development of irrigation in the Hudson Bay Bay/Devils Lake Sub-basin

The DEIS states:

> ". . . according to DWRA Section 5(a)(2), none of the authorized irrigation may be developed in the Hudson Bay or Devils Lake Sub-Basin." (DEIS, p. 9)

However, the DEIS neglects to mention that the *Draft Report on Red River Valley Water Needs and Options* discloses that:

> "While irrigation is not identified as one of the water needs to be met in DWRA, irrigation shortages are integral to the results of this study. Irrigation water use is in direct competition with other water uses." (Bureau of Reclamation, 2005a, p. 3-105)

and:

> "**Shortages . . . also** [include] **irrigators along the Sheyenne River**. Although they are not served as part of this project, these **irrigators could potentially draw water from the river before it gets to its intended MR&I destination**. *Project waters* are the flows that are above the natural flow in the river and are intended for a permit holder downstream with a more senior water right. Though monitored and controlled through permitting by the NDSWC, **inappropriate withdrawals of project water upstream that was intended for MR&I use downstream would be difficult to document or to prevent**. Upstream withdrawals of water beyond permitted amounts would lead to shortages downstream, which in turn would lead to reductions in storage. For this reason, **Reclamation included shortages for irrigators on the Sheyenne River as shortages to the system**." (Emphasis added) (Bureau of Reclamation, 2005a, p. 3-105)

As noted in the appended Review:

> "Of course, the inclusion of shortages for irrigators on the Sheyenne River as shortages to the system amounts to the *de facto* supply of Missouri River water for unauthorized irrigation in the Hudson Bay Basin of North Dakota.
>
> It also is relevant to consider former Garrison Diversion Conservancy District Manager Warren Jamison's statement in his March 1, 2000, presentation to the Dakota Chapter of the American Fisheries Society:
>
>> 'It is no secret that we would prefer an option that ties together the existing distribution system of the McClusky and New Rockford Canals, thus providing **an economical use of the idle canals**. Preliminary studies show that connecting the two existing canals with a pipeline and **releasing treated water into the Sheyenne River** is the least costly and most practical alternative. **It is this**

> **possibility of releasing a new water supply to the Sheyenne River that I would like to call to your particular attention**.
>
> Before a Federal decision is made to introduce additional water into the Sheyenne River, the current legislation [Dakota Water Resources Act of 2000] directs extensive studies and an Environmental Impact Statement.
>
> . . .
>
> . . . **It is our intent that if any irrigation is ever developed, it will be as a state initiative**, which would not require the large canals and drainage systems typical of federal irrigation projects. Federal power would still be available for irrigation development . . .'" (Emphasis added) (Jamison, 2000)
>
> (Pearson, 2005c, Appendix 1, p. 66)

Obviously, the Garrison Diversion Conservancy District does not consider the non-reimbursable Federal costs of delivering treated Missouri River water to the Sheyenne River or the absence of authorization in the DWRA for irrigation in the Hudson Bay Basin to be serious impediments to developing irrigation along the Sheyenne River using Red River Valley Water Supply Project water.

It is instructive to note in this context that DEIS Appendix B states, regarding alternative-specific operations used in the surface water hydrology model runs for the Garrison Diversion Unit Import to Sheyenne River:

> "**Major MR&I Users (Fargo, Moorhead, West Fargo, Grand Forks, East Grand Forks, Drayton, Grafton, Langdon, and Valley City):** These entities requested water at the rate of peak day demands at all times. Their demands were increased to account for sufficient water in the system for them to draw peak day demand any day of the month. **When peak day demands were not needed, the additional flow was available for downstream permit holders**." (Last sentence emphasis added) (DEIS Appendix B, p. 1-9)

Included among downstream permit holders are current and future irrigators using water from the Sheyenne River. In fact, DEIS Appendix B states, regarding the Garrison Diversion Unit Water Supply Replacement Pipeline Alternative:

> ". . . This option uses the Replacement Pipeline to import Missouri River [water] to supply the entire MR&I water demand of the service area. **Remaining water in the system is available to** water users outside the service area**, irrigation permits**, recreation, and other aquatic environmental needs. . . " (Emphasis added) (DEIS Appendix B, p. 1-11)

Devils Lake Outlet

The DEIS states:

> "The Devils Lake Outlet is designed to lower Devils Lake during persistent wet cycles by releasing water into the Upper Sheyenne River above Baldhill Dam. Concurrent operation of the Project and Devils Lake Outlet would be unlikely. Extreme low flow water quality restrictions would prevent the outlet from operating, and during wet cycles

> there would be sufficient water in the streams so Project releases into the Sheyenne River would not be needed. When Devils Lake Outlet is operating at full capacity, the Project would not be releasing water to the system. More detailed discussion of the lack of potential of concurrent operation of the Project and Devils Lake Outlet is in Appendix B.1." (DEIS, p. 152)

According to DEIS Appendix B.1:

> "The State outlet is designed to remove 2-4 inches of water annually from Devils Lake at 100 cfs, depending on water quality." (DEIS Appendix B, p. 51)

and:

> "The state has identified target volume releases in an operating plan. These target volume releases vary based upon climatic scenarios. For instance, in 2005 if there is a wet cycle, the annual release would be 12,993 acre-feet; if the lake peak elevation is predicted to be 1455 without an outlet, it would be 4,249 acre-feet; if the lake peak elevation is predicted to be 1450 without an outlet, it would be 5,163 acre-feet; and if it were an average year, the annual release would be 7,468 acre-feet." (DEIS Appendix B. pp. 51-52)

However, with Devils Lake's surface area in 2005 exceeding 130,000 acres, removing 12,933 acre-feet of water would reduce the level of the lake by less than 1.2 inches, not 2-4 inches. Similarly, removing 4,249 acre-feet of water would reduce the level of the lake by only 0.4 inch, removing 5,163 acre-feet would lower the level by only 0.5 inch, and removing 7,468 acre-feet would lower the level by only 0.7 inch. Clearly, the State outlet is not designed to remove 2-4 inches of water annually from Devils Lake under any conditions.

In fact, information obtained from the North Dakota State Engineer under formal public records requests discloses that, after 19 years of operation under wet climatic conditions, the State outlet would lower the peak elevation of the lake by only 1.2 inches, while the lake would continue to rise to elevation 1460.5 feet—a foot and a half above its natural overflow elevation (Frink, 2005). After 14 years of operation under the 1455 lake level scenario, the outlet would reduce the peak level of the lake by only 4.8 inches, and after 14 years of operation under the 1450 lake level scenario, the outlet would reduce the peak level of the lake by only 2.4 inches (Frink, 2005).

DEIS Appendix B states:

> "Basically, the two projects would not operate simultaneously. When Devils Lake Outlet is operating, the Project would not add water to the system. The Project would only import water to the system when the Devils Lake Outlet is not operating." (DEIS, Appendix B, p. 54)

The DEIS assumes that during drought periods when a Red River Valley Water Supply Project would be delivering Missouri River water to the Sheyenne River, operation of the outlet would be prohibited as a result of the 300 milligram per liter of sulfate limitation in the Sheyenne River (DEIS, Appendix B, pp. 5253). However, by failing to consider the certainty that the State will pursue an inlet to Devils Lake in the future, the DEIS also fails to consider that the State will then use the inlet to deliver Missouri River water to the upper Sheyenne River to dilute discharges from the outlet during low flow conditions, so the two projects would operate simultaneously until Devils Lake dropped to the target elevation of 1445 feet.

The DEIS states, regarding the cumulative impacts of the Red River Valley Water Supply Project and the Devils Lake outlet:

> ". . . West Consultants, Inc. (2001) reports that the Sheyenne River has reached equilibrium or maturity with respect to erosion rates, and that future climatic conditions (moderate or wet) would have a far greater impact on predicted erosion rates than any of the proposed outlet scenarios. Furthermore, West Consultants, Inc. (2001) states that **the rate at which the present channel will adjust and reach a new quasi-equilibrium state is extremely difficult to predict. Variations** in bank material, vegetation, bank failure mechanisms, and sediment supply to a reach, among other factors, **increase the uncertainty of any predictions.** However, they assume that **increased erosion would occur due to increased discharges until a new state of stability would be reached** . . ." (Emphasis added) (DEIS, pp. 235-236)

However, the DEIS does not address the cumulative impacts on the Sheyenne River resulting from increased flows from a Red River Valley Water Supply Project during drought periods in combination with increased flows from the Devils Lake outlet during wetter conditions. Instead, the DEIS simply ignores the fact that the combined changes in the hydrologic conditions of the Sheyenne River under both wet and dry conditions will result in extensive remodeling of the river channel with attendant long-term adverse environmental impacts.

Direct Environmental Impacts

The discussion of direct environmental impacts of the various Red River Valley Water Supply Project alternatives in the DEIS and its appendices is characterized by high volumes of computer-generated data with little substantive interpretation that would enable the reader to understand those environmental impacts in meaningful terms. For example, water quality and quantity impacts in the Sheyenne and Red River are likely to be among the more significant environmental impacts of the Red River Valley Water Supply Project alternatives. However, the DEIS states, regarding modeling of the Sheyenne River and Red River:

> "The model is useful for evaluating relative differences among alternatives, but **should not be used to predict absolute concentrations** . . . These data should not be construed as long term averages. Rather, **the simulations reflect the differences among alternatives given the concentrations measured in September 2003**.
>
> Additionally, the estimated quality and quantity of **import water and return flows are critical input parameters in the model, and changes in these parameters would affect model output**." (Emphasis added) (DEIS, p. 160)

Compounding the reader's misgivings, s/he is then told:

> "Methodology and assumptions used for estimating import and return flow water quality are presented in Houston Engineering, Inc. (2005[b])."

Of course, Houston Engineering, Inc., has a long history of consulting contracts with the Garrison Diversion Conservancy District, the North Dakota State Water Commission, and with the City of Fargo, all of whom have clear vested interests in the outcome of the environmental impact statement for the Red River Valley Water Supply Project (Pearson, 2005c, Appendix 1, pp. 67-69). Those misgivings are not allayed when the reader turns to the Literature Cited section of the DEIS and finds that Houston Engineering, Inc. 2005b is not listed.

Unfortunately, such abstract comparisons of esoteric, computer-generated data characterize the rest of the DEIS environmental impact analysis as well, and withhold from the public and from decision-makers relevant and meaningful information regarding the "real world" environmental impacts of the Red River Valley Water Supply Project alternatives.

The Sheyenne River

The Sheyenne River provides an example of the difficulty the reader encounters in attempting to understand the environmental impacts of Red River Valley Water Supply Project alternatives because information on the Sheyenne River is scattered in at least eight different areas of the DEIS—and in even more areas in the appendices. And when the reader finally comes to "Results of Analysis – Comparison of Alternatives, Sheyenne River Fisheries," that is exactly what s/he finds: subjective comparisons based on abstract "habitat scores" that give the reader little meaningful understanding of what the various alternatives actually will do to fish in the Sheyenne River. For example:

- The North Dakota In-Basin Alternative shows "mixed effects compared to No Action. Habitat scores show increased fish habitat, as compared to No Action, with greatest increases occurring at the 10th percentile flow level at all Sheyenne River sites." (DEIS, p. 184)

- The Red River Basin Alternative "would have minimal seasonal effects on fish habitat in the Sheyenne River. Habitat scores show habitat loss compared to No Action at the 50th percentile flow level and mixed results at the 10th percentile at all Sheyenne River sites." (DEIS, p. 184)

- The Lake of the Woods Alternative "would have the same effects as the Red River Basin Alternative." (DEIS, p. 185)

- The GDU Import to Sheyenne River Alternative "shows increased fish habitat compared to No Action, particularly at the 10th percentile flow level . . . In fact, this alternative shows the greatest improvement in habitat among all alternatives at all Sheyenne River sites . . . There are instances, however, where habitat would be decreased relative to No Action." (DEIS, p. 185)

- The GDU Import Pipeline Alternative would "have minimal seasonal effects on Sheyenne River fish habitat" compared to No Action. "Fish habitat scores show losses occurring at all Sheyenne River sites except an increase at the 10 percentile flow level at Lisbon." (DEIS, p. 185)

- For the Missouri River Import to Red River Valley Alternative, "Habitat scores show general improvement in fish habitat, as compared to No Action, particularly at the 10th percentile flow level . . . The exception is a loss of habitat at the 50th percentile flow level at Norman . . ." (DEIS, p. 185)

- The GDU Water Supply Replacement Pipeline Alternative "would have minor mixed effects on fish habitat in the Sheyenne River compared to No Action. Habitat scores show a general loss in habitat at all Sheyenne River sites, except an increase at Lisbon at the 10th percentile flow level . . . This alternative comes closest to

> mimicking the natural hydrograph, since there would be no MR&I demands on the river. However, storage of water in Lake Ashtabula would still affect flows below Baldhill Dam, particularly during low flow periods." (DEIS, p. 186)

Clearly, such abstract and subjective statements do not permit the public, decision-makers or Sheyenne River fisherman reading the DEIS—or the even more cryptic Executive Summary that is provided to the public—to make objective and informed judgements about the impacts of the various Red River Valley Water Supply Project alternatives on fish and fishing in the Sheyenne River. They are even less able to make objective and informed judgements about the impacts on even more obscure species, such as non-game fish and mussels.

The Red River of the North

The public, decision-makers and Red River fisherman are confronted with exactly the same type of abstract and subjective information regarding the impacts of project alternatives on the Red River. However, they also are told that the Garrison Diversion Unit alternatives which supply Missouri River water to the Sheyenne and Red rivers would improve fish habitat in the Red River (DEIS, pp. 190-192), but with no mention of the potentially severe adverse impacts that could result from the introduction of biota from the Missouri River that do not occur in the Red River.

The Missouri River

As pointed out in the appended Review:

> "The entire *Draft Report on Red River Valley Water Needs and Options* is predicated on the presumption of a 1930s-type drought occurring from 2040 to 2050 (Draft Report, pp. 1-1, 4-4, 4-6, 4-8, 4-9, 4-11, 4-14, 5-1, 5-2, B-84 to B-89), so:
>
> > 'Options developed in this study are more about addressing shortages associated with drought than they are about projected increases in water demand. . .' (Draft Report, p. 5-2)
>
> and four of the seven options identified in the *Draft Report* for meeting future Red River Valley MR&I water needs in the event of a 1930s-type drought involve delivering Missouri River water to the Red River Valley (Draft Report, pp. 4-20 to 4-35).
>
> It is important to note, therefore, that the *Drought Frequency Investigations of the Red River of the North Basin* (Meridian Environmental Technology, 2004) upon which the modeling of water shortages in the *Draft Report* is based (Draft Report, p. 5-2) points out that:
>
> > 'Of particular importance in the projection of future drought conditions for the Upper Missouri River Basin is the estimation of mountain snowpack across the Montana Rocky Mountains. As data presented in this report indicates [sic], the occurrence of both drought conditions and areal coverage of drought are highly variable. Hence, the presence of extreme drought conditions across the Montana Rocky Mountain region will dramatically reduce snowpack levels. **Since snowmelt is the primary water source for the Missouri River and since any future availability of Missouri River water for the Red River will depend upon having adequate mountain snowpack, understanding the relationship of large-scale drought to mountain snow amounts will be important in the**

> **future planning for water resources management within the Upper Missouri River Basin and the Red River Basin.**' (Emphasis added) (Meridian Environmental Technology, 2004)

However, despite the fact that the water level in Lake Sakakawea behind Garrison Dam has dropped 42 feet since 1997 and is 30 feet below its long term average level (Springer, 2005b), and despite the on-going controversy over the availability of Missouri River water for other established uses within the basin (Lambrecht, 2005), the *Draft Report* provides no analysis of the probability that sufficient Missouri River water would be available to cover the projected year 2050 Red River Valley Scenario One or Scenario Two shortages.

Chapter Three of the *Draft Report*, titled "*Hydrology*," provides 128 pages of discussion of surface and groundwater in the Red River Basin and Appendix B provides another 182 pages of discussion of Red River Valley hydrology. But nowhere in the *Draft Report* is any information presented on Missouri River hydrology, despite the fact that four of the seven options identified in the *Draft Report* are based on delivering Missouri River water to the Red River Valley.

The importance of such an analysis to the evaluation of options for meeting future Red River Valley water needs was pointed out in the December 16, 2002, letter to the Regional Director of the Bureau from the Minnesota Center for Environmental Advocacy, the Minnesota Conservation Federation, the National Audubon Society, and the National Wildlife Federation providing Comments on the Scope of issues for the EIS regarding Alternatives for Meeting Water Needs in the Red River Valley:

> 'For alternatives involving the delivery of Missouri River water to the Red River Valley, the EIS should discuss the impacts of the withdrawals not simply in relation to average Missouri River flows, but it should identify and discuss the cumulative impacts in terms of current, authorized and proposed or anticipated future withdrawals from the river under a full range of conditions. **This is a particularly high imperative since this study could potentially be considering water withdrawals from an already highly taxed and potentially over-committed river basin to meet projections for demands in a completely separate basin.**
>
> It is relevant to note here that Richard Bad Moccasin, Executive Director of the Mini Sose Intertribal Water Rights Coalition, Inc., has tabulated a total of about 21.5 million acre-feet of water rights for "Tribes Along the Missouri." This quantity represents an "Annual Diversion" from the system and is stated by Director Bad Moccasin to be the equivalent of nearly 11 million acre-feet of "Annual Depletion."
>
> It should also be noted that Reclamation's Great Plains Regional Director Maryanne Bach reported in a letter dated September 6, 2001, that her office has 11 Missouri River water withdrawal projects in Montana and South Dakota which are in the planning, preconstruction, or construction phase. These projects are in addition to the dozens of Reclamation projects and hundreds of other projects that already are in existence and contributing to depletion of the water supply of the Missouri River at this time.' (Emphasis added) (Beard et al. 2002)

> However, despite the fact that four of the seven options identified in the *Draft Report* for meeting projected future Red River Valley MR&I water needs are based on delivering Missouri River water to the Red River Valley, the *Draft Report* provides no information or analysis regarding the availability of Missouri River water to meet future Red River Valley water needs. The *Draft Report* simply assumes the water will be there." (Pearson, 2005c, Appendix 1, pp. 63-64.)

With the Bureau having been advised of these issues three years ago in the EIS scoping process, does the DEIS now provide a full and objective Missouri River depletion study? Does it identify and discuss the cumulative impacts of Red River Valley Water Supply Project withdrawals in terms of current, authorized and proposed or anticipated future withdrawals from the Missouri River under a full range of flow conditions, and not just under average total river flows? Sadly, the answer to both questions is no.

- Instead of identifying and discussing the cumulative impacts in terms of current, authorized and proposed or anticipated future demands, the DEIS considers only current withdrawals by entities already using Missouri River water (DEIS, p. 153) and future projects that already have some type of planning document (DEIS, p.153, Appendix B, p. 2-4).

- Instead of recognizing the 11 million acre-feet potential annual depletion associated with Tribal water rights (Beard, 2002; DEIS Appendix B, p. 2-3) the DEIS assumes an additional future depletion of only 155,000 acre-feet per year (DEIS, p, 156)

- Instead of identifying the cumulative impacts of future withdrawals under a full range of flow conditions, the DEIS considers impacts only under average flow conditions (DEIS, pp. 153, 156).

- Instead of addressing the impacts of Missouri River depletions resulting from Red River Valley Water Supply Project alternatives that would operate only during drought conditions or would have the greatest withdrawals during drought conditions, the DEIS evaluates the impacts of those projects, not in terms of Missouri River flows during droughts, but in terms of average flows (DEIS, pp. 153, 156).

- The DEIS bases its Missouri River depletion analysis on the speculative assumption that Red River Valley MR&I water needs will increase dramatically in the future, but it does not consider any increased withdrawals by entities that already are using the Missouri River as a water supply (DEIS, p. 153, Appendix B, p. 2-4). Consequently, the DEIS proposes to establish a new future right to Missouri River water for cities in the Red River Basin that does not exist for current or future water users in the Missouri River Basin.

The DEIS Missouri River depletion and cumulative impact analysis clearly is not only inadequate, but it is misleading on its face.

Interbasin Biota Transfer

The DEIS devotes 32 of its 340 pages to the biota transfer issue (DEIS pp. 103-108, 196-225). Although much of the esoteric discussion deals with the methodologies and assumptions of biota transfer risk and consequence analysis, several disclosures warrant particular attention:

- "Elimination of all risks of species invasion associated with interbasin transfers may be a management goal, but **attaining zero risk is highly unlikely** within the context of pathways and competing risks (e.g., water diversion pathway *v.* all other pathways). (Emphasis added) (DEIS, p. 201)

- "Within the context of risk reduction, . . . **if control systems meet performance criteria,** (e.g., provide for 'best available technology' to achieve elimination of biota of concern), then risk associated with interbasin **biota transfers are substantially reduced** relative to risks associated with a control system that does not meet these performance criteria, such as piped transfers of untreated source water. Again, **it must be emphasized that even under specifications of 'control system failure very low,' invasions may occur**, although those probabilities of successful invasion are orders of magnitude lower than those in the simulation outputs characterized by control system failure rates ranging between 'near certainty' and 10^{-6}." (Emphasis added) (DEIS, p. 202)

- "**Depending on the definition of acceptable risk used by Reclamation and other stakeholders**, the risk of biota transfer resulting from interbasin water transfers would be low to very low for the biota of concern identified, **as long as control systems are sufficient to the task of risk reduction**." (Emphasis added) (DEIS, p. 207)

- "This application of HEA [habitat equivalency analysis] . . . indicated **potentially significant consequences for Lake Winnipeg if Project-related pathways result in the introduction of invasive species. Whether appropriate restoration measures are feasible and available either now or in the future is uncertain *and is not addressed in this analysis*.**" (Emphasis added) (DEIS, p. 207)

- "The application of HEA indicated **potentially significant consequences for Lake Winnipeg if adequate treatment is not provided under alternatives that would transfer Missouri River water to the Hudson Bay Basin**." (Emphasis added) (DEIS, p. 208)

- "**Since the feasibility and availability of appropriate restoration measures is not clear at this time**, a regional **economic impact** analysis of the Lake Winnipeg **commercial fishery** was also conducted." (Emphasis added) (DEIS, p. 208)

- "**The** quantitative **results** of this [successful invasion analysis] **are significantly influenced by the particular assumptions regarding dispersal method**." (Emphasis added) (DEIS, p. 210)

- "The rates of advancement of a biological invasion were **assumed** to range between 2.5 and 25 kilometers, or between 1.55 and 15.5 miles per year." (Emphasis added) (DEIS, p. 210)

- "The analysis **assumed** that offsetting restoration would begin in five years after the onset of successful invasion, and require 20 years to become fully functional. Once offsetting restoration became fully functional, it was **assumed** to provide replacement ecological services in perpetuity equivalent to those potentially lost from biological

invasion. " (Emphasis added) (DEIS, p. 211) – despite the fact that it is not known whether appropriate restoration measures are or ever will be available or feasible! (DEIS, p. 208)

- "As with the assumptions made regarding dispersal methods, **alternative assumptions for offsetting restoration would also yield different quantitative results**." (Emphasis added) (DEIS, p. 211)

- "For the Red River and Lake Winnipeg, all 31 species of concern are **assumed** to begin their invasions at Fargo on the Red River, progress incrementally to the southern shore of Lake Winnipeg, and then progress incrementally to the northern shore of the lake." (Emphasis added) (DEIS, p. 211)

- "For the Red Lake River and Red Lake, all 31 species of concern are **assumed** to begin their invasions at Fargo and then progress incrementally to the confluence with the Red Lake River." (Emphasis added) (DEIS, pp. 211-212)

- "Ten species of concern are **assumed** to begin their progressive invasions of Lake Winnipeg and Red Lake at the same time they begin their progressive invasions of the Red River." (Emphasis added) (DEIS, p. 213)

- "Recognizing the possibility that **appropriate restoration measures may not be feasible or available**, a second economic approach, regional **economic impact analysis**, was used to describe potential consequences for Lake Winnipeg **commercial fishing** in terms of impacts of risks on the economy (output or sales revenue and employment." (Emphasis added) (DEIS, pp. 213-214)

- "**Proper handling and storage** of ultraviolet-treated waters are **a critical part** of any ultraviolet treatment system." (Emphasis added) (DEIS, p. 218)

- "Buried water transmission, distribution, and wastewater pipelines are subject to corrosion, soil movements, temperature fluctuations, rainfall, and system stresses in the **continuous process of structural deterioration**. **The potential for pipe breaks and the risks that might be associated with subsequent biota transfers are low-probability-high consequence events**, but should be incorporated into long-term management plans for the water systems regardless of the alternative selected." (Emphasis added) (DEIS, p. 218)

- "Given the similarities in proposed designs for these alternatives, the analysis of risk reduction suggests that all of these alternatives **might provide sufficient margin** for accepting risks associated with **biota transfers consequent to any system failure,** if the costs were incorporated into **future engineering design analysis**." (Emphasis added) (DEIS, p. 220)

- **A number of uncertainties and assumptions regarding configuration of alternatives and their associated risks** should be considered for **refining subsequent iterations of risk reduction analysis**. While the current analysis of risk reduction shows differences among alternatives, the summary findings reflect **assumptions of risks being comparable** across systems, e.g., risks of pipe breaks as measured by breaks per pipe-mile per year are assumed identical across the range of

pipe materials and sizes. **Future engineering risk analysis** may refine this assumption to capture differences across pipe materials, locations, and component parts of the transmission system, e.g., control valves, pipe configurations." (Emphasis added) (DEIS, p. 220)

- "**Low probability-high consequence events likely remain, even under the most controlled engineering practice implemented for an interbasin transfer of water** or under No Action, but the Missouri River import alternatives reflect a **range of 'best practices'** available to **minimize risks**. **Each of the alternatives may be equally foiled by stochastic events** reflected in the biota transfer-species invasion process, yet the engineering options outlined by Reclamation (2005c, 2005[b]) provide **starting points for refined engineering analysis of risks** and costs, or **continued development of feasibility designs**." (Emphasis added) (DEIS, p. 223)

- "Regardless of which alternative is ultimately selected, a framework for evaluating the condition of water system components and developing long-term monitoring programs must be part of the operation and maintenance of the Project to **minimize risks** of biota transfer associated with interbasin water diversions and **realized because of failures of the water transmission and distribution network**." (Emphasis added) (DEIS, p. 224)

The DEIS notes that:

> "Risks exist in a changing landscape of time and space, and the risks associated with interbasin biota transfers illustrate such an observation. **The International Joint Commission's findings of unacceptable risk associated with biota transfer consequent to water diversions** envisioned in the mid-1970s and early 1980s (see IJC 1977, Section 1) **were justified given the 'best management practices' proposed at that time**. Given the control technologies developed in the intervening 30 years and proposed in this DEIS, revisiting those findings may be warranted." (Emphasis added) (DEIS, p. 203)

It is instructive, therefore, to compare the statements in the DEIS regarding the uncertainties of its biota transfer risk and consequences assessment with the conclusions of the 1977 report of the International Joint Commission regarding the interbasin transfer of Missouri River water into the Hudson Bay Basin under the Garrison Diversion Unit:

> "**In fact, overriding everything else, as it turns out, has been the necessity that such introduction be prevented at all costs**. This is not surprising. As the Biology Committee points out, 'the introduction, on a world-wide basis, of exotics has led to significant destabilization of ecosystems' . . .
>
> Unlike some other adverse consequences that can be minimized by additional mitigating measures or by cessation of operation of the Project, **remedial measures to control unwanted exotics are oftentimes futile and, what makes it even more difficult, is that it may be some years before the full adverse impact is apparent**."
>
> . . .
>
> "There is no question in the Commission's mind that the Board's recommendations greatly **reduce the risk** of unintentional transfer. There would now be two lines of

> defence, either one of which by itself might accomplish the desired result. True, the additional cost is quite high and might adversely affect the overall economics of the Project, a question not before the Commission. The Commission gives great weight to the Board's opinion that these two lines of defence will work. At the same time, **the Commission must weigh the consequences to Canada** if the Board is wrong. Were the potential consequences ones which could be mitigated or corrected after the fact, the Commission would accept the Board's advice. Were the biological consequences to the Hudson Bay drainage ecosystem predictable in manner and extent, the Commission might accept the Board's approach. The Board has **reduced the risk of a biological 'time bomb", but not eliminated it. The Commission is concerned that even with the best engineering talent available and the best operating practices possible, the very complexity of the scheme, the immensity of the physical features, the large numbers of human beings involved in carrying out the responsibility, and possible mechanical failures, what cannot happen, will happen** . . ." (Emphasis added) (International Joint Commission, 1997)

Indeed, one has only to consider the two space shuttle disasters in the National Aeronautics and Space Administration's multi-billion dollar, high-technology space program in the last 20 years to appreciate the wisdom and the validity of the International Joint Commission's concerns.

Rather than addressing the risks—and, indeed, the virtual certainty—of failures occurring in the biota treatment systems over the 40-50 years of operation of the proposed the Red River Valley Water Supply Project alternatives in a positive and substantive manner, the DEIS attempts to discount them with statements such as:

- "Regardless of whether future Red River Valley water supplies are attained from in-basin or out-of-basin sources, biological invasions of the Hudson Bay Basin may be inevitable given the number of trials recorded through time and across the spatial extent of the Hudson Bay Basin and adjoining basins." (DEIS, p. 201)

- "Competing pathways will likely lead to interbasin biota transfers and subsequent species invasions in the near future, following the trend that has led to species invasions of the Red River Basin in the past, even in the absence of imported water from the Missouri River Basin." (DEIS, p. 207)

- "Because of the number and complexity of competing pathways, empirical data are generally lacking to quantify the risk of biota transfer under the No Action Alternative. Nevertheless, past experience shows that invasions of the Hudson Bay Basin from the Missouri River Basin or from other adjoining basins are almost certain to occur whether or not a Red River Valley water supply Project is constructed." (DEIS, p. 221)

- "Overall, the risk of biota transfer through non-Project pathways would be similar to No Action, and would be much greater than the risk due to Project pathways for most biota of concern." (DEIS, P. 223)

The DEIS' casual dismissal of the deficiencies of the proposed biota treatment systems for Red River Valley Water Supply Project alternatives utilizing Missouri River water not only fails to consider that distinct differences remain between the biota of the Missouri River Basin and the Hudson Bay Basin after 10,000 years despite the existence of numerous 'non-Project pathways,'

but it disregards the prevailing scientific and public consensus regarding the importance of avoiding actions that may contribute to the introduction of invasive species.

The United States Government spends $35 million a year on aquatic invasive species research and programs (Meersman, 2004b). The U. S. and Canadian governments spend $16 million a year in an on-going program to control one invasive species, the sea lamprey, that was introduced into the Great Lakes 40 years ago (Mearsman, 2004a). Additional ten of millions of dollars are expended annually to deal with other invasive species, such as zebra mussels, quagga mussels, round gobies, Asian carp, silver carp, and dozens of other invasive species that are estimated to cause billions of dollars in damages (Mearsman, 2004a) The Animal and Plant Health Inspection Service, formerly in the U. S. Department of Agriculture and now in the Department of Homeland Security, has for decades maintained nationwide programs costing millions of dollars annually designed to prevent the introduction of foreign animal and plant diseases, such as foot and mouth disease, and parasites, such as screworms, and to eradicate them when they are introduced. The U. S. Government has spent millions of dollars to prevent the introduction of bovine spongiform encephalopathy (Mad Cow Disease) into the United States. The introduction of West Nile Virus in New York in 1999 has cost hundreds of human lives and millions of dollars, and has killed thousands of horses and millions of wild birds. Now, the U. S. Government is poised to spend billions of dollars to deal with the potential introduction of the H5NI Avian Influenza Virus. Under the approach of the DEIS, however, we would just accept the assumption that such introductions are inevitable.

The DEIS also fails to recognize the significant conceptual difference between the potential accidental introduction of invasive species by 'non-Project pathways,' and the construction by the U. S. Bureau of Reclamation of projects specifically designed to transfer 10,800 to 116,400 acre-feet of Missouri River water annually into the Hudson Bay Basin (Bureau of Reclamation, 2005b, p. 4-5).

It should be noted that the DEIS acknowledges that the consequences of the introduction of Missouri River Basin biota into Lake Winnipeg could be "potentially significant" (DEIS, pp. 207, 208, 213), but it does not describe the potentially significant **environmental impacts** of such introductions. Instead, it simply alludes to "a potential displacement of the Lake Winnipeg commercial fishery . . . over a number of years" (DEIS, p. 215), and utilizes "a second **economic** approach, regional **economic impact** analysis" to evaluate those impacts (Emphasis added) (DEIS, p. 213).

Although "a fast invasion was assumed to displace the entire commercial fishery in 17 years" (DEIS, p. 215), "impacts occurring in the future are discounted to the present time so they can be added up in a meaningful way" (DEIS, p.215). And because employment in the Lake Winnipeg commercial fishery is seasonal, the DEIS reduces the 1,013 fisherman who would lose their commercial fishing livelihoods to "an expected loss of 331 full time equivalent jobs in all Canadian provinces" (DEIS, p. 216). Finally, the DEIS calculates that "the average total expected present value of the direct and indirect output impacts for all Canadian provinces ranges between $33,000 and $136,000, depending on whether the biological invasion would be slow or fast" (DEIS, p. 216).

It should be noted that the "total. . . direct and indirect output impacts" of eliminating 1,013 Lake Winnipeg seasonal commercial fishermen estimated by the DEIS are equivalent to just $32.58 to $134.25 per fisherman. The DEIS estimates the regional economic impact of eliminating 331 full time equivalent Lake Winnipeg fishermen at $99.70 to $410.89 per fisherman. Does the DEIS

seriously expect the reader to believe that the direct and indirect regional economic impacts of jobs in the Lake Winnipeg commercial fishing industry average only $32.58 to $410.89?

These direct and indirect regional economic impact figures for the permanent loss of the entire Lake Winnipeg commercial fishing industry should be compared with the DEIS' estimate of $492,000,000 as the annual regional economic impact of the temporary implementation of drought contingency measures designed to reduce water demand by just 15 percent (DEIS, p. 272). Of course, consistent with its pervasive bias, the DEIS discounts the economic impacts of eliminating the entire Lake Winnipeg commercial fishing industry to present day "so they can be added up in a meaningful way" (DEIS, p. 215), but it does not discount the economic impacts of drought contingency measures incurred 40 to 50 years in the future so they can be added up in a meaningful way (DEIS, p. 272)

The DEIS' gross underestimation of the regional economic impacts of the elimination of the Lake Winnipeg commercial fishery is revealed by the report of the International Joint Commission, which determined 29 years ago that:

> "The commercial fishing industry would suffer an adverse impact as a result of GDU. Based on a 50 percent reduction in fish catches, the Board estimated related **annual losses to be approximately $6 million** (Can.), including the losses sustained in processing, transportation and marketing. Under such conditions the commercial fishing industry could be eliminated with all the attendant consequences." (Emphasis added) (International Joint Commission, 1977)

It also should be noted that the DEIS's regional economic impact analysis is limited to the Lake Winnipeg commercial fishery (DEIS, p. 213), but the economic, environmental and social impacts extend to other groups, as well, including the sport and subsistence fisheries. As the International Joint Commission pointed out in 1977:

> "Fish losses for subsistence use in Lakes Manitoba and Winnipeg as a result of the introduction of foreign species would reach **220,000 pounds or 100,000 kilograms (kg) annually** by the year 2,000, or about half the estimated subsistence requirements. Such a loss would have a severe impact on Treaty Indians and other local residents who rely on fish for food." (Emphasis added) (International Joint Commission, 1977)

The DEIS does not address the economic costs involved in supplying the protein equivalent of 220,000 pounds of fish to Treaty Indians and other local residents scattered around the 368,000 square-mile Lake Winnipeg.

It is instructive to consider the failure of the DEIS to address substantively the "potentially significant" environmental impacts of "low probability-high consequence events" resulting in the interbasin transfer of Missouri River Basin biota into the Hudson Bay Basin under Red River Valley Water Supply Project alternatives utilizing Missouri River water in the context of the February 3, 2005, Opinion of U. S. District Court Judge Rosemary M. Collyer in a suit brought by the Province of Manitoba challenging the Bureau of Reclamation's Environmental Assessment for its Northwest Area Water Supply project, which also is designed to transfer Missouri River water into the Hudson Bay Basin (Pearson, 2005c, Appendix 1, pp. 24-27):

> "Federal Defendants argue that the risks of leakage are low and, therefore, that no further study is necessary. They repeatedly provide varied estimates that more than ninety-nine percent of biota will be disinfected under NAWS. While facially compelling, the

> argument ignores the fact that certain biota have been identified that may be impervious or highly resistant to the planned treatment measures. Therefore, **even a low risk of leakage may be offset by the possibility of catastrophic consequences should leakage occur. Without some reasonable attempt to measure these consequences instead of bypassing the issue out of indifference, fatigue, or through administrative legerdemain, the Court cannot conclude that BOR took a hard look at the problem**." (Emphasis added)

Instead of addressing the potentially catastrophic environmental impacts of low probability-high consequence biota transfers under Red River Valley Water Supply Project alternatives, the DEIS either assumes that restoration measures that may not be available or feasible (DEIS, p 213) will "provide replacement ecological services in perpetuity equivalent to those potentially lost from biological invasion" (DEIS, p. 211), or relies on an "a second economic approach, regional economic impact analysis . . . to describe potential consequences for Lake Winnipeg commercial fishing in terms of impacts of risk on the economy" DEIS, p. 213). Consequently, the DEIS interbasin biota transfer risk and consequence assessment clearly is legally deficient on its face.

FINANCIAL ANALYSIS OF ALTERNATIVES

Lack of Economic Justification

The DEIS states:

> "The Needs and Options Report, Appendix C, Attachment 10 ([Bureau of] Reclamation 2005[c]) describes the financial analysis of the seven action alternatives. **This analysis estimates per household and per 1,000 gallon monthly costs to Project recipients as well as federal costs**, if an alternative would be constructed." (Emphasis added) (DEIS, p. 282)

The *Red River Valley Water Supply Project Financial Analysis of Alternatives*, which is Attachment 10 of Appendix C of the *Red River Valley Water Needs and Options Final Report* states:

> "The Needs and Options Report (Report on Red River Valley Water Needs and Options, [Bureau of] Reclamation, 2005[b]) provided the estimated construction and OM&R (operation, maintenance and replacement) costs for each of the alternatives under consideration in the DEIS (Draft Environmental Impact Statement). **This analysis used those alternative costs to develop average per household water service rates required to repay project costs** . . ." (Emphasis added) (Bureau of Reclamation, 2005c)

Consequently, it is import to recognize that this "financial analysis" does not provide an analysis of the economic benefits of the Red River Valley Water Supply Project alternatives, it does not provide benefit/cost analyses of the alternatives, and it does not provide an evaluation of the economic feasibility of any of the alternatives, so it provides no information demonstrating that any of the alternatives would be economically justified.

It should be noted in this context that most of the construction costs of the Missouri River supply alternatives would be incurred in the near-term, but most of the benefits (if they ever were realized) would not occur until 30 to 50 years later when water demand is projected to rise with markedly increased municipal and industrial water use. However, under standard economic analysis, future benefits would be discounted to their current value in calculating the benefit/cost ratios of the alternatives. Therefore, with their high initial costs and discounted future benefits, it is highly unlikely that any of the Missouri River water supply alternatives would be economically justified. Indeed, because the "Economic and Environmental Principles and Guidelines" under which the Bureau's water projects must be evaluated would also require incorporation of the probability of a severe drought occurring before 2050 and because that probability is low and the duration is unknown, on that basis alone it is highly unlikely that any of the alternative projects would meet standard Federal requirements for economic feasibility.

Paragraph 8(d)(1) of the Dakota Water Resources Act of 2000 specifies that:

> "After reviewing the final report required by subsection (b)(1) [the *Final Report on Red River Valley Water Needs and Options*] and complying with subsection (c) [the *Environmental Impact Statement for the Red River Valley Water Supply Project*], the Secretary, in consultation and coordination with the State of North Dakota in coordination with affected local communities, shall select 1 or more project features

> described in subsection (a) [Red River Valley Water Supply Project] that will meet the comprehensive water quality needs of the Red River Valley. The Secretary's selection of an alternative shall be subject to judicial review."

Neither the *Final Report on Red River Valley Water Needs and Options* (Bureau of Reclamation, 2005b) nor the DEIS provides an economic analysis that permits the reader to evaluate the economic feasibility of any of the alternatives. Because the National Environmental Policy Act and Council on Environmental Quality Regulations require Environmental Impact Statements to be full disclosure documents, and because Paragraph 8(d)(1) of the Dakota Water Resources Act of 2000 specifies that the Secretary, in coordination with the State and affected local communities, shall select an alternative based upon the *Final Report on Red River Valley Water Needs and Options* and the *Final Environmental Impact Statement for the Red River Valley Water Supply Project*, failure of the *Final Environmental Impact Statement* to include information displaying the results of full economic analyses of each of the alternatives, including their benefit/cost ratios, would withhold that information from decision-makers and the public, it would preclude the Secretary from making an informed decision regarding a Red River Valley Water Supply Project option, and it would render the document legally and procedurally deficient on its face.

Selective Financial Analysis

It is important to note that although the "Financial Analysis of Alternatives" in the DEIS is based on information contained in Appendix C, Attachment 10, of the ***Final*** *Report on Red River Valley Water Needs and Options* (Bureau of Reclamation, 2005b) (DEIS, p. 282), the construction costs of the alternatives used in the DEIS are those in the ***Draft*** *Report on Red River Valley Water Needs and Options* (Bureau of Reclamation, 2005a) (DEIS, p. 44). It then becomes instructive to compare the construction costs for the Red River Valley Water Supply Project alternatives shown in the *Draft Report on Red River Valley Water Needs and Options* (Bureau of Reclamation, 2005a, p. 4-40) and the DEIS (p. 41, 44) with the construction costs for those same alternatives shown in the *Final Report on Red River Valley Water Needs and Options* (Bureau of Reclamation, 2005b, p. 4-44) and in the *Red River Valley Water Supply Project Financial Analysis of Alternatives* (Bureau of Reclamation, 2005c). These costs for Scenario One alternatives are displayed in the following table.

Construction Costs of Scenario One
Red River Valley Water Supply Project Alternatives

Alternative	Draft Report & DEIS	Final Report & Appendix C-10
North Dakota In-Basin	$557,859,000	$557,859,000
Red River Basin	$549,166,000	$549,166,000
Lake of the Woods	$937,228,000	$937,228,000
GDU Import to Sheyenne River	**$504,888,000**	**$434,052,000**
GDU Import Pipeline	$1,202,248,000	$1,202,248,000
Missouri River Import	$875,378,000	$875,378,000
GDU Replacement	$2,226,667,000	$2,226,667,000

The $78,836,00 (14.4%) reduction in the construction costs of the Garrison Diversion Unit Import to the Sheyenne River—which is the State's preferred alternative (DEIS, p. 32)—from the *Draft Report* to the *Final Report* is the result of an $8,642,000 reduction in the cost of the biota treatment plant, a $1,448,000 reduction in Garrison Diversion Unit assigned costs, and a

$60,736,000 reduction in the cost of the McClusky Canal to Lake Ashtabula Pipeline (Bureau of Reclamation, 2005a, p. 4-29; Bureau of Reclamation, 2005b, p. 4-29). The $437,000 (10%) reduction in annual OM&R costs of the Garrison Diversion Unit Import to Sheyenne River alternative is the result of a $400,000 reduction in annual biota water treatment OM&R costs, an $18,000 reduction in annual Garrison Diversion Unit Principal Supply Works assigned coats, and an $8,000 reduction in annual OM&R costs for the McClusky Canal to Lake Ashtabula pipeline (Bureau of Reclamation, 2005a, p. 4-2; Bureau of Reclamation 2005b, p. 4-29). However, neither the DEIS nor the *Final Report on Red River Valley Water Needs and Options* provides any explanation for these cost reductions or why corresponding cost reductions are not shown for any Red River Valley Water Supply Project alternatives except the State' preferred alternative. However, it appears to reflect the Garrison Diversion Conservancy District's bias for its preferred Garrison Diversion Unit import alternative (Associated Press, 2005) and its inappropriate influence as co-leader in the preparation of the DEIS (Pearson, 2005c, Appendix 1, pp. 64-70) preventing a balanced and objective analysis of all Red River Valley Water Supply Project alternatives.

Assumptions and Subsidies

The DEIS states that:

> "In the process of conducting this [water cost and Federal cost] analysis, **a number of key assumptions were made**." (Emphasis added) (DEIS, p. 282)

Therefore, it is appropriate to examine each of the assumptions upon which this analysis was based.

It is particularly important to note in this context that:

> "Although financing alternatives could be accomplished **in a number of ways, this analysis assumed the Project would be funded in accordance with DWRA** . . ." (DEIS, p. 282)

This statement indicates that (1) the results of the financial analysis may or may not reflect the actual costs to water users and the Federal Government, but (2) funding and reimbursement of project costs will comply with the provisions of the Dakota Water Resources Act of 2000.

The first assumption listed in the DEIS is:

> "The cost of construction of biota water treatment plants is a federal expense (federal grant), which would be non-reimbursable. This is based on the premise that compliance with the Boundary Waters Treaty of 1909 is a federal responsibility." (DEIS, p. 282)

Sub-paragraph 1(h)(A)(2) of the Dakota Water Resources Act of 2000 specifies that:

> "All costs of construction, operation, and maintenance, and replacement of water treatment and related facilities authorized by this Act and attributable to meeting the requirements of the [Boundary Waters] treaty referred to in paragraph (1) shall be nonreimbursable."

This means that the $33,489,000 to $314,289,000 construction costs and the $1,588,000 to $22,395,000 annual operating costs for biota water treatment plants for Red River Valley Water

Supply Project alternatives using Missouri River water (Bureau of Reclamation, 2005b) would be paid, not by Red River Valley MR&I water users, but by U. S. taxpayers. This amounts to a $97,090,000 to $1,210,089,000 U. S. taxpayer subsidy of Red River Valley MR&I water users over a 40-year operating period for the project. Added to the $168,232,000 to $188,100,000 Federal subsidy of the construction and operation and maintenance costs of the unused capacity of the Garrison Diversion Principal Supply Works (p. 24-25 above), this increases the U. S. taxpayer subsidy of Red Valley Water Supply Project alternatives using Garrison Diversion Unit Principal Supply Works features to $285,190,000 to $1,378,321,000.

The second assumption is:

> "DWRA authorized up to $200 million in federal loans for Project construction. The interest rate applied for use of GDU facilities for MR&I water supplies is 3.225%, which was the rate in 1965 when the Project was authorized. Since the 2000 enactment of DWRA, the indexed cost of the original $200 million is $250 million." (DEIS, p. 282)

It should be noted that, while the interest rate that is applied for use of Garrison Diversion Unit facilities for MR&I supplies is the 1965 rate of only 3.225 percent, the current municipal bond rate is 5 percent (Bureau of Reclamation, 2005c). This 1.775 percent interest discount represents another U. S. taxpayer subsidy over the 40-year life of a Red River Valley Water Supply Project.

It should also be noted that the statement that the Dakota Water Resources Act authorized up to $200 million in federal loans for project construction is seriously misleading. DWRA Subparagraph 10(a)(1)(B) authorizes $200,000,000 "to carry out section 8(a)(1)," which is a Red River Valley Water Supply Project. It should again be noted that the DEIS (p. 282) states that it is "assumed the Project would be funded in accordance with DWRA." However, Paragraph 1(f)(2) of the Dakota Water Resources Act specifies:

> "REPAYMENT CONTRACT. – **An appropriate repayment contract shall be negotiated** that provides for the making of a payment for each payment period in an **amount that is commensurate with the percentage of the total capacity of the project that is in actually use during the payment period**." (Emphasis added)

However, it is necessary to recognize that (1) all seven Red River Valley Water Supply Project alternatives are predicated on the occurrence of a severe drought before 2050 (Bureau of Reclamation, 2005a, p. 5-2, Bureau of Reclamation, 2005b, p. 5-2), (2) five of the Red River Valley Water Supply alternatives (North Dakota In-Basin, Red River Basin, Lake of the Woods, GDU Import to Sheyenne River, and Missouri River Import) are designed to operate **only** during drought periods, and two (GDU Import Pipeline and GDU Water Supply Replacement) would be needed only in the event of a severe drought (Bureau of Reclamation, 2005a, 2005b), and (3) the complex nature of droughts does not permit reliable forecasting of their occurrence, severity or duration (Meridian Environmental Technology, 2004). This means that five of the seven Red River Valley Water Valley Water Supply Project alternatives may never be used and the remaining two may never be needed. Moreover, it is not known at what percentage of their total capacities any of the alternatives might actually be used. Consequently, it is possible that there would be no repayment of the "federal loans" for five of the alternatives and only partial repayment for the other two (Pearson, 2005c, Appendix 1, pp. 62, 71-84).

As the appended Review points out:

> "Of course, for those options designed to be used only in the event of a severe drought (North Dakota In-Basin, Red River Basin, Lake of the Woods, Garrison Diversion Unit Import to Sheyenne River, and Missouri River to Red River Import), there would be no repayment what-so-ever of the $504,888,0000 (Scenario One Garrison Diversion Unit Import to Sheyenne River) to $1,112,579,000 (Scenario Two Lake of the Woods) (Draft Report, pp. 4-39, 4-40) costs unless a severe drought were to occur. And, even if a severe drought were to occur, the repayment would be limited to the relatively few years the project actually would be used. What this means is that the U. S. Government very likely could end up spending $504,888,000 to $1,112,579,000 for a Red River Valley Water Supply Project for which North Dakota would repay virtually nothing.
>
> Thus, rather than promoting, and indeed requiring, realistic and responsible analyses of future MR&I water needs in the Red River Valley and options for meeting those needs, **the Dakota Water Resources Act instead establishes a powerful incentive**—confirmed by the Scenario Two population and industrial growth projections developed for the *Draft Report on Red River Valley Water Needs and Options* by Red River Valley municipalities and the Garrison Diversion Conservancy District—for the State, the Conservancy District and allied water development groups such as the Lake Agassiz Water Authority **to seek the most extravagant Red River Valley Water Supply Project possible**, because they will not have to pay for it unless or until it is used—and then only for the proportion that is actually used. But, of course, that is what was to be expected with 'the first Garrison plan written by North Dakotans for North Dakotans' (Conrad, 2001)." (Emphasis added) (Pearson, 2005c, Appendix 1, pp. 73-74)

These issues are not addressed in either the DEIS or the *Red River Valley Water Supply Project Financial Analysis of Alternatives*.

The third assumption is:

> "Any Project costs above the biota water treatment plant and $250 million in federal loans would be financed by water users using municipal bonds. The interest rate used for non-federal cost share is 5%, which approximates the bonding rate for Fargo, North Dakota." (DEIS, p. 282)

The Bureau's own financial analysis points out, however, that:

> "No Federal grants except for the biota WTPs were assumed in the analysis. However, the State of North Dakota under DWRA does have a State MR&I grant program **funded with Federal appropriations**. The state currently uses these funds to provide for **non-reimbursable grants** to other MR&I projects. If the Red River Valley Water Supply Project received additional grant funding, the per household repayment would reduced." (Emphasis added) (Bureau of Reclamation, 2005c)

What this actually means, of course, is that, because repayment by the project beneficiaries would be reduced by the use of these non-reimbursable Federal grants, the U. S. taxpayer subsidy for the Red River Valley Water Supply Project would be increased even further. Therefore, it is necessary to consider just how great this subsidy might be.

As is discussed in the appended Review (pp. 71-75), Subsection 7(a) of the Garrison Diversion Unit Reformulation Act of 1986 authorized what became commonly known as the statewide MR&I water supply grant program which provided Federal funds for upgrading MR&I water

systems in smaller communities across North Dakota, with 25 percent repayment by those local communities. Section 8 of the 1986 Act authorized appropriations of $200 million to carry out the statewide MR&I grant program authorized in Subsection 7(a), and Paragraph 7(a)(3) directed the Secretary of the Interior "to convey to the State of North Dakota, on a non-reimbursable basis, the funds authorized in Section 10(b)(1) of this Act." This created a partially revolving, Federally-funded $200 million statewide MR&I water supply grant program where the 25 percent repayment by local sponsors was returned to the State to fund additional grants, but none of the $200 million was reimbursable to the Federal Government. The 25 percent repayment by communities receiving the MR&I water grants increased the total amount ultimately available for MR&I water grants under the program to $267 million.

The Dakota Water Resources Act of 2000 moved Subsection 7(b) of the Garrison Diversion Unit Reformulation Act of 1986 dealing with a Sheyenne River Water Supply and Release Feature to a new Paragraph 8(a)(1) authorizing a Red River Valley Water Supply Project. Under Paragraph 7(a)(3) of the Dakota Water Resources Act, the non-Federal share of the cost of construction of all MR&I water systems funded under the MR&I water supply grant program authorized in Section 7 "shall be 25%." However, as in the 1986 Act, that 25% non-Federal cost share continues to be reimbursed to the North Dakota MR&I water supply grant program and not to the Federal Treasury, so none of the $200 million authorized under Paragraph 7(a)(3) of the Dakota Water Resources Act is reimbursable to the Federal Government. Paragraph 7(a)(3) of the DWRA then explicitly provides that, in addition to the Southwest Pipeline Project, the Red River Valley Water Supply Project and the Northwest Area Water Supply (NAWS) project "shall be eligible for funding under the terms of this section."

Because the availability of these non-reimbursable Federal MR&I water supply grant funds in effect allows equivalent State funds to be used for other projects, the net effect for the State of North Dakota of making $267 million in non-reimbursable Federal funds available for all MR&I water projects under the 1986 Act and then another $267 million available under the Dakota Water Resources Act is to make $534 million in non-reimbursable Federal funds available for projects such as the $145 million NAWS project and the State's preferred $434 million Garrison Diversion Unit Import to Sheyenne River Red River Valley Water Supply Project.

It is instructive to note in this context that a financial analysis prepared by ECC Consulting of Kirkland, Washington, for the Lake Agassiz Water Authority, a front group for the Garrison Diversion Conservancy District (Pearson, 2005c, Appendix 1, p. 64), anticipates that the State will contribute up to $326.5 million of the cost of a Red River Valley Water Supply Project (Springer, 2005c). Of course, under the Bureau of Reclamation's Cooperative Agreement No. 6-FC-60-00210 with the State, the Bureau provides 75 percent of the MR&I water project grant funds authorized by Section 7(a)(3) of the Dakota Water Resources Act directly to the Garrison Diversion Conservancy District (Stenehjem, 2004) for administration by the Conservancy District.

The addition of another $326,500,000 in non-reimbursable Federal MR&I water supply grant funds to the $168,232,000 to $188,100,000 Federal subsidy of the construction and operation and maintenance costs of the unused capacity of the Snake Creek Pumping Plant, Lake Audubon and McClusky Canal (p. 24-25 above) and the $97,090,000 to $1,210,089,000 non-reimbursable biota water treatment costs (p. 59-60 above) would **escalate the U. S. taxpayer subsidy to an incredible $611,609,000 (Scenario One Garrison Diversion Unit Import to Sheyenne River) to $1,704, 821,000 (Scenario Two Garrison Diversion Unit Water Supply Replacement)—for a Red River Valley Water Supply Project that may never be needed or used**. The Final Environmental Impact Statement for the Red River Valley Water Supply Project should display

these Federal subsidies clearly and prominently, as in the following examples, so the Secretary, the Congress and U. S. taxpayers can make informed decisions regarding alternatives for meeting future Red River Valley water needs.

FEDERAL SUBSIDIES OF
RED RIVER VALLEY WATER SUPPLY PROJECT ALTERNATIVES

Scenario One Garrison Diversion Unit Import to Sheyenne River

Feature	Federal Subsidy
GDU Principal Supply Works	
Construction (95%)	$144,400,000
Operation & Maintenance (95%[1]/40 years)	43,700,000
	$188,100,000
Biota Treatment Facility	
Construction	$ 33,489,000
Operation & Maintenance (40 years)	63,520,000
	$ 97,009,000
Non-Reimbursable MR&I Water Supply Grant	$326,500,000
Total Federal Subsidy	$611,609,000

Scenario Two Garrison Diversion Unit Water Supply Replacement

Feature	Federal Subsidy
GDU Principal Supply Works	
Construction	$120,080,000
Operation and Maintenance (79%[1]/40 years)	48,152,000
	$168,232,000
Biota Treatment Facility	
Construction	$314,289,000
Operation and Maintenance (40 years)	895,800,000
	$1,210,089,000
Non-Reimbursable MR&I Water Supply Grant	$326,500,000
Total Federal Subsidy	$1,704,821,000

[1]The GDU operation and maintenance subsidy is based on the unused capacity of the GDU Principal Supply Works features and the subsidies shown assume operation of the alternative at its design capacity. However, the alternative would be operated at its design capacity only if the projected year 2050 demand materializes and a severe drought occurs at that time. If the alternative is operated at less than its design capacity, the unused capacity of the GDU features would increase and, consequently, the Federal subsidy would be greater.

The fourth assumption that:

> "Biota water treatment OM&R costs would be funded by the federal government and considered non-reimbursable. All other OM&R costs are reimbursable by Project recipients." (DEIS, p. 283)

is misleading and does not accurately reflect the language of the Dakota Water Resources Act.

It is true that DWRA Subparagraph 1(h)(A)(2) specifies that:

> "All costs of construction, operation, maintenance, and replacement of water treatment and related facilities authorized by this Act and attributable to meeting the requirements of the [Boundary Waters] treaty referred to in paragraph 1 shall be nonreimbursable."

However, DWRA Subparagraph 1(f)(B)(3) specifies:

> "OPERATION AND MAINTENANCE COSTS. – Except as otherwise provided in this Act or in Reclamation law –
>
> (i) **The Secretary shall be responsible for the costs of operation and maintenance of the proportionate share of unit facilities** in existence on the date of enactment of the Dakota Water Resources Act of 2000 **attributable to the capacity of the facilities** (including mitigation facilities) **that remain unused**.
>
> (ii) **The State of North Dakota shall be responsible for the costs of operation and maintenance of the proportionate share of existing unit facilities that are used** and shall be responsible for the for the full costs of operation and maintenance of any facility constructed after the date of enactment of the Dakota Water Resources Act of 2000." (Emphasis added)

This means that only 5 percent of the operation and maintenance costs of the 2,000 cfs Snake Creek Pumping Plant, Lake Audubon, and the 1,950 cfs McClusky Canal would be reimbursable by Project beneficiaries under the State's preferred Garrison Diversion Unit to Sheyenne River alternative, accounting for $43,700,000 of the unconscionable $611,609,000 U. S. taxpayer subsidy (pp. 24-25, 59-60, 62-63 above) of the State's preferred alternative (DEIS, p. 32) (Pearson, 2005c, Appendix 1, p. 73).

In fact, the fifth assumption listed in the DEIS acknowledges that:

> "DWRA requires that repayment of costs for existing GDU Principal Supply Works features (Snake Creek Pumping Plant, Audubon Lake, McClusky Canal, and Chain of Lakes) is based only on the proportion of the capacity of each feature used by the Project. DWRA also requires that assigned costs of GDU supply facilities (construction and OM&R) be repaid at 3.225%. Although some alternatives provide improved flow rates for fish, wildlife, recreation, and/or water quality, no construction costs were allocated to these purposes." (DEIS, p. 283)

Although the *Red River Valley Water Supply Project Financial Analysis of Alternatives* shows the reimbursable costs of Garrison Diversion Unit Principal Supply Works features for each Red

River Valley Water Supply Project alternative to be paid by project beneficiaries, it does not show the far greater non-reimbursable costs that would be paid by U. S. taxpayers.

It is only because of the massive Federal subsidies that are included in the alternatives utilizing Garrison Diversion Unit Principal Supply Works features that the costs for water appear to be less under the Garrison Diversion Unit Import to Sheyenne River alternative ($1.17/1000 gallons) than under the North Dakota In-Basin and Red River Basin alternatives ($1.89 to $1.91/1000 gallons) (DEIS, p. 283). It should be noted, for example, that even at the reduced construction cost of $434,052,000 for a Garrison Diversion Unit Import to Sheyenne River alternative (DEIS, p. 41; Bureau of Reclamation, 2005b, p. 4-29), the construction cost still is only 22 percent less than that of the North Dakota In-Basin alternative, yet the costs to water users are 38 percent less (DEIS. p. 283).

As the appended review points out:

> "Although this analysis is not able to identify the actual non-reimbursable Federal and reimbursable State costs of the Red River Valley Water Supply Project options identified in the *Draft Report Red River Valley Water Needs and Options*, it does disclose something equally important. With reimbursement under the provisions of the Dakota Water Resources Act of 2000 potentially ranging from 3.5 percent to 90 percent for projects costing from $550 million to $2.2 billion—or a fraction of that depending on the capacity actually used, it will be impossible for the Secretary of the Interior, the State of North Dakota, the U. S. Congress or the citizens of the Red River Valley to make objective and informed decisions regarding Red River Valley Water Supply Project options until the funding and reimbursement provisions of the Dakota Water Resources Act are clearly and explicitly defined for all of the options." (Pearson, 2005c, Appendix 1, p. 83)

Consequently, the statement in the DEIS that:

> "Results [of the financial analysis] would change if some of the assumptions used in the analysis were modified. These modified assumptions include increasing the level of federal or state grant funding, using tiered rate structure, or using other repayment terms or interest rates." (DEIS, p. 284)

simply confirms the conclusion of the appended Review that:

> "Because project costs will be a major consideration for the Secretary, the State and the affected local communities in the selection of a Red River Valley Water Supply Project option, and because **the funding and reimbursement provisions for a Red River Valley Water Supply project under the Dakota Water Resources Act of 2000 are so uncertain, the Bureau of Reclamation has a clear and inescapable obligation to include** in the Final Red River Valley Water Needs and Options Report to be prepared by the Secretary and transmitted to the Congress under Dakota Water Resources Act Paragraph 8(b)(3) **a comprehensive and detailed analysis of the funding and reimbursement requirements of each option identified in the report. A formal request for such an analysis is hereby incorporated in this review**." (Emphasis added) (Pearson, 2005c, Appendix 1, p. 84)

Neither the Bureau of Reclamation's *Red River Valley Water Needs and Options Final Report* (Bureau of Reclamation, 2005b), nor the DEIS, nor the Bureau's *Red River Valley Water Supply*

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Project Financial Analysis of Alternatives (Bureau of Reclamation, 2005c) upon which the DEIS Financial Analysis of Alternatives is based provides such an analysis. Because of the Bureau's failure to address these issues substantively and objectively, the DEIS is without value in making objective and informed decisions regarding Red River Valley Water Supply Project alternatives.

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APPENDIX 1 – Comments on the Draft Environmental Impact Statement, Red River Valley Water Supply Project

NORTH DAKOTA'S PLAN FOR HIJACKING THE MISSOURI RIVER

A REVIEW OF THE U. S. DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION DAKOTAS AREA OFFICE

DRAFT REPORT ON RED RIVER VALLEY WATER NEEDS AND OPTIONS

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October 1, 2005

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INTRODUCTION

The Dakota Water Resources Act of 2000 and the Red River Valley Water Supply Project

Subsection 8(a) of the Dakota Water Resources Act of 2000 (DWRA) deals with a RED RIVER VALLEY WATER SUPPLY PROJECT, and Paragraph 8(a)(1) states:

> "IN GENERAL – Subject to the requirements of this section, the Secretary [of the Interior] shall construct a feature or features to provide water to the Sheyenne River water supply and release facility or such other features as are selected under subsection (d)."

The Sheyenne River Water Supply and Release Facility is addressed in Paragraph 8(e), SHEYENNE RIVER WATER SUPPLY AND RELEASE OR ALTERNATE FEATURTES, which states:

> "The Secretary shall construct, operate, and maintain a Sheyenne River water supply and release feature (including a water treatment plant) capable of delivering 100 cubic feet per second of water or any other amount determined in the reports under this section, for the cities of Fargo and Grand Forks and surrounding communities, or such other feature or features as may be selected under subsection (d)."

The Sheyenne River Water Supply and Release Facility would deliver Missouri River water to the Sheyenne River, which is in the Red River Basin within the Hudson Bay Drainage Basin, through the Bureau of Reclamation's uncompleted Garrison Diversion Unit principal supply works. Subsection 8(d) of the DWRA deals with the PROCESS FOR SELECTION of a Red River Valley Water Supply alternative and Paragraph 8(d)(1) states:

> "IN GENERAL – After reviewing the final report required by subsection (b)(1) and complying with subsection (c), the Secretary, in consultation and coordination with the State of North Dakota in coordination with affected local communities, shall select 1 or more project features described in subsection (a) that will meet the comprehensive water quality and quantity needs of the Red River Valley. . ."

Paragraph 8(b)(1) deals with the REPORT ON RED RIVER VALLEY WATER NEEDS AND OPTIONS, and states:

> "IN GENERAL – **The Secretary of the Interior shall conduct a comprehensive study** of the water quality and quantity needs of the Red River Valley in North Dakota and possible options for meeting those needs." (Emphasis added)

Paragraph 8(b)(2) on NEEDS states:

> "The needs addressed in the report shall include such needs as –
>
> (A) municipal, rural, and industrial water supplies;
> (B) water quality;
> (C) aquatic environment;
> (D) recreation; and
> (E) water conservation measures."

Paragraph 8(b)(3) defines the PROCESS by which the Secretary is to conduct the comprehensive study of the water quality and quantity needs of the Red River Valley in North Dakota and possible options for meeting those needs directed in Paragraph 8(b)(1), and specifies that:

> "In conducting the study, **the Secretary through an open and public process** shall solicit input from gubernatorial designees from states that may be affected by possible options to meet such needs as well as designees from other federal agencies with relevant expertise. For any option that includes an out-of-basin solution, the Secretary shall consider the effect of the option on other states that may be affected by such option, as well as other appropriate considerations. Upon completion, a draft of the study shall be provided by the Secretary to such states and federal agencies. Such states and agencies shall be given not less than 120 days to review and comment on the study method, findings and conclusions leading to any alternative that may have an impact on such states or on resources subject to such federal agencies' jurisdiction. The Secretary shall receive and take into consideration any such comments and produce a final report and transmit the final report to Congress." (Emphasis added)

The significance of the language of DWRA Paragraph 8(b)(1) explicitly directing the Secretary of the Interior to conduct the study for the REPORT ON RED RIVER VALLEY WATER NEEDS AND OPTIONS is further confirmed in the statement of North Dakota Senator Byron Dorgan following passage of the Act in the Senate on October 13, 2000, on an unanimous consent agreement without debate, where he explained that the bill laid out a process for meeting the water needs of the Red River Valley and emphasized that:

> "First, the Secretary of the Interior will identify these water needs and evaluate options for meeting them." (*See* Congressional Record – Senate, S10534, October 12, 2000)

The Bureau of Reclamation's *DRAFT REPORT ON RED RIVER VALLEY WATER NEEDS AND OPTIONS* (*Draft Report*) was prepared pursuant to DWRA Paragraph 8(b)(3) (Draft Report, p. 5-19).

DWRA Subsection 8(b) dealing with the REPORT ON RED RIVER VALLEY WATER NEEDS AND OPTIONS does not identify specific options to be considered in the Secretary's study, but Subparagraph 8(a)(3)(A) provides that:

> "If the Secretary selects a project feature under this section that would provide water from the Missouri River or its tributaries to the Sheyenne River water supply and release facility or from the Missouri River or its tributaries to such other conveyance facility as the Secretary selects under this section, no later than 90 days after the completion of the final environmental impact statement, the Secretary shall transmit to Congress a comprehensive report which provides –
>
> (i) a detailed description of the project feature;
> (ii) a summary of major issues addressed in the environmental impact statement;
> (iii) likely effects, if any, on other States bordering the Missouri River and on the State of Minnesota; and
> (iv) a description of how the project feature complies with the requirements of section 1(h)(1) of this Act (relating to the Boundary Waters Treaty of 1909)."

Subparagraph 8(a)(3)(B) then goes on to specify that:

> "No project feature or features that would provide water from the Missouri River or its tributaries to the Sheyenne River water supply and release facility or from the Missouri River or its tributaries to such other conveyance facility as the Secretary selects under this section shall be constructed unless such feature is specifically authorized by an Act of Congress approved subsequent to the Secretary's transmittal of the report required in subparagraph (A). If, after complying with subsections (b) through (d) of this section, the Secretary selects a feature or features using only in-basin sources of water to meet the needs of the Red River Valley identified in subsection (b), such features are authorized without further Act of Congress. The Act of Congress referred to in this subparagraph must be an authorization bill, and shall not be a bill making appropriations."

Thus, the DWRA, which was enacted as an amendment to the $450 billion Fiscal Year 2001 Health and Human Services Appropriations Act, authorizes a Red River Valley in-basin water supply alternative through the appropriations process, but specifies that an out-of-basin alternative cannot be authorized in an appropriations bill and would have to be approved by the Congress in an authorization bill.

Although DWRA Subsection 8(b) dealing with the Report on Red River Valley Water Needs and Options does not identify specific options to be considered, Subsection 8(c) dealing with the draft environmental impact statement specifies in Subparagraph 8(c)(2)(A) that:

> "DEADLINE – Pursuant to an agreement between the Secretary and the State of North Dakota as authorized under section 1(g), not later than 1 year after the date of enactment of the Dakota Water Resources Act of 2000, the Secretary and the State of North Dakota shall jointly prepare and complete a draft environmental impact statement concerning all feasible options to meet the comprehensive water quality and quantity needs of the Red River Valley and options for meeting those needs, **including the delivery of Missouri River water to the Red River Valley**." (Emphasis added)

Section 8 of the Dakota Water Resources Act of 2000 deals principally with the selection of a Red River Valley Water Supply Project, but the Act also:

- Authorizes $200,000,000 million in appropriations for the construction of a Red River Valley Water Supply Project (Subparagraph 10[a][1][B]).

- Authorizes an additional $200,000,000 for the statewide municipal, rural and industrial (MR&I) water supply program that was authorized by the 1986 Garrison Diversion Unit Reformulation Act (Subparagraph 10[b][1][B]) and makes the Red River Valley Water Supply Project, as well as North Dakota's Southwest Pipeline Project and the Northwest Area Water Supply project, eligible for funding under the program (Paragraph 7[a][3]).

- Authorizes an additional $200,000,000 for Indian MR&I projects (Subparagraph 10[b][2][b]).

- Authorizes 57,900 acres of irrigation development based on the Garrison Diversion Unit's principal supply works, the Missouri River, and the James River (Paragraphs 5[a][1] and 5[a][3]).

- Authorizes 17,580 acres of irrigation on Indian reservations based on the Missouri River (Subsection 5[c]).

- Requires the Secretary of the Interior to maintain the Snake Creek Pumping Plant, the McClusky Canal and the New Rockford Canal features of the Garrison Diversion Unit's principal supply works (Paragraph 5[a][5]).

- Deauthorizes the Taayer Reservoir (Paragraph 2[j][4]) and the Lonetree Reservoir (Paragraph 2[j][5]).

- Delays the decision on the transfer of the title to the Oakes Irrigation Test Area on the James River (which was to receive Missouri River water from the Garrison Diversion Unit's New Rockford Canal) to the State of North Dakota until two years after execution of the record of decision on the Red River Valley Water Supply Project (Subsection 9[a]).

- Changes the Wetlands Trust authorized by the 1986 Garrison Diversion Unit Reformulation Act to the Natural Resources Trust (Subsection 11[b]) and utilizes appropriations for the Trust for the operation and maintenance of lands developed for mitigation of the adverse impacts of other projects authorized under the Act (Paragraph 10[c][5]).

Because the development of other projects authorized by the Dakota Water Resources Act—particularly irrigation based on the McClusky and New Rockford canals (and potentially on the James River)—will be substantially influenced by the Red River Valley Water Supply Project option that is selected and whether it utilizes features of the Garrison Diversion Unit's principal supply works, it is necessary to consider Section 8 of the DWRA in the context of the entire Act.

The Dakota Water Resources Act and the Garrison Diversion Project

On August 28, 1997, the Associated Press reported that North Dakota Senator Kent Conrad was proposing that the title of the draft "Garrison Diversion Project Completion Act of 1996" be changed to the "North Dakota Water Supply Project," and that:

> "Conrad said the name change is important if the state is to **begin a new push to get Congress to approve money to complete this project.**" (Emphasis added) (Associated Press, 1997)

Less than three months later, on November 10, 1997, North Dakota Senators Kent Conrad and Byron Dorgan introduced Senate Bill 1515, the "Dakota Water Resources Act 1997," to amend the 1965 Act which authorized the 250,000-acre Garrison Diversion Unit irrigation project in North Dakota. Three years later, the Associated Press reported on October 14, 2000 that:

> "The Senate passed compromise Garrison diversion legislation Friday…
>
> The bill, the Dakota Water Resources Act, authorizes $631 million for North Dakota water projects." (Associated Press, 2000)

Subsequently, officials of the Garrison Diversion Conservancy District confirmed that:

> "The Dakota Water Resources Act (DWRA), a revised Garrison Project which amends the 1986 Garrison Diversion Reformulation Act, was initially introduced into Congress in 1997. . . " (Jamison, et al., 2001).

A Garrison Diversion Conservancy District news release issued on December 15, 2000, the day the Dakota Water Resources Act of 2000 was passed, proclaimed:

> "'Passage of the Dakota Water Resources Act (DWRA) is a major chapter in a very long history book, but it is **not the final chapter needed to meet North Dakota's highest priority water needs,**' said Warren Jamison, manager of the Garrison Diversion Conservancy District. '**We see this as the beginning of an important first phase**, ending in a solution that addresses North Dakota's current and future water needs.'
>
> . . .
>
> 'North Dakota has received many benefits from the Garrison Diversion program, and this legislation will make it possible to continue providing opportunities in the future,' state[d] Jamison." (Emphasis added)

In a December 16, 2000, story headlined, "GARRISON DIVERSION: Project tucked into health bill," *The Grand Forks Herald* reported:

> "The giant health and human services bill passed by Congress Friday night had a plumb tucked in for North Dakota – the long-awaited Dakota Water Resources Act.
>
> The act is a reformulation of the Garrison Diversion project promised to North Dakota 50 years ago…" (DeLage, 2000)

The Grand Forks Herald then published an editorial on December 19, 2000, titled, "Getting to 'yes' on Garrison," which stated:

> "Don't pop the champagne just yet. The massive Dakota Water Resources Act, which passed Congress Friday night, is an authorization as opposed to an appropriations bill…
>
> But go ahead and put the bottle on ice. Supporters of the Garrison Diversion water project may not be at the point where they can fire up the bulldozers and start moving dirt. But they're closer to that point than ever before – and in this project's decades-long history, that's a real accomplishment."

In an editorial opinion that appeared in North Dakota newspapers five days after the DWRA was passed under the heading, "Garrison: keeping the promise," North Dakota Senator Kent Conrad boasted that:

> "When Congress wrapped up its session Dec. 15, North Dakota got an early Christmas present. **The Dakota Water Resources Act, the final, successful version of the Garrison Diversion Project, passed** as part of the last legislative package of the year 2000." (Emphasis added) (Conrad, 2000)

Then in an article published in the January 2001 issue of *North Dakota Water*, Senator Conrad said:

> "We spent a long time drafting the original bill during 1996 and 1997, but that original investment paid off. **The DWRA was the first Garrison plan written by North Dakotans for North Dakotans and it is a realistic plan to complete this project**." (Emphasis added) (Conrad, 2001)

Echoing Senator Conrad's assessment, Garrison Diversion Conservancy District Manager Warren Jamison was quoted in another story in the same January 2001 *North Dakota Water*:

> "Jamison says the DWRA was successful because it was written by North Dakotans. 'This was the first time in history that state leaders had such a direct involvement in putting this type of legislation together.'" (Collin, 2001)

However, in view of the explicit language of Paragraph 8(b)(1) of the DWRA directing the Secretary to conduct the study of Red River Valley water needs and options, which was confirmed by Senator Dorgan in his October 13, 2000, *Congressional Record* statement, it is important to note the statement in this same story from the January 2001 *North Dakota Water* that:

> "This study to determine the best way to meet the needs of the Red River Valley is **a joint process between Garrison Diversion, U. S. Bureau of Reclamation and the North Dakota State Water Commission**." (Emphasis added) (Collin, 2001).

It is instructive to note in this context that the Dakota Water Resources Act of 1999 provided that:

> ". . .the Secretary and the State of North Dakota shall jointly submit to the Congress a report on the comprehensive water quality and quantity needs of the Red River Valley and the options for meeting those needs. . ."

However, following floor amendments introduced by Senator Conrad, this language was changed in the Dakota Water Resources Act of 2000 to:

> "The Secretary of the Interior shall conduct a comprehensive study of the water quality and quantity needs of the Red River Valley in North Dakota and possible options for meeting those needs."

This intentional change in the language clearly demonstrates that the Congress did not envision, nor desire, that the Red River Valley Water Supply Study was to be performed jointly by the Department of the Interior and the State of North Dakota. Therefore, it is significant that even after passage of the DWRA, the Garrison Diversion Conservancy District continued to consider the Red River Valley water needs and options study to be a joint process involving the Conservancy District, the Bureau of Reclamation (Bureau) and the State.

It should also be noted that, although the DWRA was not passed until December 2000:

> "Jamison says the agreement to begin the study was signed in April 2000, and planning has already begun." (Collin, 2001)

Because the State of North Dakota and the Garrison Diversion Conservancy District clearly and unabashedly see a Red River Valley Water Supply Project as the central element in the completion of the Garrison Diversion Unit and regard the Dakota Water Resources Act of 2000 as simply the "first phase" of even more grandiose water development plans, and because the

Garrison Diversion Conservancy District has a statutory mandate under North Dakota Century Code 61-24-01 to promote the construction of the Garrison Diversion Unit explicitly:

> "1. To provide for the future economic welfare and prosperity of the people of this state, and particularly of the people residing in the area embraced within the boundaries of the conservancy district created by this chapter.
>
> 2. To provide for **the irrigation of lands** within the sections of such districts periodically afflicted with drought, and to stabilize the production of crops thereon.
>
> 3. To replenish and restore the depleted waters of lakes, **the Red, Sheyenne, James and other rivers**, and streams in the district, and to stabilize the flow of these streams." (Emphasis added)
>
> 4. To replenish the waters, and **to restore the level of Devils Lake, Stump Lake**, Lake Williams, and Turtle Lake.
>
> **5. To make available within the district, waters diverted from the Missouri River for irrigation, domestic, municipal, and industrial needs**, and for hydroelectric power, recreation, fish, wildlife, and other beneficial public uses." (Emphasis added)

it is both appropriate and necessary to consider the *Draft Report on Red River Valley Water Needs and Options* in the broader context of the long, convoluted, and controversial history of the Garrison Diversion Unit.

It is the sordid and unsavory 116-year history of broken agreements and raw political chicanery in the North Dakota political/water development establishment's obdurate and monomaniacal pursuit of Missouri River diversion, despite the absence of legitimate need or economic rationality, with cavalier disregard for its devastating social and environmental impacts, and in defiance of national and international objections and the lack of support of the State's own citizens (Robinson, 1966; Doemel and Caldwell, 1980; Pearson, 1998; Lambrecht, 2005). It is a shameful legacy of distortion, deceit and greed that is perpetuated today through the Dakota Water Resources Act of 2000 and the Red River Valley Water Supply Project.

HISTORY OF MISSOURI RIVER DIVERSION IN NORTH DAKOTA

The Pursuit of Missouri River Diversion

The 1889 North Dakota Constitutional Convention did two things that have continued to influence the direction of the State into the 21st century. First, of course, the Convention framed the North Dakota Constitution, which included a provision declaring that:

> "All flowing streams and natural water courses shall forever remain the property of the state for mining, irrigating and manufacturing purposes."

Second, the Convention adopted a request to the United States Congress to consider a plan to construct a canal from the Missouri River in Montana to divert water, across North Dakota to the Red River of the North, for irrigation. However, after reviewing North Dakota's 1889 plan, the U. S. Geological Survey declared it infeasible in 1891.

In 1903, an irrigation congress met in Bismarck to develop strategies for getting North Dakota's "fair share" of benefits from the recently passed 1902 Federal Reclamation Act. In 1924, declining water levels in Devils Lake fostered a dream of restoring the lake and provided the impetus for the formation of the Missouri River Diversion Association. Then in 1927, Elwyn F. Chandler, Dean of the College of Engineering at the University of North Dakota, proposed a plan to divert water from the Missouri River, through a 30-mile-long, concrete-lined tunnel crossing the continental divide, into the Souris River Basin and then to Devils Lake and the Sheyenne and James river basins (Doemel and Caldwell, 1980)

Then came the Dust Bowl of the 1930s, and by 1933 the North Dakota State Engineer was considering four plans for diverting water from the Missouri River. In 1937, the North Dakota Legislative Assembly again petitioned the Congress for funds for a Missouri River diversion project. By 1935, the U. S. Army Corps of Engineers already had been considering the construction of a dam on the Missouri River near Garrison, North Dakota, and in 1937 the Corps added a $57,000,000 diversion plan. Then in 1942, U. S. Bureau of Reclamation Commissioner W. G. Sloan proposed a plan for 4,700,000 acres of irrigation in the Missouri Basin, including irrigation of a million acres in North Dakota to be supplied with water diverted from near Fort Peck Dam on the Missouri River in Montana. In response to serious flooding on the Lower Missouri River in the early 1940s, Colonel Lewis A. Pick of the Corps of Engineers proposed a plan for six great dams on the main stream of the Missouri River and 99 additional dams for its tributaries. (Doemel and Caldwell, 1980; McDonald, 1997)

The Missouri-Souris Diversion Unit

Commissioner Sloan's plan for irrigation was supported by the Upper Missouri Basin states, and Colonel Pick's plan for flood control was supported by the Lower Basin states. However, as Missouri Valley Authority bills gained support in the Congress, the Corps of Engineers and the Bureau of Reclamation merged their proposals into what became known as the Pick-Sloan Plan. This Plan was authorized by the Congress as the Flood Control Act of 1944. It included 137 dams with a hydroelectric generation capacity of 3,200,000 kilowatts and irrigation of over 4,700,000 acres. Both the Garrison Dam, to be built by the Corps of Engineers for flood control, and the Missouri-Souris Diversion Unit, with 1,166,600 acres of irrigation located in the Crosby-

Mohall area of the Souris River Basin in northwestern North Dakota, 66,000 acres along the Missouri River and another 162,300 acres located in the James River Basin, to be developed by the Bureau of Reclamation, were included in the Plan. In addition, Missouri River water was to be delivered to restore Devils Lake and to the Sheyenne River to supply 19 municipalities on the Sheyenne and Red rivers, including Fargo and Grand Forks in North Dakota and Moorhead and East Grand Forks in Minnesota. (U. S. Department of the Interior, 1944; Robinson, 1966; Doemel and Caldwell, 1980; McDonald, 1997) However, the water diverted to the Sheyenne River was not for municipal water supplies but simply was to "be sufficient in volume to dilute the sewage originating in all of these towns" (U. S. Department of the Interior, 1944).

With authorization of the Missouri-Souris Diversion Unit, the long-sought dream of Missouri River diversion was on the brink of reality. Or so it seemed. In 1949 the North Dakota Legislative Assembly created a 15-county Missouri-Souris Conservancy and Reclamation District to serve as the local sponsor, with the duty of "promoting the establishment and construction of the Missouri-Souris unit of the Missouri Basin project" (North Dakota Legislative Assembly. 1949). However, by 1947 soils studies already had revealed that virtually all of the 1,000,000 acres in the Crosby-Mohall area were unsuitable for irrigation (Bureau of Reclamation, 1957; Robinson, 1966) and by 1953 the Missouri-Souris Diversion Unit had been abandoned (Fredrickson, 1953)

Rather than viewing the infeasibility of the Missouri-Souris Diversion Unit as an opportunity to make a comprehensive and objective assessment of North Dakota's economic and water development needs, proponents of Missouri River diversion simply looked for other lands in central and eastern North Dakota that could be irrigated with water from the Missouri River (Cooper, 1955), disregarding the fact that many of the lands proposed for irrigation in this less arid portion of the State already were producing dryland crops. In 1955, the North Dakota Legislative Assembly created a 24-county Garrison Diversion Conservancy District to replace the Missouri-Souris Conservancy and Reclamation District and to "promot[e] the construction, maintenance and operation of the Garrison Diversion Unit, or any part thereof" (North Dakota Century Code 61-24-08). Like the Missouri-Souris Conservancy and Reclamation District, the Garrison Diversion Conservancy District was authorized to levy up to a one mill tax throughout the District to carry out its activities, to promote the project, and to finance the District's local share of the project's construction, operation and maintenance costs (North Dakota Century Code 61-24-08).

The Garrison Diversion Unit

Plans and Authorization

In 1957, the Bureau of Reclamation unveiled its plans for a 1,007,000- acre Garrison Diversion Unit project. The project would divert water from the Missouri River behind Garrison Dam, through 6,773 miles of canals and laterals, eight reservoirs and 656 pumping plants to irrigate 1,007,000 acres of land having 9,300 miles of drains (Bureau of Reclamation, 1957). In addition, it would restore Devils Lake and provide water to 41 municipalities (Bureau of Reclamation, 1957). The estimated cost of the project was $529,379,000 (Bureau of Reclamation, 1957)—a cost equivalent to 35 percent of the 1954 value ($1,500,000,000) of all of the farmland and buildings in North Dakota (Robinson, 1966). Because of the time required to build the entire project, the Bureau proposed that it be constructed in two stages, with a 407,000-acre initial stage (Bureau of Reclamation, 1957).

North Dakota Congressman Otto Kruger introduced a bill in 1957 to authorize the Garrison Diversion Unit and hearings were held in October of that year, but the Secretary of the Interior did not forward the plan to the President until 1959 (Doemel and Caldwell, 1980). Bills to authorize the Garrison Diversion Unit project were introduced in 1960, 1963 and 1964, but failed. Finally in 1965, a 250,000-acre initial stage Garrison Diversion Unit was authorized at an estimated cost of $212,000,000. In addition to the irrigation development, the project was to deliver Missouri River water to restore Devils Lake, provide recreation and fish and wildlife benefits, and supply water to 14 municipalities and four industrial areas (Bureau of Reclamation, 1962). The largest cities identified to receive water from the Garrison Diversion project were Minot and Jamestown and the four industrial areas were located at Minot, Devils Lake, Jamestown, and Towner (Bureau of Reclamation, 1962). There was no mention of delivery of water to Fargo or Grand Forks or any other cities in the Red River Valley

Serious questions were raised about the economic benefits of the Garrison Diversion project more than a decade before it was authorized; however, Robinson explains:

> "Although Schaffner's analysis raised serious questions about irrigation in a region that received adequate rainfall in at least three years out of every four, it was given little attention. No one in North Dakota publicly questioned the benefits of diversion, any more he would motherhood, virtue, or patriotism. Any doubters remained silent. North Dakota's leaders seemed to see the plan as the solution to the state's problems, the cherished dream of escape from pressing difficulties. Moreover, they felt the state had sacrificed some 550,000 acres to the Garrison and Oahe reservoirs. Cheap electricity had not brought industry to North Dakota, although in 1960 three-fourths of the power from Garrison generators was sold to North Dakota companies and cooperatives." (Robinson, 1966)

Development of Opposition to the Project

Construction of the McClusky Canal, which would carry water from Lake Audubon, a sub-impoundment on the Missouri River, to the proposed Lonetree Reservoir on the headwaters of the Sheyenne River, began in 1970. However, the reality of the 73.7-mile canal, with cuts up to 114 feet deep and a right-of-way up to half a mile wide (Bureau of Reclamation, 1974), soon ignited rapidly escalating opposition among landowners in its path (Anonymous, 1972). It also resulted in a request form the Government of Canada in April 1970 for specific information regarding the project's impacts on the Souris River in Manitoba, and a year later a diplomatic note from the Government of Canada informing the U. S. Department of State that the anticipated impacts were unacceptable (Committee on Government Operations, 1976).

The National Environmental Policy Act (NEPA) had been passed in 1969 and in 1972, the Committee to Save North Dakota, a newly-formed grass-roots organization of landowners along the route of the McClusky Canal, filed suit against the Bureau of Reclamation in U. S. District Court in Bismarck alleging violation of Section 102(2)(C) of the Act, which requires the preparation of an Environmental Impact Statement (EIS) on federal actions having a significant impact on the environment. The Bureau responded with a Draft Environmental Statement on the Garrison Diversion project in 1973 (Bureau of Reclamation, 1973) and a Final Environmental Statement in 1974 (Bureau of Reclamation, 1974). The Final Environmental Statement provided final environmental impact evaluation only for the principal supply works (Snake Creek Pumping Plant, Lake Audubon, McClusky Canal and Lonetree Reservoir), with supplemental statements to be prepared for other project features (Bureau of Reclamation, 1974). Nevertheless, these environmental statements provided other agencies and the public for the first time with

comprehensive information on the Garrison Diversion project (Bureau of Reclamation, 1974). It is instructive to note, for example, that neither Fargo nor Grand Forks was listed among the 14 "Potential Municipal Water Users" identified in the Final Environmental Statement (Bureau of Reclamation, 1974).

A review of the Final Environmental Statement by a team of experts assembled by the Institute of Ecology concluded that the Garrison Diversion project had no economic justification, the irrigation subsidy amounted to $470,000 per farm, the project would take more land out of production than it would bring into production, the social impacts resulting from the destruction of family farms and concentration of land ownership would be severe, and the fish and wildlife and recreation benefits were grossly exaggerated (Environmental Impact Assessment Project, 1975). Subsequently, a re-evaluation of the project by the U. S. Fish and Wildlife Service disclosed that the project would destroy 60,000 acres of prairie wetlands and 2,000 acres of fluvial wetlands and degrade another 13,000 acres of wetlands, it would eliminate 62,000 acres of grasslands, including 43,000 acres of native prairie, and 4,000 acres of woodlands, and it would adversely impact 12 National Wildlife Refuges and eight unique habitat areas (Fish and Wildlife Service, 1978).

In 1976, the National Audubon Society filed suit against the Department of the Interior in Federal District Court in Washington, D. C., alleging that the Final Environmental Statement for the Garrison Diversion Unit unduly segmented and postponed evaluation of the environmental impacts of the project, thus precluding the very evaluation of alternatives mandated by NEPA. Settlement of the suit was reached when the Department of the Interior agreed to prepare a comprehensive Environmental Impact Statement which considered other alternatives.

The new Final Comprehensive Environmental Statement listed Fargo, but not Grand Forks, West Fargo, North Dakota, or Moorhead, Minnesota, among the 250,000-acre Garrison Diversion alternative's "Potential Municipal Water Users" (U. S. Department of the Interior, 1979), and it noted specifically that:

> ". . . The system capacity would be adequate to provide the additional 30,000 acre-feet per year [for municipal supplies] **during off-peak irrigation periods**." (Emphasis added) (U. S. Department of the Interior, 1979).

In other words, the project would not be able to provide water for MR&I use at the very times it would be most needed.

Canadian Concerns

Following a formal request in 1973 from the Government of Canada for a moratorium on construction until concerns about the Garrison Diversion project's impacts in Manitoba were resolved (Canadian Embassy, 1973), the issue was referred to the International Joint Commission (IJC) in 1975 (International Joint Commission, 1977). The Commission's Study Board and a team of 50 scientists from both countries, including 13 from North Dakota (Anonymous, 1976), examined a number of issues related to water quality, water quantity, biology, engineering and water uses and found that adverse impacts potentially could accrue to Canada as a result of increased total dissolved solids and nitrogen from the project's irrigation return flows, and from the transfer of foreign biota from the Missouri River Basin to the Hudson Bay Basin (International Joint Commission, 1977). In its report, the Commission noted:

> "In fact, overriding everything else, as it turns out, has been the necessity that such introduction be prevented at all costs. . ."
>
> The Board's conclusion was that implementation of their proposal should virtually eliminate any direct transfer by GDU of fish, fish eggs, fish larvae and fish parasites and would reduce the risk of transfer of fish diseases to the Hudson Bay Drainage Basin . . .
>
> There is no question in the Commission's mind that the Board's recommendations **greatly reduce the risk of unintentional transfer** . . . At the same time, the Commission must weigh the consequences to Canada if the Board is wrong. **Were the potential consequences ones that could be mitigated or corrected after the fact**, the Commission would accept the Board's advice. **Were the biological consequences to the Hudson Bay drainage ecosystem predictable in manner and extent**, the Commission might accept the Board's approach. **The Board has reduced the risk of a 'biological time bomb', but not eliminated it.** The Commission is concerned that even with the best engineering talent available, and with the best operating practices possible, the very complexity of the scheme, the immensity of the physical features, the large numbers of human beings involved in carrying out the responsibility, and the possible mechanical failures, what cannot happen, will happen . . ." (Emphasis added) (International Joint Commission, 1977)

Consequently, the International Joint Commission recommended that:

> ". . . those portions of the Garrison Diversion Unit which could affect waters flowing into Canada not be built at this time." (International Joint Commission, 1977)

With 216,990 acres of Garrison's 250,000 acres of irrigation (87%) located in the Hudson Bay Basin portion of North Dakota (Bureau of Reclamation, 1974), the International Joint Commission's recommendation was a devastating blow to the project. However, rather than accepting the International Joint Commission's conclusions and recommendations as an indication of the need for a new approach to water development, the State of North Dakota simply proposed to build the 250,000-acre Garrison Diversion project in two phases, with irrigation return flows from the first 85,000 acres draining to the James River (Bureau of Reclamation, 1983).

It is instructive to note that when it became evident in 1975 that referral of the Garrison issue to the International Joint Commission was necessary to preserve appropriations for the project, North Dakota Congressman Mark Andrews said he was glad that environmentalists had encouraged turning the project over to the IJC so that questions about it could finally be resolved (Associated Press, 1975). According to Andrews:

> "This kind of study is a very exact science. It will take the project out of the realm of emotional charges and reduce it to a scientific fact finding basis. The charges against Garrison Diversion have strayed so far from the fact that we need a study like this. . ." (Associated Press, 1975)

However, when the IJC's Garrison report was released in 1977 and the facts did not suit the North Dakota political/water development establishment's agenda, Andrews declared that it was:

> "far fetched and phony as a $3 bill." (Tribune News Service, 1977)

This has been the State's recurring strategy whenever the Garrison Diversion project has been in jeopardy: agree to whatever is necessary to save the project from the immediate threat, but as soon as that is accomplished, renege on the agreement.

The Carter Administration

On February 18, 1977, the Carter Administration announced that it was cutting funding for the Garrison Diversion project (Associated Press, 1977a) as one of 19 water projects slated for termination (Meyer, 1977). As a result of the ensuing protest from Western States, the Administration announced that it would conduct further reviews of the projects (Associated Press, 1977b), and a hearing on the Garrison Diversion project was conducted by the Secretary of the Interior in Jamestown, North Dakota, on March 22, 1977 (Baenen, 1977a, 1977 b). As a result of its review of Garrison, the Administration recommended that the project be reduced from 250,000 acres to 96,000 acres, eliminating all irrigation return flows to streams ultimately flowing into Canada (U. S. Department of the Interior, 1979).

Lack of Support for the Project in North Dakota

Although North Dakota politicians and water development proponents had long claimed solid support for the Garrison Diversion project among the citizens of the State, a poll conducted by the University of North Dakota's Bureau of Governmental Affairs in 1980 showed that only 31.1 percent of North Dakotans supported completion of the project. Even more revealing, the poll disclosed that less than half (44%) of the people in the State had ever supported it (Anonymous, 1980).

The Congress

Although the Reagan Administration initially supported funding for Garrison, opposition to the project continued to build in the Congress, where appropriations for the project failed in the House of Representatives in 1982 and 1983. North Dakota Senator Quentin Burdick explained the strategy used by the North Dakota Congressional Delegation to salvage the Garrison appropriations:

> "Hell, if it wasn't for the Senate, it would have died years a go.
>
> We pass it by a good margin in the Senate every time and then we go to conference committee. They generally have zero (support for Garrison) from the House and we have whatever we have in the Senate. We just shoulder the damn conferees around until we can make them agree with us.
>
> That's how we've been doing it and that's how we'll have to do it again." (Gerbert, 1983)

The Reagan Administration and the Garrison Diversion Unit Commission

Despite the initial success of the North Dakota Congressional Delegation's strategy, funding for Garrison continued to grow more tenuous, and in May 1984 the Reagan Administration announced that it planned to ask the Congress to defer spending for the project and might withdraw its support for the Fiscal Year 1985 appropriation (Associated Press, 1984). With Garrison in serious jeopardy, on June 6, 1984, North Dakota Senator Mark Andrews struck a deal with the National Audubon Society that secured a $53,000,000 Fiscal Year 1985 appropriation

for the project while a special Garrison Diversion Unit Commission appointed by the Secretary of the Interior reviewed the project (Flagstad, 1984a, 1984b, 1984c, 1984d; Russakoff, 1984; Pates, 1984). The principal recommendations of the Garrison Diversion Unit Commission Final Report issued in late 1984 included reducing the irrigation development to 130,940 acres located outside the Hudson Bay Basin, expanding municipal, rural, and industrial (MR&I) water components of the project to serve up to 130 towns and rural areas, treating MR&I water to be delivered to the Hudson Bay Basin to prevent biota transfer, and replacing the Lonetree Reservoir with a Sykeston Canal to connect the McClusky and New Rockford canals (Garrison Diversion Unit Commission, 1984).

Although Senator Andrews had defended his agreement for a review of the project, again declaring that Garrison could withstand independent scrutiny (Flagstad, 1984d), when the Commission released its recommendation to replace the Lonetree Reservoir with the Sykeston Canal, Andrews immediately announced that he would introduce an amendment in the Senate to restore the reservoir, which was viewed by project proponents as the key to any future irrigation development in the Souris River Basin and eastern North Dakota (Whalen, 1984), and at its quarterly meeting the following month, the Garrison Diversion Conservancy District adopted a policy statement urging the Secretary of the Interior to reinstate the Lonetree Reservoir (Garrison Diversion Conservancy Distrtict, 1985). However, by agreeing to the review by the Garrison Diversion Unit Commission, Andrews had not only avoided the possible loss of funding for the project in 1984, but he had secured a record $53,000,000 Fiscal Year 1985 appropriation. But of course, once that crisis had been averted, Andrews immediately reneged on his agreement.

The Garrison Diversion Unit Reformulation Act of 1986

The Garrison Diversion Unit Reformulation Act implementing the principal recommendations of the Final Report of the Garrison Diversion Unit Commission was passed in 1986. The Act authorized 90,360 acres of irrigation based on the Garrison principal supply works and the James River, and another 28,000 aces of irrigation based on the Missouri River, for a total of 118,360 acres, plus an additional 17,580 acres of irrigation on Indian reservations, it replaced the Lonetree Reservoir with the Sykeston Canal, it authorized a Sheyenne River water supply and release feature and biota treatment plant to deliver 100 cubic feet per second (cfs) of Missouri River water for the cities of Fargo and Grand Forks and surrounding communities, and it authorized $200,000,000 for a statewide MR&I water systems program and made the State's Southwest Pipeline Project eligible for funding under the program.

As inducement to conservation organizations to support the legislation, a Wetlands Trust was included, to be funded by three percent of the Garrison appropriations from Fiscal Year 1987 through Fiscal Year 1990, and then five percent thereafter until a total of $12,000,000 was reached. After Fiscal Year 1990, the State of North Dakota was to provide matching contributions of 10 percent of the Federal funds (Public Law 99-294).

> "The corporate purposes of the Trust are to preserve, enhance, restore, and manage wetland and associated wildlife habitat in the State of North Dakota." (Public Law 99-294, Section 9).

As an additional incentive to the conservation organizations to support the legislation, a "Statement of Principles to Support the Agreement for Reformulation of the Garrison Diversion Unit" was drafted by the State and signed by the Governor, the Chairman of the Garrison Diversion Conservancy District, the President of the North Dakota Water Users Association, the President of the National Audubon Society, the Executive Vice-President of the National Wildlife

Federation, and the Presidents of the North Dakota Chapter of The Wildlife Society and the North Dakota Wildlife Federation. Under the Statement of Principles, all of the parties agreed to support the reformulation legislation and the appropriations necessary for implementing the purposes of the project, to end conflicts over wetland acquisition and management programs, to develop 'no net loss of wetlands' policies and guidelines for the State, and to enforce and improve the State's wetland drainage laws.

In early 1987, within a year after the Reformulation Act was passed, the State and the Garrison Diversion Conservancy District already were advocating the reinstatement of a 'Mid-Dakota Reservoir' at the Lonetree Reservoir site (Murry, 1987; Garrison Diversion Conservancy District, 1987). That same year, the North Dakota Legislative Assembly passed a so-called 'no net loss' wetlands statute. However, rather than being an improvement of the existing State drainage law, its wetland drainage permit provisions were based on the same unenforced and unenforceable wetland drainage permit provisions that had routinely been ignored and circumvented for decades. Then to compound matters, the State Engineer did not develop regulations to implement the statute until a year after it was supposed to go into effect. Consequently, after the rampant wetland drainage that occurred in North Dakota in 1986 and 1987 as farmers scurried to eliminate wetlands before they could be inventoried under the 'Swampbuster' provisions of the 1985 Farm Bill (Anonymous, 1988), in 1991 the North Dakota 'Wetlands Bank' showed a total of only 330 acres of wetlands having been drained since January 1987. In addition, wetland drainers were required under the State statute to pay only 10 percent of the average costs of replacement wetlands, while the remaining 90 percent of the costs were to be paid by "federal, state or private interests." Thus, conservation interests ended up subsidizing wetland drainage while their own wetland restoration efforts were nullified by being credited against additional wetland drainage in the 'Wetlands Bank' (Pearson, 1996).

The 1990 Department of the Interior Inspector General's Report

Although the Reagan Administration included only $2,500,000 for Garrison in its Fiscal Year 1988 budget (Associated Press, 1987a), the North Dakota Congressional Delegation was successful in securing a $33,000,000 appropriation (Associated Press, 1987b). Nevertheless, the waning support of the Reagan Administration did not bode well for Garrison. Then in February 1990, the U. S. Department of the Interior's Office of Inspector General issued an audit report on Garrison containing two disclosures having major ramifications for the project:

1. ". . . few, if any municipal, rural, and industrial systems would receive water from Garrison facilities. Most of the proposed municipal, rural and industrial water systems were physically located so that obtaining water from Garrison was impractical or too costly." (Office of Inspector General, 1990)

2. "An adjusted cost allocation based on the findings and recommendations [of the report] will increase the irrigators' annual share of project operating costs by approximately $1 million beyond their determined ability to pay.'"" (Office of Inspector General, 1990)

With irrigators being unable to afford to utilize the project and with project water being too costly and/or unavailable for most potential MR&I users, the justification for the $1,500,000,000 Garrison Diversion Unit was in serious question. In fact, the George H. W. Bush Administration already had recommended terminating the project in its Fiscal Year 1991 budget (Brasher, 1990a).

The 1990 Garrison Diversion Unit Task Group Report

In an attempt to save the project, the North Dakota Congressional Delegation requested that the Secretary of the Interior reconsider the Administration's decision to terminate funding for Garrison (Brasher, 1990b). The Secretary responded by establishing a Task Group to consider under what conditions, if any, further funding for Garrison could be supported by the Administration (Garrison Diversion Unit Task Group, 1990).

The Task Group concluded that completing Garrison's principal supply works and irrigation development would cost $6,500 per acre, in addition to the $324,000,000 that already had been expended on the project, but would increase the value of the irrigated land by only $1,000 per acre (Garrison Diversion Unit Task Group, 1990). Consequently, the Task Group recommended terminating construction funding for the principal supply works, water delivery to the James River, and all non-Indian irrigation development, and it recommended that the Administration support funding for the statewide grant and Indian MR&I water supply programs, irrigation development on 17,589 acres on the Fort Berthold and Standing Rock Indian reservations, continued operation of the Oakes Irrigation Test Area through 1995 but with no capital expenditures after Fiscal Year 1991 to increase the water supply, and recreation and wildlife features of the project (Garrison Diversion Unit Commission, 1990). The Congress approved a Fiscal Year 1991 appropriation of $35,000,000 for Garrison (Anonymous, 1990), but a Department of the Interior task force again recommended reinforcing the "administration policy to not support federal funding for completion of irrigation facilities or related principal supply works" (Wetzel, 1990).

North Dakota Reneges on Agreements – Devils Lake Inlet

After agreeing in 1984 to the establishment of the Garrison Diversion Unit Commission to resolve the Garrison controversy, after agreeing to the Garrison Diversion Unit Reformulation Act in 1986, after requesting the Secretary of the Interior in 1990 to consider what conditions, if any, funding for Garrison could be restored, and despite the fact that the Garrison Diversion Unit Commission did not endorse the delivery of Missouri River water to Devils Lake, the Garrison Diversion Unit Reformulation Act of 1986 did not authorize it, and the Garrison Diversion Unit Task Force had just recommended that construction funding for the Garrison principal supply works be terminated, in April 1990 the State of North Dakota and the Garrison Diversion Conservancy District released a Devils Lake Stabilization Report which stated that:

> ". . . keeping water levels [in Devils Lake] above 1424 msl will require importation of Missouri River water to supplement runoff from the watershed. Building an inlet for Missouri River water may ultimately require an outlet to be provided to prevent flooding during climatic wet cycles…
>
> The only logical water source is **the Missouri River using the Garrison Diversion Project**…" (Emphasis added) (North Dakota State Water Commission and State Engineer, et al., 1990)

The State and the Conservancy District's preferred alternative included a pipeline to deliver treated Missouri River water from Garrison's New Rockford Canal to the Sheyenne River where a 22-mile, 72 inch diameter, 200 cfs pipeline would deliver up to 72,000 acre-feet of water annually to Devils Lake (North Dakota State Water Commission and State Engineer, 1990). According to the plan:

> "The same pipeline would serve as an outlet to the Sheyenne River." (North Dakota State Water Commission and State Engineer, 1990)

When the North Dakota Congressional Delegation agreed in September 1997 to language in the Fiscal Year 1998 Energy and Water Development Appropriations Act prohibiting the Secretary of the Army from using funds to study an inlet to deliver Missouri River water to the lake in order to preserve funding for the U. S. Army Corps of Engineers' investigation of an outlet from Devils Lake to the Sheyenne River, (Davis, 1997c), the Governor and the North Dakota House and Senate majority leaders sent letters to the Congressional Delegation on September 26, 1997, protesting that:

> "A ban on an inlet is an extremely high price to pay for the outlet language. **An inlet is** important to ensure the long-term economic stability of the Devils Lake region and is **a significant component of our state's water-development plan**. . .
>
> **The concession on prohibiting an inlet sets a precedent that threatens** traditional Western water law and **states' rights to establish internal water policy**.
>
> . . .
>
> **Everything possible must be done to keep the inlet viable in Congress as a long-term option**. . ." (Emphasis added) (Schafer, et al., 1997)

That same day, North Dakota Senator Byron Dorgan was quoted in *The Forum* (Fargo, North Dakota) as stating that he would bring back the inlet debate in future sessions of the Congress, but for now, the outlet is what is needed (Condon, 1997), thus reneging on the agreement even before the FY 1998 Energy and Water Development Appropriations Act was passed.

Consequently six years later, the Special Edition 2003 Irrigation Issue of *North Dakota Water* featured a map of "North Dakota Water Resources" prepared by the North Dakota State Water Commission showing among proposed water facilities a "Sheyenne River Pipeline" leading from the end of the Garrison Diversion Unit's New Rockford Canal to the Sheyenne River and a "Devils Lake Inlet/Outlet" leading from the Sheyenne River to West Bay of Devils Lake (North Dakota Water Education Foundation, 2003).

North Dakota Reneges on Agreements – Mid-Dakota Reservoir

Although the 1984 Garrison Diversion Unit Commission had recommended against it, the 1986 Garrison Diversion Unit Reformulation Act had authorized the Sykeston Canal to replace it, and the 1990 Garrison Diversion Unit Task Force had recommended termination of construction funding for all of the Garrison principal supply works, in January 1992 the State of North Dakota and the Garrison Diversion Conservancy District released a formal proposal for reinstating a reservoir at the Garrison Diversion project's Lonetree Reservoir site to complete the Garrison Diversion Unit's principal supply works in order to supply water for irrigation, stabilization of Devils Lake, and municipal use (Garrison Diversion Conservancy District, 1992) The rationale for the plan, which was referred to synonymously as "Mid Dakota/Sheyenne Lake (Lonetree Reservoir)," was explained by the Conservancy District's consulting engineer:

> "Nature's gift to North Dakota – an ideal reservoir site in the headwaters of the Sheyenne River. Constructed at this site, a major re-regulating reservoir has the potential to

> distribute Missouri River water by gravity flow to the Sheyenne, James and Souris River basins and Devils Lake." (Hoetzer, 1992)

In 1982, the Fish and Wildlife Service had described the Lonetree Valley in somewhat different terms:

> "The habitats proposed by inundation by the Lonetree Reservoir are among the most unique and diverse in North Dakota...
>
> The Sheyenne River is an international resource because it is a tributary of the Red River of the North which flows into Canada. The study area was at the headwaters of the river, one of the largest and most important prairie streams in the state..." (Fannes, 1982).

In a May 26, 1992, letter, the Assistant Secretary of the Interior for Water and Power informed North Dakota Governor George Sinner that:

> "A proposal to construct a reservoir in lieu of the Sykeston Canal cannot be supported by the Administration without clear and documented support from those who concurred in the 1986 Act." (Watson, 1992)

After an extensive review of the Mid-Dakota Reservoir proposal (*See* Pearson, 1992), the National Audubon Society and the National Wildlife Federation rejected the plan (Springer, 1992a)

The 1992 North Dakota Water Projects Tax Initiative

With the State's plans for completing the Garrison Diversion project stalled, in 1991, North Dakota Governor George Sinner established a Water Strategy Task Force to persuade North Dakotans to accept a tax increase to support water development, including irrigation and Devils Lake stabilization (Associated Press, 1991a). The Task Force, comprised of water development interests and led by Lieutenant Governor Lloyd Omdahl, recommended increasing the State sales tax by 0.25 percent, the State income tax by 1 percent and corporate income taxes by 5 percent to raise $22,000,000 a year (Associated Press, 1991b). Among the projects proposed to receive funding from the taxes were the Mid-Dakota Reservoir, Devils Lake stabilization, the Oakes Test Area and other irrigation development (Sprynczynatyk, et al., 1991). However, the proposal was rejected by the North Dakota Legislative Assembly, so the Task Force, the North Dakota Water Users Association and the North Dakota Water Resource Districts Association, with the support of the Garrison Diversion Conservancy District, decided to push for an initiated measure to increase the State sales tax by 0.5 percent to raise the $22,000,000 for water projects (Associated Press, 1991c; Springer, 1992b). The Garrison Diversion project, with the Mid-Dakota Reservoir to supply water to Devils Lake and eastern North Dakota, was cited as the top priority to receive funds (Associated Press, 1991c; Springer, 1992b), and the measure was widely recognized as a referendum on the Garrison Diversion project (Springer, 1992b). In fact, the measure was the first time in the half-century of controversy over Missouri River diversion and the Garrison Diversion project that citizens across the State had an opportunity to express their views on the issues. Therefore, it is significant to note that the water projects tax initiative was defeated in the November 1992 election by a margin of 67 percent to 33 percent (Anonymous, 1992)—a resounding rebuke of the North Dakota political/water development establishment's agenda.

The 1993 North Dakota Water Management Collaborative Process

Rather than accepting the overwhelming defeat of the water projects tax as a mandate from the citizens of the State for a new direction in water development, in 1993 Governor Edward Schafer and the North Dakota Congressional Delegation sent a letter to the Secretary of the Interior inviting "appropriate officials from the Department of the Interior to formally discuss with us the future of the Garrison Project" (Schafer, et al., 1993). They specifically wanted to discuss a proposal by the Garrison Diversion Conservancy District for completing the Garrison project using a pipeline to link the McClusky and New Rockford canals (Schafer, et al., 1993)

The Secretary responded by sending Bureau of Reclamation Commissioner Daniel P. Beard to North Dakota on December 17, 1993, for a meeting with all North Dakota water resources stakeholders to discuss North Dakota water needs. At the conclusion of the meeting, Commissioner Beard proposed a North Dakota Water Management Collaborative Process to identify the contemporary water needs in the State, to determine how those needs relate to the Garrison Diversion Unit, and to identify an ultimate project or projects to meet those needs (Anonymous, 1994). The Governor, the North Dakota Congressional Delegation, the North Dakota State Water Commission, the North Dakota Department of Agriculture, the North Dakota Department of Health, the Garrison Diversion Conservancy District, the North Dakota Water Users Association, the cities of Fargo and Grand Forks, the Spirit Lake Sioux Tribe, the Standing Rock Sioux Tribe, the Three Affiliated Tribes of the Fort Berthold Reservation, the National Audubon Society, the National Wildlife Federation, the North Dakota Wildlife Federation and the North Dakota Chapter of The Wildlife Society all agreed to the process outlined by Commissioner Beard (Whittington, 1994). However, instead of seizing this Federally supported opportunity to "objectively identify and meet North Dakota's water resource needs" (Schafer, 1994) through "a Paradigm shift in terms of meeting contemporary water needs in the State, and not just a remodeling of the [Garrison Diversion] project" (Anonymous, 1994), when it became evident in the spring of 1994 that the Collaborative Process was not going to endorse completion of the Garrison Diversion project, the North Dakota Congressional Delegation promptly and predictably reneged on their agreement and withdrew from the process, stating:

> "We need to agree on proposed changes to the current authorized Garrison Diversion Project in North Dakota. . .
>
> . . . we intend to make a fresh start to collaborate in a way that produces concurrence among all of the interests in North Dakota. We intend to produce consensus legislation that we will introduce in Congress to modify the Garrison Diversion Unit Reformulation Act." (Dorgan, et al., 1994)

North Dakota Reneges on the 1986 Statement of Principles

As noted above, within less than a year after the Garrison Diversion Unit Reformulation Act of 1986 was passed with the support of several major conservation organizations, the Garrison Diversion Conservancy District already was advocating reinstatement of a reservoir at the Lonetree site (Murry, 1987; Garrison Diversion Conservancy District, 1987), and three years later, the State and the Conservancy District were proposing a plan to reinstate Devils Lake stabilization using Missouri River water as a feature of the reformulated project (North Dakota State Water Commission and State Engineer, et al., 1990).

Then in 1993, the North Dakota Legislative Assembly passed, and the Governor signed, a statute severely restricting the operations of the North Dakota Wetlands Trust that had been established under the 1986 Garrison Diversion Unit Reformulation Act. The statute limits land acquisitions by non-profit corporations to 12,000 acres and prohibits the transfer of any land they

acquire to the Federal Government (Dryer, 1993). In addition, the statue requires that any proposal by a non-profit corporation to purchase land "for the purpose of conserving natural areas and habitats" must be submitted to the State Commissioner of Agriculture for review by a committee composed of the Commissioner of Agriculture, the State Engineer, the directors of the State Game and Fish Department and the State Parks Department, the manager of the Garrison Diversion Conservancy District, and the presidents of the North Dakota Farm Bureau and the North Dakota Farmers Union, who then are to hold a hearing with the Board of County Commissioners for the county in which the land is located and make a recommendation to the governor to approve or disapprove the purchase (Dryer, 1993). Thus, the State has turned control of land acquisition by the Wetlands Trust over to the very entities which historically have opposed wetland preservation in the State. As a result of these actions by the State Legislature and the dominant influence of the State's three representatives on its six-member Board of Directors, after 11 years of operation and the expenditure of $2,815,123, by the end of 1997 the North Dakota Wetlands Trust had permanently preserved "approximately 460 wetland acres" (Dryer, 1998).

The conservation organizations had continued to support the appropriations for the reformulated project, as they had agreed in the 1986 Statement of Principles, despite these blatant breeches by the State of North Dakota and the Garrison Diversion Conservancy District. Nevertheless, in 1995 the North Dakota Legislative Assembly passed, and the Governor again signed, a statute repealing the so-called 'no net loss' wetlands statute, which had been passed in 1987 in response to the commitment by the State in the 1986 Statement of Principles to develop a no-net-loss wetlands policy (Wetzel, 1995).

The Bill Entitled "The Garrison Diversion Project Completion Act of 1996"

Final repudiation of the 1986 Garrison Diversion Unit Reformulation Act by the State of North Dakota and the Garrison Diversion Conservancy District came with the drafting of the "Garrison Diversion Project Completion Act of 1996," a bill which would "[h]ave the State of North Dakota implement the Garrison Diversion project" with another $1,000,000,000 in new Federal appropriations, plus forgiveness of $400,000,000 in repayment obligations owed by the State for money already expended on the project (Anonymous, 1996). The bill included provisions authorizing a 450 cfs "Lonetree Pipeline" to connect Garrison's McClusky Canal with the New Rockford Canal, a 200 cfs pipeline from the Sheyenne River to Devils Lake, and "an inlet/outlet facility to the Devils Lake Basin." The bill also provided for the delivery of Missouri River water to the 5,000-acre Oakes Irrigation Test Area on the James River and establishment of a James River Operations Advisory Committee to develop an operating plan for the James River, including "implementation of operation regimens at State and Federal facilities to increase flow releases." The bill also would authorize $100,000,000 for projects benefiting the Fort Berthold Indian Reservation. In addition, the bill would authorize a $600,000,000 Garrison Economic Recovery Fund, to be funded by 25 percent of the deposits to the U. S. Treasury from the programs of the Eastern Division of the Pick-Sloan Missouri River Basin Project. Tucked into the Recovery Fund were authorizations to construct the Northwest North Dakota Water Supply Project and the Red River Valley Water Supply Project.

At a December 19, 1996, hearing on the bill, National Audubon Society Senior Vice President and former Commissioner of the Bureau of Reclamation Daniel P. Beard characterized the State's proposal as:

> ". . . an astounding array of debt forgiveness and Federal funding provisions in a package that is devoid of fiscal controls, and which the Federal taxpayers and power users would pay for." (Davis, 1996)

However, by this time, the State had received another $300,000,000 in appropriations for the Garrison project in the 10 years since the 1986 Garrison Diversion Unit Reformulation Act had been passed, doubling the amount that had been appropriated in the previous two decades since the project was authorized.

The Northwest Area Water Supply Project

The $145,000,000 Northwest Area Water Supply (NAWS) project is designed to deliver up to 26 million gallons of water per day through a 45-mile-long pipeline from the Missouri River to Minot to supply Minot, the Minot Air Force Base and 10 other communities and four rural water systems in the Hudson Bay Basin of North Dakota with Missouri River water (Houston Engineering, et al., 2001). In addition, the water treatment systems for three communities in the Missouri River Basin would be replaced or upgraded (Houston Engineering et al,, 2001).

Although NAWS would make the first—and precedent-setting—diversion of Missouri River water into the Hudson Bay Basin since the Wisconsin Glacier retreated 10,000 years ago, and although the International Joint Commission had warned in its 1977 report on the Garrison Diversion Unit of the potentially catastrophic consequences of interbasin transfer of biota from the Missouri River Basin into the Hudson Bay Basin (International Joint Commission, 1977), instead of addressing those risks in a full Environmental Impact Statement under the National Environmental Policy Act, the Bureau of Reclamation dismissed them in a cursory Environmental Assessment (Houston Engineering, et al., 2001) and Finding of No Significant Impact (Bureau of Reclamation, 2001).

On July 13, 2001, Manitoba Conservation (an agency of the Province of Manitoba) and Environment Canada (an agency of the Canadian Federal Government) filed an administrative appeal of the Bureau's Environmental Assessment and Finding of No Significant Impact for the NAWS project, and a hearing on their appeal was held before Bureau Regional Director Maryanne Bach on August 20, 2001. However, a week before the hearing, the Bureau already had drafted a letter denying the appeal for signature by the Regional Director which concluded that there is "no new information which would call into question the conclusions reached in the Final EA and FONSI."

On October 22, 2002, the Province of Manitoba, subsequently supported by *amici* Government of Canada and State of Missouri, filed suit against the Bureau or Reclamation in Federal District Court in Washington, D. C., alleging that the environmental assessment for the NAWS project failed to consider adequately alternatives for the treatment of Missouri River water delivered into the Hudson Bay Basin and the potential impacts of biota transfer into the Hudson Bay Basin.

In her February 3, 2005, Opinion, U. S. District Court Judge Rosemary M. Collyer noted that:

> "While BOR [Bureau of Reclamation] and EPA [Environmental Protection Agency] debated the credibility of the draft CRA [Comparative Risk Analysis], Defendant Maryanne Bach, the BOR Great Plains Regional Director, prepared an October 20, 2000, Briefing for the Secretary of the Interior. The Briefing noted the intense interest of North Dakota's Senators in NAWS and anticipated their urging the Secretary to make a decision on NAWS during his term in office, *i.e.*, before a new President was inaugurated

> on January 20, 2001. Regional Director Bach predicted that approval of **NAWS 'would likely set a precedent in North Dakota for any other interbasin transfers into the Hudson Bay drainage of Canada.'** [Citation omitted] She suggested that 'whatever level of treatment is deemed necessary for biota transfer control purposes will likely establish a benchmark for all other international (irrigation or MR&I) interbasin transfers. [Citation omitted] She concluded that the 'Boundary Waters Treaty has proven to be a major obstacle for the State of North Dakota to develop water resources. . . . It is unlikely that Canada will formally endorse or otherwise accept any version of NAWS, regardless of the level of water treatment provided.' [Citation omitted] The Briefing did not mention the ongoing discussion between BOR and EPA on the same topics." (Emphasis added) (pp. 29-30)

It is instructive to note that while the Bureau of Reclamation had told the Secretary in October 2000 that the NAWS project "would likely set a precedent in North Dakota for other interbasin transfers into the Hudson Bay Drainage," the Bureau of Reclamation assured the public in its September 2001 Finding of No Significant Impact for the NAWS project that:

> "**The proposed Project does not establish a precedent** for future actions with significant effects, nor does it represent a decision in principle about future considerations. The decisions related to the proposed Project are specific and limited to the Project, as clearly stated in the guiding principle included in t he January 19, 2001 determination by the Secretary of the Interior that the Project meets the requirements of the 1909 Boundary Waters Treaty." (Bureau of Reclamation, 2001, p. 25)

Judge Collyer went on to note that:

> "BOR [Bureau of Reclamation] and North Dakota are joint proponents of the NAWS project. Years ago in a document totally lacking in analysis, North Dakota rejected treatment of the water at the Missouri River source, preferring to maintain the water treatment plant in Minot. [Citation omitted] That decision has never been seriously revisited. Instead, BOR and North Dakota have dedicated themselves to reducing the likelihood of pipeline releases and have refused – despite EPA's warnings, despite Canada's position, despite Manitoba's TetrES report, and, most, critically, despite acknowledging that chloramination will not prevent *Cryptosporidium*, WD, and other pathogens from crossing the divide – to change their position. Whether this is the wisest action is not for litigation to decide. What has resulted from this obduracy, however, is a twofold problem: there has been no study of the *consequences* of leakage from the pipeline (whether slow leakage from joints or a major break) and, therefore, no evaluation of the consequences of failure compared to more complete treatment at the source." (pp. 34-35)
>
> "Federal Defendants argue that the risks of leakage are low and, therefore, that no further study is necessary. They repeatedly provide varied estimates that more than ninety-nine percent of biota will be disinfected under NAWS. While facially compelling, the argument ignores the fact that certain biota have been identified that may be impervious or highly resistant to the planned treatment measures. Therefore**, even a low risk of leakage may be offset by the possibility of catastrophic consequences should leakage occur**. **Without some reasonable attempt to measure these consequences instead of bypassing the issue out of indifference, fatigue, or through administrative legerdemain, the Court cannot conclude that BOR took a hard look at the problem**." (Emphasis added) (pp. 37-38)

Judge Collyer's opinion has direct relevance to Red River Valley Water Supply Project options involving the transfer of Missouri River water to the Red River Valley.

Not only did the NAWS Environmental Assessment fail adequately to consider treatment alternatives for Missouri River water, it also failed adequately to consider alternatives **to** the delivery of Missouri River water to Minot and the other area communities within the Hudson Bay Basin. The Environmental Assessment cites the 1998 *Final Report, Northwest Area Water Supply Study* prepared by Houston Engineering, Inc., American Engineering, P.C., and James M. Montgomery, Consulting Engineers, Inc., for the North Dakota Water Commission and the Garrison Diversion Conservancy District, and states that the report "outlined ten alternatives **for** supplying Missouri River water to the area" (Emphasis added) (Bureau of Reclamation, 2001) but does not mention consideration of any alternatives **to** supplying Missouri River water to the area. Review of the alternatives considered in the 1988 *Final Report, Northwest Area Water Supply Study* listed in Appendix A of the Environmental Assessment reveals that seven of the ten alternatives were based on utilizing water from the Missouri River. One of the three alternatives based on goundwater would supply three communities not included in the NAWS project and the two others would supply only three of the communities included in the NAWS project, plus two to four not included in the project. Thus, the 1988 *Final Report, Northwest Area Water Supply Study* does not provide a serious evaluation of alternatives to the proposed action, which involves supplying Missouri River water to 10 communities and five rural water systems in the Hudson Bay Basin portion of the NAWS project area.

The Environmental Assessment acknowledges that groundwater sources are sufficient in quantity to meet the needs of the communities and rural water systems and that water quality is adequate to meet the primary public health standards of the Safe Drinking Water Act, but it claims that the $145,000,000 NAWS project is necessary to meet secondary esthetic drinking water standards for color, taste and odor. Yet, the Environmental Assessment considered only one alternative to supplying Missouri River water to the communities and rural water systems in the NAWS project area based on groundwater sources– Upgrading of Existing Systems (Houston Engineering, et al., 2001). However, this alternative considered only upgrading the water system of each individual community and rural water system separately, with new wells for six communities and 18 separate reverse osmosis systems, one for each of 13 communities and five rural water systems in the NAWS project area (Houston Engineering, et al., 2001).

Certainly, constructing 18 individual reverse osmosis systems to serve communities as small as Columbus (pop. 223), Noonan (pop. 231) and Souris (pop. 97) would be among the least feasible groundwater alternatives that could be designed. Even so, this alternative was estimated to cost only 28 percent more than the preferred NAWS Missouri River pipeline project (Houston Engineering, et al., 2001). However, neither the Environmental Assessment nor the reports it cites considered alternative configurations utilizing integrated groundwater sources, treatment facilities and distribution systems. For example, the projected 2010 combined 47,095 population of Minot and the Minot Air Force Base is 82 percent of the total population of the communities and rural water systems located in the Hudson Bay Basin to be served with Missouri River water under the NAWS project (Houston Engineering, et al., 2001). Therefore, one obvious alternative would have been to increase the supply from the Sundre Aquifer and the capacity of the Minot water treatment plant by 18 percent to provide water to the additional 10,114 people in small rural water systems in the Hudson Bay Basin through the same 304 miles of pipelines that would be used to distribute Missouri River water from Minot to those communities and rural water systems under the NAWS project. The saving from not having to build and operate a biota treatment plant

and the 45-mile pipeline from the Missouri River could instead have been used to expand the capacity of the Minot water treatment facility.

The fact that the State started with the assumption that the $145,000,000 NAWS project would utilize Missouri River water simply to meet secondary drinking water standards and did not make a serious attempt to evaluate in-basin alternatives demonstrates that, rather than designing the project to meet legitimate water needs in the most economical and environmentally sound manner, the primary purpose of the NAWS project is to bolster North Dakota's claim to Missouri River water and establish a precedent for future transfers of Missouri River water into the Hudson Bay Basin.

The Debt Owed to North Dakota

Lacking a plan for using Missouri River water in a responsible manner to meet legitimate needs, whenever their schemes for Missouri River diversion are questioned, North Dakota's political leadership invariably resorts to the specious claim that, "'inequity,' the Congress owe[s] North Dakota the Garrison Diversion Unit, for the state had sacrificed some 550,000 acres to the Garrison and Oahe reservoirs" (Robinson, 1966). For example, at the September 29, 1998, hearing on the Dakota Water Resources Act before the Subcommittee on Water and Power of the House Committee on Resources, the Governor and the North Dakota Congressional Delegation all cited the State's loss of 550,000 acres of valuable Missouri River bottomland to the Oahe and Garrsion reservoirs as justification for the bill. For example, Senator Byron Dorgan testified that:

> "When the Garrison Dam and Reservoir were built to provide downstream protection and to safeguard navigation, the state lost 500,000 acres of prime farm land, a major part of its overall economic base." (Dorgan, 1998)

Because this alleged 'debt' owed to North Dakota by the Nation is central to the State's justification for the Dakota Water Resources Act, it is appropriate to examine its elements in greater detail.

Of the 551,706 acres of land **acquired** in North Dakota for the Garrison (470,708 acres) and Oahe (80,998 acres) reservoirs, 333,035 acres were in private ownership, 174,708 acres were Indian lands, 11,298 acres were Federal land, and only 33,286 acres belonged to the State and its subdivisions (Gorton, 1984). The private landowners were paid the current market value for their land. Thus, rather than losing 550,000 acres to the Missouri River reservoirs, the State of North Dakota actually lost only six percent of that acreage. The impact on North Dakota's economic base is put into perspective by considering that the entire 551,706 acres acquired for the reservoirs is only 1.2 percent of the total land base of the State.

The Three Affiliated Tribes of the Fort Berthold Reservation, on the other hand, gave up 31.5 percent of the land acquired for the reservoirs. The Congress initially proposed in 1947 (Public Law 296) to pay the Three Affiliated Tribes a lump sum of $5,105,625 for the:

> ". . . . acquisition of the land and rights therein within the taking of Garrison Reservoir . . . including all improvements, severance damages, and reestablishment and relocation costs." (VanDevelder, 2004)

For the Tribes' land, which alone had been appraised at $21,000,000 ($120 per acre), the Congress proposed to pay less than $15 per acre (VanDevelder, 2004). In 1949, the Congress finally passed Public Law 427 providing $12,500,000, or slightly more than half the value of the

land alone, as settlement for all of the Tribes' claims, including the loss of their land and the costs of moving thousands of graves, relocating and replacing homes, and constructing roads, schools and other infrastructure to support new communities outside of the river valley (VanDevelder, 2004).

Of the 462,600 acres of land in North Dakota actually **inundated** by the Garrison and Oahe reservoirs, 109,000 acres were Missouri bottomland forest, 71,000 acres were water (river channel), 5,300 acres were marsh, 169,000 acres were native grasslands, and 108,300 acres were cropland (Fish and Wildlife Service, 1952; Bureau of Sport Fisheries and Wildlife, 1960). Thus, contrary to the claim of North Dakota's politicians that 500,000 acres of "prime farm land" were lost to the Garrison and Oahe reservoirs, the actual acreage of cropland inundated by the reservoirs was only one-fifth (21.6%) of that amount. The 108,300 acres of cropland inundated was 0.5 percent of the cropland in the State at that time (Robinson, 1966). Nevertheless, it is on such patently fallacious claims that the Dakota Water Resources Act is based.

In order to put North Dakota's 'sacrifice' into perspective, it also is necessary to consider that the State already receives **$130,200,000 annually** in flood control ($1,400,000), hydropower ($80,000,000), water supply ($28,500,000), and recreation ($20,000,000) benefits from the Pick-Sloan Missouri River Basin Program under which the Garrison Diversion Unit was authorized (Bureau of Reclamation, 1996). This is an average of over **$1,200 per acre per year** for the 108,300 acres of "prime farm land" inundated in North Dakota by the Garrison and Oahe dams. That is 29 percent more than the current average market value of the State's best agricultural land in the Red River Valley (Associated Press. 2005).

The Bill Entitled "The Dakota Water Resources Act of 1997"

When the Garrison Diversion Project Completion Act of 1996 failed to gain the support of the conservation community (Davis, 1996), Governor Edward Schafer and the North Dakota Congressional Delegation held two meetings in Washington, D. C., with the major stakeholders, including conservation organizations, in February 1997 (Davis, 1997a, 1997b). The second meeting on February 24th produced 12 "areas of potential agreement" upon which revisions of the Garrison Diversion Project Completion Act were to be based (Anonymous, 1997).

In August 1997, Senator Conrad proposed changing the name of the Garrison Diversion project to the North Dakota Water Supply Project "to broaden the appeal of the project" in order "to get Congress to approve money for its completion" (Associated Press, 1997). The North Dakota Congressional Delegation introduced a bill entitled "The Dakota Water Resources Act of 1997" in the Congress in November 1997 (Brasher, 1997) and held a 'field hearing' on the bill in Fargo on February 19, 1998 (Crawford, 1998). However, a March 31st hearing on the bill before the Senate Committee on Energy and Natural Resources was postponed when a Bureau of Reclamation analysis showed that, instead of costing another $770,000,000 and being cheaper than the 1986 reformulated Garrison Diversion Unit as the Congressional Delegation claimed, the Dakota Water Resources Act actually would cost nearly a half billion dollars more and would have a total cost of $1,946,000,000 (Brasher, 1998a; Bureau of Reclamation, 1997). After several amendments were made hearings were held on the bill before the Subcommittee on Water and Power of the Senate Committee on Energy and Natural Resources on July 14, 1998 (Brasher, 1998b), and before the Subcommittee on Water and Power of the House Committee on Resources on September 29, 1998 (Brasher, 1998c), but no further action was taken by the Congress on the bill.

The Bill Entitled "The Dakota Water Resources Act of 1998"

The first five of seven stated purposes of the bill introduced as "The Dakota Water Resources Act of 1998" dealt specifically with the Garrison Diversion Unit and implementing the recommendations of the 1984 Garrison Diversion Unit Commission Report, the sixth was to preserve North Dakota's rights to use water from the Missouri River, and the seventh was to offset the loss of farmland in North Dakota resulting from construction of the Missouri River main stream dams through construction of a multi-purpose Federally-assisted water development project. These were the same purposes that were listed for the Garrison Diversion Reformulation Act of 1986. The principal elements of the Dakota Water Resources Act of 1998 included:

- 57,900 acres of irrigation development in the Oakes Test Area (5,000 acres), Turtle Lake Area (13,700 acres), the McClusky Canal Area (10,000 acres), the New Rockford Canal Area (1,200 acres) (Subsection 5[a]), and an unspecified 28,000 acres in other areas outside of the Hudson Bay Basin, plus 17,580 acres of irrigation on the Fort Berthold and Standing Rock Indian reservations (Subsection 5[c]), for a total of 75,480 acres of irrigation development.

- Authorization of appropriations of $300,000,000, in addition to the $200,000,000 authorized by the 1986 Reformulation Act, for MR&I water projects throughout the State (Paragraphs 7[a][1] and 10[b][1]), including the Southwest Pipeline Project, the Northwest Area Water Supply project, and a Red River Valley Water Supply Project, as well as of $200,000,000 of appropriations for Indian MR&I water projects (Paragraph 10[b][2]).

- Delivery of Missouri River Water to the Sheyenne River and construction of a Sheyenne River water supply and release facility "capable of delivering 100 cubic feet per second of water. . . for the cities of Fargo and Grand Forks and surrounding communities" (Paragraph 8[a][5]).

- A directive that "the Secretary of the Interior shall select one or more project features. . . that will meet the comprehensive water quality and quantity needs of the Red River Valley" (Paragraph 8[a][4]).

- Authorization of appropriations of $200,000,000 for the construction of the system to deliver Missouri River water to the Sheyenne River (essentially, completing the link between the McClusky Canal and the New Rockford Canal) (Paragraph 10[a][1]) and $40,500,000 for the Sheyenne River water supply and release facility (Paragraph 10[b][2]).

- Construction of the Four Bears Bridge across Lake Sakakawea within the Fort Berthold Indian Reservation.

- Conversion of the North Dakota Wetlands Trust to a Natural Resources Trust and expansion of its authorized purposes in the 1986 Garrison Diversion Reformulation Act of preservation, enhancement, restoration and management of wetlands and associated wildlife habitats to include grassland conservation and riparian areas (Paragraph 11[c][1]).

At the February 24, 1997, meeting with the conservation organizations, "potential agreement" had been reached on retaining the 13,700-acre Turtle Lake Irrigation Area on the McClusky

Canal, and adding another 10,000 acres of irrigation along the McClusky Canal and 1,200 acres along the New Rockford Canal, but it was specifically noted that no Federal funding would be provided for the 5,000-acre Oakes Irrigation Area (Anonymous, 1997). However, disregarding even that "potential agreement," the bill introduced as the Dakota Water Resources Act of 1998 increased the amount of irrigation by another 133 percent above that to which the conservation organizations had potentially agreed, and it included the 5,000-acre Oakes Area.

The bill also specifically exempted nearly half (48%) of the proposed non-Indian irrigation development from standard economic analysis. As the Commissioner of the Bureau of Reclamation told the Senate Subcommittee on Energy and Power at its July 14, 1998, hearing on the bill:

> "Section 5 of the substitute amendment would authorize the development of 28,000 acres of undesignated irrigation 'not located in the Hudson's Bay, Devils Lake or James River drainage basins.' While it requires a report to Congress, the report is limited to engineering feasibility and financial feasibility. By limiting this report to engineering feasibility and local financial feasibility, it does not require the project to pass the test for economic feasibility, with respect [to] national economic development (NED) benefits as is required under the Principles and Guidelines for developing Federal water resources projects – thereby holding this project to a lesser standard than other Federal projects. . . (Martinez, 1998)

It should also be noted that the development of 23,700 acres of irrigation in the Turtle Lake (13,700 acres) and McClusky Canal (10,000 acres) areas located along the McClusky Canal would require operation of the first three components of the Garrison Diversion project's principal supply works – the Snake Creek Pumping Plant, Lake Audubon and the McClusky Canal – to convey Missouri River water to these two irrigation areas. Then, development of 1,200 acres of irrigation along the New Rockford Canal wold require connecting the McClusky Canal with the New Rockford Canal, thus essentially completing the Garrison principal supply works. With no restrictions in the Act on the volume of Missouri River water that could be delivered to the 1,600 cfs New Rockford Canal, the potential would exist for non-Federal interests to develop another 52,000 acres of irrigation in the New Rockford Area (*See* Bureau of Reclamation, 1987). Also, once Missouri River water was diverted to the New Rockford Canal, it would be a simple matter for the State to dig the three-mile-long James River Feeder Canal to bring Missouri River water to the James River (*See* Bureau of Reclamation, 1974), opening the potential for developing another 13,350 acres of irrigation in the LaMoure Area and expanding the Oakes Irrigation Area by another 18,660 acres (*See* Bureau of Reclamation, 1987).

Consequently, by authorizing just 57,900 acres of strategically placed irrigation that would require completion of the Garrison Diversion project's principal supply works, the bill introduced as the Dakota Water Resources Act of 1998 would have opened the door for the development of another 84,000 acres of irrigation by non-Federal interests. In fact, at the July 14, 1998, Senate Subcommittee on Water and Power hearing on the bill, Garrison Diversion Conservancy District Chairman Norman Haak testified that:

> "Irrigation remains an authorized function of the project. Irrigation development, however, is changing rapidly. High-value crops, such as sugar beets, potatoes, onions and other vegetables are emerging fast and are being grown throughout the State under new irrigation development. . . This recent expansion of irrigation has occurred with funding from several different sources, **including state financing**, bonds, local grants, etc. Although the cost of development of federal irrigation acreage may not be feasible,

> **we want to preserve the public power relationship with relationship to future irrigation development**." (Emphasis added) (Haak, 1998)

Thus, rather than reducing non-Indian irrigation development from the 85,360 acres authorized in the 1986 Garrison Diversion Unit Reformulation Act as Senator Dorgan testified on September 29, 1998, before the House Subcommittee on Water and Power (Dorgan, 1998), the bill introduced as the Dakota Water Resources Act of 1998 would actually have set the stage for expansion of Garrison-based non-Indian irrigation development to at least 142,000 acres, with the attendant environmental impacts of at least 84,000 of those acres not covered by Federal requirements for mitigation of those impacts – 5.7 times the irrigation development potentially agreed to at the February 24, 1997, meeting in Washington, D. C.

The Bill Entitled "The Dakota Water Resources Act of 1999"

No action was taken by the Congress on the bill introduced as Dakota Water Resources Act of 1998, so the North Dakota Congressional Delegation re-introduced it again the next year, referring to it as the Dakota Water Resources Act of 1999, with the Four Bears Bridge eliminated, the $300,000,000 million in appropriations authorized for the statewide MR&I water projects grant program reduced to $200,000,000, and several other minor wording changes.

In his May 27, 1999, testimony before the Senate Committee on Energy and Natural Resources, Subcommittee on Water and Power, Garrison Diversion Conservancy District Chairman Norman Haak said that the Conservancy District's Board of Directors ". . . has accepted the idea of relieving the federal government of its promise to build the remaining irrigation features," and he attempted to explain the Conservancy District's support for the Bill's authorization of 57,900 acres or irrigation development and its directive that "The Secretary shall complete and maintain the principal supply works" by stating:

> "The DWRA's primary purpose is to update the 1986 legislation ceilings and, by so doing, will meet the most critical needs identified in 1986. It also provides a means for **resolving the awkward existence of nearly 120 miles of canal cutting across the middle of the State with no current function**.
>
> . . .
>
> We have already constructed the major canals, pumping plants and a small irrigation area. We are now seeking to make some limited use of them, **rather than let them stand as monuments that waste taxpayers' dollars**."
>
> . . .
>
> If, for some unforeseen reason, Congress decides to do nothing, the existing facilities will remain, **cutting a path across the midsection of the State, serving as a reminder of our inability to deal realistically with the situation**." (Emphasis added) (Haak, 1999)

Mr. Haak neglected to mention the Garrison Diversion Conservancy District's adamant refusal to consider the repeated calls for postponement of construction of those canals until the numerous serious issues associated with the Garrison Diversion project were resolved, starting with landowners along the McClusky in 1972 and the Government of Canada in 1973 and continuing through completion of the New Rockford Canal two decades later. He did not tell the Subcommittee that it was the Conservancy District's own inability to deal realistically with the

situation that was responsible for the monument to the waste of taxpayers' dollars represented by the existence of nearly 120 miles of canals cutting across the middle of the State with no legitimate function.

Mr. Haak also did not tell the Subcommittee that earlier that year, the North Dakota Legislative Assembly had approved bills authorizing the State Water Commission to guarantee bonds to finance irrigation districts and to provide interest subsidies for irrigation projects (Bohrer, 1999) and allocating 45 percent ($360,000,000) of the State's anticipated $800,000,000 portion of the tobacco lawsuit settlement to the State's Water Development Trust Fund (Wetzel, 1999) where it could be used to develop non-Federal irrigation supplied from the Garrison Diversion project's principal supply works.

Former Bureau of Reclamation Commissioner Daniel P. Beard, testifying for the National Audubon Society, told the Subcommittee:

> "We believe this proposal is premised on a faulty assumption. The major premise of the legislation seems to be that a 'debt' is owed to North Dakota as a result of the construction of the mainstem Pick-Sloan reservoirs. The *quid pro quo* for these facilities is the often-cited 'commitment' that North Dakota would receive 1 million acres of irrigation.
>
> Rather than revisit the historical accuracy of this supposed 'commitment,' let me point out that the Congress in 1986 expressly said that whatever commitment may have existed was fulfilled by the 1986 legislation. Subsequent Congresses and Administrations – both Democratic and Republican, with the support of the environmental community – have met this commitment by making available over $400 million to the State of North Dakota for the construction of rural water systems, Indian water projects and other project facilities. Over 80,000 North Dakotans have directly benefited from these expenditures. In addition, according to data developed by the Corps of Engineers, the State also receives approximately $130 million *each year* in benefits from mainstream Missouri River facilities.
>
> Thus, the state already has received well over a billion dollars in benefits and direct Federal appropriations since 1986. In our view, S. 632 fails to present a forceful and compelling case why the taxpayers should make available an additional $900 in Federal funds and debt forgiveness." (Beard, 1999)

As in the previous three years, the Congress took no action on the Dakota Water Resources Act of 1999.

The Dakota Water Resources Act of 2000

Having failed in three successive attempts (four including the Garrison Diversion Project Completion Act of 1996) to move the Dakota Water Resources Act through the Congress following established procedures for project authorization, the North Dakota Congressional Delegation resorted to a new stratagem in 2000 that not only avoided committee hearings and floor debate where the Congress would hear testimony exposing the flaws and fallacies of the bill, but also prevented any consideration at all by the House.

On October 13, 2000, the Dakota Water Resources Act of 2000 passed the Senate as Senate Bill 623 on an 'Unanimous Consent Agreement' (Congressional Record – Senate, S10530, October 13, 2000). Bill Lambrecht describes the circumstances:

> "Of course the public knew nothing about the North Dakota maneuvering because parties on all sides had been sworn to secrecy. . . The schedule in Congress that day was light because of the funeral in St. Paul, Minnesota, of Representative Bruce Vento. Many members had left after being assured that little would happen.
>
> My cell phone rang in the cabin of a dream boat at the Annapolis Boat Show. It was a Canadian diplomat calling to say that the Dakota Water Resources Act passed the Senate. With no debate.
>
> Even so, the House of Representatives wanted nothing to do with the notorious Garrison Diversion. 'Bad policy' and 'an end run' by North Dakota was how California Republican representative John Doolittle described the legislation in a letter to House Speaker Dennis Hastert. A House analysis concluded that Senate Bill 623 canceled repayment of $600 million in the state's debt to the federal government in connection with the project, raising the ultimate cost of the bill to $1.5 billion." (Lambrecht, 2005).

Consequently, the Dakota Water Resources Act of 2000 was never introduced in the House. In fact, other members of Congress, Canadian officials, officials of conservation organizations and the public including the citizens of North Dakota were unable to obtain any information regarding the contents of the Act or when or if congressional action on it might occur. As Bill Lambrecht further relates:

> "By Oct. 12, information on 623 became hard to come by. Nothing was yet available in print on details of the compromise. Dorgan's office did not return a phone call from a [St. Louis] Post-Dispatch reporter with questions about the senator's plans. Officials in [Missouri Governor] Carnahan's administration who had worried about 623 said they had no comment on the legislation.
>
> Dorgan would offer no apologies about the tactics to pass 623.
>
> 'That's the way it works around here,' he said.
>
> On Friday the 13th, the schedule in Congress was light because of the funeral in St. Paul of Rep. Bruce Vento, D-Minn. Those who remained in Washington may or may not have noticed the Dakota Water Resources Act passing during the Senate with no debate." (Lambrecht, 2001).

Instead, the North Dakota Congressional Delegation inserted the Dakota Water Resources Act of 2000 as a rider on the massive $450 billion Health and Human Services Appropriations Bill that was passed late in the night of December 15, 2000, literally in the closing minutes of the 106th Congress. According to *The Grand Forks Herald*:

> "House approval was more difficult, [North Dakota Congressman] Pomeroy said, so he maneuvered it onto the Health and Human Services appropriations bill." (DeLage, 2000)

Few members of the Congress were aware that it was even there, and only those privy to the North Dakota Congressional Delegation's ruse knew what it contained. Bill Lambrecht again describes the circumstances:

> ". . . On the night of December 15, the North Dakotans watched both the Senate and House approve catch-all spending legislation that was as close as it comes to the proverbial Christmas Tree Bill with something for everyone. Among the goodies: $1.5 million for sunflower research and $176,000 for the Reindeer Herders Association. Tucked into the legislation, the last bill passed on the final day of the 106th Congress, was the Dakota Water Resources Act." (Lambrecht, 2005)

Although Senator Conrad claimed that the Dakota Water Resources Act of 2000 was "written by North Dakotans for North Dakotans" (Conrad, 2001), the citizens of North Dakota had no input into the bill and they were not able to find out what it contained until after it was passed.

The Dakota Water Resources Act of 2000 includes all of the major elements of the 1998 bill outlined above, except the Four Bears Bridge, and including the addition of the State's Northwest Area Water Supply project for eligibility for funding under the now-$400,000,000 statewide water systems grant program. Like the 1998 and 1999 versions, the Dakota Water Resources Act of 2000 delays the decision on the transfer of the Oakes Irrigation Test Area on the James River to the State of North Dakota until up to two years after the record of decision on a Red River Valley Water Supply Project.

The 57,900 acres of irrigation development authorized under the Dakota Water Resources Act of 2000 has the same potential for expansion with another 84,000 acres of non-Federal irrigation to a total of 142,000 acres of irrigation development as with the 1998 Act.. In fact, former Garrison Diversion Conservancy District Manager the late Warren Jamison told members of the National Wildlife Federation's Water Quality Committee on September 9, 2001, in a "Garrison Diversion Briefing and Dakota Water Resources Act Overview" in Bismarck, North Dakota, that it was the Conservancy District's intention to use the Warren Act, which provides for the use of Federal water supply facilities to deliver water for non-Federal purposes, to expand irrigation development beyond that authorized in the Dakota Water Resources Act using the Garrison principal supply works. And in 2002, the North Dakota Water Users Association and the North Dakota Water Resources Districts Association, two groups closely allied with the Garrison Diversion Conservancy District and the State Water Commission and which frequently front for their common agendas, adopted a resolution stating:

> "**GARRISON DIVERSION UNIT**. To develop and complete the Garrison Diversion Unit. The Garrison Diversion will deliver Missouri River water to water-short areas for municipal, rural, industrial, irrigation, fish and wildlife and recreational purposes, thereby benefiting the entire state of North Dakota, the surrounding region, and the nation."

Therefore, it is both instructive and prophetic to note in the context of the Red River Valley Water Supply Project that on the same day that the $1,500,000,000 Dakota Water Resources Act of 2000 authorizing a Red River Valley Water Supply Project and purportedly "written by North Dakotans for North Dakotans" passed the Congress, the Manager of the Garrison Diversion Conservancy District openly declared:

> "Passage of the Dakota Water Resources Act (DWRA) is a major chapter in a very long history book, but **it is not the final chapter** needed to meet **North Dakota's highest priority water needs**. We see this as the **beginning of an important first phase**, ending

in a solution that addresses North Dakota's current and future water needs." (Emphasis added) (Garrison Diversion Conservancy District, 2000)

Lessons from History

A number of lessons can be gleaned from the history of Missouri River diversion in North Dakota, but four of the most important and relevant to the Red River Valley Water Supply Project are:

- Agreements on North Dakota water project that do not incorporate what the North Dakota political/water development establishment considers to be the State's full future entitlement to water from the Missouri River, including the delivery of Missouri River water to the Red River Valley and Devils Lake, are never final.

- Agreements are made on water projects by the North Dakota political/water development establishment, not to resolve issues, but to preserve and advance their agenda for Missouri River diversion.

- Anything that justifies maintenance and use of Garrison Diversion Unit principal supply works features will be exploited by the North Dakota political/water development establishment to expand the diversion of water from the Missouri River.

- Agreements with the North Dakota political/water development establishment that rely on the integrity of the parties are vacant.

THE RED RIVER VALLEY MR&I WATER NEEDS ASSESSMENT

When the North Dakota Congressional Delegation reneged in the spring of 1994 on their December 1993 commitment to support the North Dakota Water Management Collaborative Process (Dorgan, et al., 1994), the Collaborative Process collapsed, but the Bureau of Reclamation continued the Red River Valley MR&I Water Needs Assessment and the statewide MR&I water needs assessment that had been initiated by the Collaborative Process' Executive Steering Committee.

In November 1994 a Technical Steering Team consisting of one representative each from the Bureau of Reclamation, the North Dakota Department of Health, the North Dakota State Water Commission, and the National Wildlife Federation (representing the conservation community), was appointed to oversee the appraisal level study of municipal, rural and industrial water needs in the Red River Valley. In order to avoid any perception of bias, the Technical Steering Team recommended that the study be conducted by the Bureau's Technical Service Center in Denver, with participation from North Dakota local, state and Federal interests limited to providing data and information. The Technical Steering Team decided to divide the study of Red River Valley MR&I water needs into two phases, with Phase I identifying needs and Phase II identifying alternatives for meeting those needs.

The Phase I study recognized the impossibility of reliably predicting water needs 50 years into the future, but it determined that significant municipal water shortages would be expected to occur in the Red River Valley only if another major drought of the severity and duration of the 1930s 'Dust Bowl' were to occur again under year 2050 water use conditions when the population of Fargo was projected to double to 192,000 (Bureau of Reclamation, 1998). The study also determined that the peak annual municipal water shortages during another 1930s style drought under year 2050 use conditions would range between about 10,000 and 30,000 acre-feet and would average less than 20,000 acre-feet over an eight year drought period (Bureau of Reclamation, 1998). Rural water shortages in the Red River Valley totaling 8,000 acre-feet per year were expected to occur by the year 2050 independent of drought conditions as the result of limitations of the groundwater supplies upon which they are based (Bureau of Reclamation, 1998).

At that point, as the Phase I study was about to end, the North Dakota Congressional Delegation intervened and persuaded the Bureau to include municipal population projections (participant projections) developed by several major cities that potentially could benefit substantially from a Federally-subsidized Red River Valley Water Supply Project, plus four hypothetical high-volume water use agricultural processing plants similar to the Cargill Pro-Gold corn syrup plant at Wahpeton, North Dakota, (where operations were temporarily suspended in January 2001 because of low profitability) arbitrarily placed at different locations in the valley. The addition of these four new hypothetical high-volume water use agricultural processing plants increased the projected year 2050 industrial water shortages during a 'worst year' 1930s drought from 5,680 acre-feet per year with the Pro-Gold plant and other existing industries, to 22,160 acre-feet with the Pro-Gold plant and these four additional hypothetical agricultural processing plants (Bureau of Reclamation, 2000a).

It is primarily the projected municipal and industrial water shortages which drive the analysis of alternatives for meeting future water needs in the Red River Valley, and the study determined that

the most significant municipal shortages in another 1930s-type drought under year 2050 water use conditions would be in the Fargo-Moorhead area, where they would peak at 31,210 acre-feet (including other existing industries) in 'worst year' conditions (Bureau of Reclamation, 1998). However, adding these four hypothetical agricultural processing plants to the projected 31,210 acre-feet 'worst year' municipal water shortage and the 5,500 acre-feet Pro-Gold shortage (assuming that enough corn would be available in a 1930s-type drought to make operation feasible) increased the combined municipal and industrial water shortage by 16,480 acre-feet or by 45 percent. Thus, the inclusion of these speculative additional agricultural processing plants significantly inflated the projected future water needs of the Red River Valley and substantially influenced the alternatives to meet those needs.

The Phase I needs study determined that some municipal and industrial water shortages (<5,000 acre-feet per year) would occur at 1994 water use levels if a 1930s-type drought would occur (Bureau of Reclamation, 1998). However, the most significant finding of the study was that even with the addition of the four hypothetical high-volume water use agricultural processing plants, significant municipal and industrial water shortages (>5,000 acre-feet per year) would not occur unless the population of Fargo doubled by the year 2050 **and** a 1930s-type drought were to occur at that time (Bureau of Reclamation, 1998).

Without a convincing need for a Red River Valley Water Supply Project having been established by the Phase I needs study even with the participant municipalities' inflated population projections and the addition of four hypothetical agricultural processing plants in the Red River Valley, the North Dakota Congressional Delegation pressured the Bureau to expand the Technical Steering Team for the Phase II alternatives study to include representatives from the cities of Fargo (represented by Houston Engineering) and Grand Forks, North Dakota, and Moorhead, Minnesota, a private engineering consultant for other communities and rural water systems in eastern North Dakota, and the Garrison Diversion Conservancy District—all with vested interests in the outcome of the study. Also, the manager of the Bureau's Bismarck office at the time the North Dakota Water Management Collaborative Process was initiated transferred to the Regional Office and the Bismarck office staff, who are more vulnerable to influence by the North Dakota Congressional Delegation and the Conservancy District, became more actively involved in directing and conducting the alternatives study. Consequently, the original Technical Steering Team's determination to avoid bias—and the perception of bias—in the study was abandoned.

The *Red River Valley Water Needs Assessment Phase II: Appraisal of Alternatives to Meet Projected Shortages Draft Report* was completed in January 2000 (Bureau of Reclamation, 2000a) and the Addendum: Responses to Comments on the Draft Report was released in August 2000 (Bureau of Reclamation, 2000b). The Phase II *Alternatives Report* identified eight potential alternatives for meeting year 2050 projected Red River Valley MR&I water needs, including a 'no action' alternative, three Red River Basin in-basin alternatives (Kindred Reservoir, Enlarged Lake Ashtabula, and Groundwater), two Missouri River import pipeline alternatives (Bismarck to Fargo and Lake Oahe to Wahpeton), a Garrison Diversion Missouri River water import to the Upper Sheyenne River (with four variations), and a Garrison Diversion Missouri River water import to the Red River Valley alternative (Bureau of Reclamation, 2000a).

The Phase II report estimated that year 2050 water use could be reduced by 15 percent through planned water conservation programs, but assumed those savings would be offset by increased use during droughts. The report also estimated that the implementation of drought contingency measures could reduce water use by 5-10 percent with Level I measures (public education and voluntary measures), 10-20 percent with Level II measures (mandatory lawn watering schedule and restrictions on non-essential uses), 20-30 percent with Level III measures (assessing fines to

water wasters, requesting industries and noncommercial users to eliminate certain uses, and prohibiting all outdoor water use), and 30 percent and up with Level IV measures (water rationing, curtailing industrial and some commercial uses, and reserving supplies for essential health- and safety-related uses) (Bureau of Reclamation, 2000a). But, rather than considering how the implementation of drought contingency measures could reduce shortages, the Phase II report reserved them for use in the event that a drought even more severe than the 1930s were to occur. Nevertheless, it is instructive to consider how the implementation of water conservation and drought contingency measures would affect the year 2050 Red River valley water shortages identified in the Phase II report.

The Phase II report projected the year 2050 total Red River Valley municipal raw water use to be 85,420 acre-feet per year (Bureau of Reclamation, 2000a). A 15% water conservation saving plus a 30% drought contingency saving, for a total reduction of water use by 45 percent, would reduce the year 2050 water use by 38,439 acre-feet per year, or 7,409 acre-feet-more than the 31,030 acre-feet "1934 worst year" municipal water shortage projected for that period (Bureau of Reclamation, 2000a). Thus, according to the Phase II report, simply implementing currently available water conservation and drought contingency measures in the major municipalities would eliminate the year 2050 municipal water shortages under 1930s drought conditions with over 7,000 acre-feet to spare.

The Phase II report did not discuss the potential for reducing rural water shortages though water conservation and drought contingency measures, and it might be difficult to realize the same levels of reduction achievable in municipalities. Nevertheless, it is relevant to note that a 45 percent reduction in rural water use would eliminate the projected year 2050 Red River Valley rural water shortage of 8,045 acre-feet. The Phase II report also does not discuss specific reductions in the highly speculative projected industrial water use achievable with water conservation and drought contingency measures, but these presumably also could be significant.

Although the five-year Red River Valley MR&I Water Needs Assessment conducted under the North Dakota Water Management Collaborative Process had not demonstrated a compelling need for a Red River Valley water supply project, in May 2000, without informing the conservation organizations who had been participating in the Collaborative Process since 1993, the Bureau of Reclamation, the Garrison Diversion Conservancy District and the North Dakota State Water Commission developed a Memorandum of Understanding to:

> ". . . provide an organization and a process for cooperation among State, Federal, and local interests in the completion of a special study to evaluate the feasibility of alternatives to meet future municipal, rural, and industrial water needs in eastern North Dakota."

The Memorandum of Understanding was to be administered through a Study Management Team composed of one appointed official from each the Bureau of Reclamation, the North Dakota State Water Commission, and the Garrison Diversion Conservancy District, and it vested the Study Management Team with the responsibility and authority to "meet periodically to review progress and provide general direction for the studies," to provide "overall guidance, scheduling, report concurrences, financial issues, and major decision making activities on difficult issues," to "approve products, including the Plan of Study," and to "approve[] a final product." Consequently, the 2000 Memorandum of Understanding established a three-member team dominated by the State and the Garrison Diversion Conservancy District to continue to pursue a Red River Valley water supply project.

In addition to the Study Management Team, the May 2000 Memorandum of Understanding provided for the establishment a Technical Team consisting of representatives of the Bureau of Reclamation, the North Dakota State Water Commission, Department of Health, and Game and Fish Department, the Garrison Diversion Conservancy District, the U. S. Fish and Wildlife Service and Geological Survey, the States of Minnesota and Missouri and the U. S. Army Corps of Engineers. The Memorandum of Understanding also provided of a Study Review Team consisting of representatives of the Eastern Dakota Water Users Association, the cities of Fargo, West Fargo, Grand Forks, Drayton, Pembina, Grafton, Valley City and Wahpeton, North Dakota and Moorhead, Breckenridge and East Grand Forks, Minnesota, the North Dakota Water Users Association, the North Dakota Wildlife Federation, the North Dakota Chapter of The Wildlife Society and the National Audubon Society. The Technical Team was to be responsible for technical evaluations, drafting portions of the report and other day-to-day activities. The Study Review Team was to review draft products and periodically meet with the Technical Team to provide input into the processes and products of the study.

Seven months later, still without a need having been demonstrated, the Dakota Water Resources Act of 2000 was passed authorizing a Red River Valley Water Supply Project.

THE RED RIVER VALLEY WATER SUPPLY STUDY

The Dakota Water Resources Act of 2000 states explicitly at Paragraph 8(b)(1) that:

> "**The Secretary of the Interior shall conduct a comprehensive study** of the water quality and quantity needs of the Red River Valley and possible options for meeting those needs." (Emphasis added)

Immediately following passage of the Dakota Water Resources Act in the Senate on October 13, 2000, on an Unanimous Consent Agreement without debate, North Dakota Senator Byron Dorgan explained that:

> "The bill lays out the process for meeting the water needs for the Red River Valley in eastern North Dakota. First, **the Secretary of the Interior will identify these water needs and evaluate options for meeting them. The Department** must submit a report on the needs and suggest possible solutions to the Congress. **The Secretary** is also is required to complete an environmental impact statement, EIS, on the Red River Valley project and select the best option. . ." (Emphasis added) (Congressional Record – Senate, S10530, October 13, 2000),

Consequently, it is clear that the Red River Valley Water Supply Study authorized by the Dakota Water Resources Act of 2000 was to be completed by the Secretary of the Interior and that the Department of the Interior was to prepare the Red River Valley Water Needs and Options Report. Nevertheless, on December 21, 2000, six days after the Dakota Water Resources Act of 2000 was passed, the same Study Management Team that was established by the May 2000 Memorandum of Understanding and consisting of the Dakotas Office Manager of the Bureau of Reclamation, the Manager of the Garrison Diversion Conservancy District and the North Dakota State Engineer met to launch the Red River Valley Water Supply Study and preparation of the environmental impact statement for a Red River Valley Water Supply Project that had just been authorized by the Act (Anonymous, 2001a).

At the December 21, 2000, meeting of the Study Management Team, Bureau of Reclamation Dakotas Office Manager Dennis Britzman said he anticipated it would take 5 to 6 years to complete the studies, and, according to the minutes, he pointed out that:

> "Credibility is a big issue if we hand the Technical Team a detailed plan of study prepared without their input." (Anonymous, 2001a)

and:

> "We must avoid being heavy handed with the Technical Team and that we all need to be in technical agreement and that the studies are adequate. All the rest of it is political." (Anonymous, 2001a)

However:

> "[Garrison Diversion Conservancy District Manager] Warren Jaimson, said the date when the President signs the bill is when the clock starts ticking on the deadline for the

> EIS. **He needs good Red River Study reports quickly so he can sell the concept to Congress in 2004 and 2005**." (Emphasis added) (Anonymous, 2001a)

Finally:

> "[Bureau of Reclamation Dakotas Officer Manager] Denny Breitzman stated that a cooperative agreement will be needed to transfer funds from the federal budget to the state. **DWRA makes Reclamation responsible for the technical studies. Since Reclamation is responsible, it follows that Reclamation should pay for all the studies. It is assumed that Reclamation and the C-District will have contractors working on products. C-Districts** [sic] **will pay their bills and then bill Reclamation for reimbursement of expenses**." (Emphasis added) (Anonymous, 2001a)

Consequently, despite the clear language of the Dakota Water Resources Act of 2000 specifying that the Secretary was to conduct the Red River Valley Water Supply Study, less than a week after the Act was passed, the study was being launched by a Study Management Team dominated by the State and the Garrison Diversion Conservancy District, and plans were being made for the Garrison Diversion Conservancy District to develop information for the study through its own contractors and then to be reimbursed for the costs by the Bureau of Reclamation.

Dakota Water Resources Act Paragraph 8(b)(3) also states explicitly that:

> "In conducting the study, the Secretary through **an open and public process** shall **solicit input from gubernatorial designees from states that may be affected by possible options to meet such needs as well as from other federal agencies with relevant expertise**." (Emphasis added)

Consequently, the Act also is very clear in requiring the Secretary to conduct the Red River Valley Water Supply Study in "an open and public process" and to solicit input from other states and from federal agencies with relevant expertise, and it says nothing about the Garrison Diversion Conservancy District having greater input into the study than the representatives of other sates and Federal agencies. It is instructive, therefore to note Garrison Diversion Conservancy District Manager Warren Jamison's statements reported in the minutes of the March 23, 2001, Study Management Team meeting:

> "Warren Jamison raised a question about **the role and authority of the Technical Team**. He was concerned that a minority of Technical Team members would disagree with an issue and the team could not arrive at a consensus on an issue, thereby preventing the Technical Team from progressing on certain items of work or alternatives. **The Management Team agreed that the role of the Technical Team was advisory**, and that **the Management Team had final decision making authority on all aspects of the study.** Warren Jamison requested that this issue be discussed at the next Technical Team meeting to **assure the team didn't have false expectations related to their authority**." (Emphasis added) (Anonymous, 2001b)

According to the January 2001 issue of *North Dakota Water*, when the Dakota Water Resources Act of 2000 was passed on December 15, 2000:

> "[Garrison Diversion Conservancy District Manager Warren] Jamison says the DWRA was successful because it was written by North Dakotans. 'This was the first time in

> history that state leaders had such a direct involvement in putting this type of legislation together.'" (Collin, 2001)

But, no sooner had the Act, which the Conservancy District had supported and helped to draft, passed than the Conservancy District set out on a concerted campaign to violate some of its most fundamental provisions. Thus, despite the clear language of the Act providing no authority for the State or the Conservancy District even to have a role in the Red River Valley Water Supply Study—the Bureau's August 9, 2002, *Operating Principles* document for the Red River Valley Water Supply Study identifies the 'potentially affected states" as Minnesota and Missouri—the Conservancy District was assuring that they would have final decision-making authority on all aspects of the study while the Technical Team from whom the Act requires the Secretary to solicit input would be limited to an advisory capacity.

The Study Management Team's total disregard for the explicit language of Paragraph 8(b)(1) of the Dakota Water Resources Act requiring the Secretary of the Interior to conduct the Red River Water Supply Study was again demonstrated by the notation in the minutes of the March 23, 2001, Study Management Team meeting that:

> "The Management Team also discussed the difference between the C-District's involvement in the feasibility study (Report on Red River Valley Water Needs and Options) and the draft Environmental Impact Statement (EIS). **Reclamation's position is that** while **the C-District should be fully involved in the feasibility study**, their involvement in the EIS has to be limited in accordance with the National Environmental Protection [sic] Act (NEPA) regulations. . ." (Emphasis added) (Anonymous, 2001b)

The Study Management Team's open defiance of the explicit language of Paragraph 8(b)(3) of the Dakota Water Resources Act requiring the Secretary to conduct the Red River Valley Water Supply Project through "an open and public process" was documented in a January 5, 2002, letter to the Bureau of Reclamation representative on the Study Management Team from the National Wildlife Federation representative on the Study Review Team pointing out Reclamation's failure to respond substantively to requests for information regarding discussions and agreements with the Conservancy District relating to the Red River Valley Water Supply Study and the environmental impact statement for the Red River Valley Water Supply Project, the availability of task orders issued to the Conservancy District's consultants, and the Bureau's biota Risk Assessment for the Northwest Area Water Supply project (Pearson, 2002). In the letter, the National Wildlife Federation representative specifically pointed out:

> "You will recall that, at the conclusion of the April 19, 2001, Study Review Team meeting in Fargo, you, Signe Snortland from your office, Genevieve Thompson from the National Audubon Society, and I discussed the matter of other stakeholders not being informed of meetings of the Study Management Team. Ms. Thompson and I were told that meetings of the Study Management Team are not closed and we could attend if we wanted to, but the meetings are not announced. We were not told how we are supposed to attend the meetings if we cannot find out when and where they are being held. It is interesting to note, therefore, that the minutes of the March 23, 2001, Study Management Team meeting, which were not provided until after April 19, 2001, state:
>
> > 'The Management Team also suggested that the next Management Team meeting be held right after the Review Team. Therefore, the next Management Team meeting will be right after the Review Team meeting and start at approximately 2:30 pm.'

> '**Next Meeting** – The next SMT meeting will be on April 19, 2001, at 2:30 P.M., in Fargo following the Review Team meeting.'
>
> The agenda for the April 19, 2001, Study Review Team meeting shows the meeting scheduled to start at 9:00 AM and to end at 2:00 PM. Therefore, it appears that following our discussion at the conclusion of the April 19, 2001, Study Review Team meeting about the inability of other stakeholders to attend the ostensibly 'open' Study Management Team meetings, you and Ms. Snortland promptly walked out of the room to attend a Study Management Team meeting at 2:30 PM without bothering to mention that a Study Management Team meeting that had been scheduled nearly a month earlier was about to convene in the same building."

As a result of repeated protests to the Regional Director and the Commissioner of the Bureau of Reclamation by other stakeholders, the Study Management Team finally was abolished in early 2002 and a new Memorandum of Understanding was signed by the Regional Director of the Bureau of Reclamation and the Governor of North Dakota voiding the May 2000 Memorandum of Understanding and dealing only with the Red River Valley Water Supply Project EIS and specifying that the Bureau of Reclamation is the lead agency for the Red River Valley Water Supply Project. However, the Garrison Diversion Conservancy District and the State continued to exert undue influence over the Red River Valley Water Supply Study in clear violation of Paragraph 8(b)(1) and Paragraph 8(b)(3) of the Dakota Water Resources Act of 2000.

Under Subparagraph 8(c)(2)(A) of the Dakota Water Resources Act of 2000, the Secretary and the State of North Dakota are to "jointly prepare and complete a draft environmental impact statement" for the Red River Valley Water Supply Project. However, in the new Memorandum of Understanding, the Governor designated the Garrison Diversion Conservancy District to represent the interests of the State of North Dakota in the agreement. Although it has repeatedly been pointed out to the Bureau of Reclamation that the Conservancy District lacks the statutory authority to represent the interests of the State and that no statutory authority exists for the Governor to designate the Conservancy District to represent the interests of the State in the preparation of the environmental impact statement for the Red River Valley Water Supply Project (Pearson, 2002b, 2003, 2005), rather than requiring the Governor to designate an eligible entity to represent the State, the Bureau has continued to allow the Conservancy District to assume that role in violation of the Dakota Water Resources Act of 2000 and, consequently, in violation of the National Environmental Policy Act of 1969, as well.

THE DRAFT REPORT ON RED RIVER VALLEY WATER NEEDS AND OPTIONS

Four and a half years and undisclosed millions of dollars after the Dakota Water Resources Act of 2000 was passed in December 2000, at the end of May 2005, the Bureau of Reclamation released its *Draft Report on Red River Valley Water Needs and Options* (*Draft Report*) authorized under Paragraph 8(b)(1) and Paragraph 8(b)(3) of the Act (Brietzman, Undated). The *Draft Report* contains substantial useful information on surface water and groundwater hydrology and potential water sources in the Red River Valley, but because the 'needs' assessment is based on flawed data, highly questionable assumptions and unconventional and unrealistic water management principles, and because the options are designed to meet those speculative and exaggerated 'needs,' the *Draft Report* lacks scientific validity or credibility and is of little value in making sound decisions regarding future Red River Valley water needs and options for meeting those needs.

Red River Valley Water Needs

The *Draft Report* purports to examine future municipal, rural, industrial, recreational and other Red River Valley Water needs, but the future needs are driven primarily by projected population growth in the Red River Valley and secondarily by projected growth in industrial water use.

Planning Horizon

According to the *Draft Report*:

> "The planning horizon for the project is the year 2050. Population and water demands were projected to 2050. Designing a water supply system for the year 2050 is consistent with the typical service life, without major rehabilitation, of project features such as water treatment plants, pumping plants, and storage reservoirs. Although the expected service life of pipelines is approximately 100 years, project planning horizons are based typically on the service life of nonpipeline components." (Draft Report, p. 1-3)

The *Draft Report* summarily dismisses the fact that, as was recognized in the Red River Valley MR&I Water Needs Assessment and was again repeatedly noted in the Red River Valley Water Supply Study, population and water 'demands' cannot be reliably projected 45 years into the future. And although the design of specific project **features** may be based on their typical service life, it is highly unconventional to **design and size an entire water supply system** on such unreliable speculation. In the 'real world,' water system components may be based on their typical service life but they are sized to meet reasonably foreseeable future needs, and they are designed to be supplemented with additional features as future needs actually materialize.

The facts that (1) the *Draft Report* acknowledges that pipelines have expected service lives of approximately 100 years, but (2) ALL of the options identified in the Draft Report for meeting future Red River Valley water needs include pipelines designed to meet year 2050 projected needs as major components further demonstrates the irrelevance of the Bureau's rationalization for selecting a year 2050 planning horizon for the Red River Valley Water Supply Study.

In attempting to justify the selection of water needs 50 years in the future as the basis for the Red River Valley Water Supply Study, the Bureau explained in its March 5, 2003, draft *Needs Assessment Project Mobilization and Study Approach* that:

> "**Planning period through 2050** – A planning period through 2050 was used because it coincides with the expected useful life of most of the proposed major Red River Project components such as pipelines and treatment plants." (p. 5)

However, this rationale is fatally flawed on several counts. First, according to the *Draft Report* pipelines have expected service lives of 100 years (Draft Report, p. 1-3). Second, it presupposed the selection of a Red River Valley water supply alternative that includes pipelines and treatment plants before other alternatives had been evaluated. Third, the Bureau's own March 5, 2003, draft *Needs Assessment Project Mobilization and Study Approach* acknowledged that population and economic development "are difficult to forecast out 5 or 10 years much less 50, but 2050 is the design life of the Red River Project." Fourth, by considering only Red River Valley water needs 45 years from now, the 2050 planning period automatically excludes from consideration water supply alternatives that could be implemented incrementally as demands materialize through the next 45years. Fifth, it fails to recognize that the selection of a planning period through 2050 based on the useful life of major project components does not automatically preclude consideration of different planning periods based on other criteria, such as cost and need. Finally, the limitation of the Red River Valley Water Supply Study to a single 50-year planning period disregards the clear directives of Section 8(b)(1) of the Dakota Water Resources Act of 2000 that:

> "The Secretary of the Interior shall conduct a **comprehensive study of** the water quality and quantity needs of the Red River Valley in North Dakota and **possible options** for meeting those needs." (Emphasis added)

and of Section 8(c)(2)(A) of the Act that:

> "...the Secretary and the State of North Dakota shall jointly prepare and complete a draft environmental statement considering **all feasible options** to meet the comprehensive water quality and quantity needs of the Red River Valley and **the options** for meeting those needs..." (Emphasis added)

It is important to note that no statutory mandate exists to support the Bureau's selection of a 50-year planning period for the Red River Valley Water Supply Study, and even if such authority did exist, it still would not preclude consideration of other more reliable and realistic planning periods. In fact, the Bureau has a responsibility to inform the Congress of the unreliability of water use projections based on such an unrealistically long planning period. Indeed, to argue otherwise would be to argue congressionally mandated ignorance. Consequently, the Bureau has no defensible alternative except to consider other more reliable and realistic planning periods for the Red River Valley Water Supply Study.

Population Projections

Population is the factor having the greatest influence on future water needs in the Red River Valley. The *Red River Valley MR&I Water Needs Assessment Phase I* report showed the 1994 Red River Valley municipal population to be 219,195, with Fargo, the largest city in the valley, having a population of 79,715 (Bureau of Reclamation, 1998). The Bureau projected in the Phase I report that the Red River Valley municipal population would increase to 395,870 by 2050, with the population of Fargo doubling to 192,600 (Bureau of Reclamation, 1998). The Phase I report also included projections by the municipalities themselves (participant projections) showing the Red River Valley municipal population increasing to 453,440 by 2050 and the population of

Fargo increasing to 243,072 (Bureau of Reclamation, 1998). The Phase I report also shows that the Bureau's population projection and the participant population projection both assume dramatic increases above historic trends in the population growth rate in the Red River Valley beginning in 1990 (Bureau of Reclamation, 1998). For example, based on the historic trend from 1960 to 1990, the municipal population of the valley would be expected to increase from 219,000 in 1994 to about 250,000 in 2050, an increase of 31,000 or 14 percent (Bureau of Reclamation, 1998). However, the Bureau projected the municipal population of the Red River Valley would increase by 176,675 (80.6 percent) and the participants projected it would increase by 234,235 (107 percent), while the downward trend in the population of the State as a whole was expected to continue (Bureau of Reclamation, 1998)

The Phase I report noted that:

> "Outmigration rates from North Dakota were high from 1980 to 1990... The assumption that outmigraton will decrease in the future is based on the belief that the downturn in the agricultural and energy sectors during the 1980s was an extreme condition, and recovery of the North Dakota economy will reduce outmigration in the near future. However, if the North Dakota economy were to take another downturn, the population projections prepared by the North Dakota Census Data Center could be overestimates." (Bureau of Reclamation, 1998)

The Associated Press reported in 2003 that, according to Richard Rathge, the Director of the North Dakota Population Data Center at North Dakota State University:

> "Cass County [including Fargo] remained the most populous county with 125,117 people, but Rathge said growth in that county continues to be slowed by the downturn in new immigrants and refugees since the terrorist attacks of Sept. 11, 2001.
>
> 'That spigot has turned off,' Rathge said. '**When you look at the net migration in Cass County, what's holding that migration has been the foreign-born population**." (Emphasis added) (Associated Press, 2003).

According to the Associated Press, Jessica Thomasson, a Fargo city planner said in 2003 that:

> "I think our international migration numbers are at about 11 per year right now. It used to be 300 to 500 per year." (Kolpack, 2003)

It is evident, therefore, that even at its height, migration into the State was not a significant factor in Fargo's increased population growth rate in the 1980s and 1990s, and it cannot be expected to be a significant factor over the next 50 years.

North Dakota's population actually did increase by 966 people (0.15 percent) in 2004 but this was not sufficient to offset the 4,122 lost the previous two years (Associated Press, 2004). And although the Fargo-Moorhead Metropolitan Council of Governments, a local planning organization, proclaimed in 2005 that the Fargo-Moorhead area was growing much faster than expected, North Dakota State Demographer Richard Rathge disputed the claim, pointing out that the Council may have underestimated how many new residences were occupied by people living alone, and:

> "Rathge also said the MetroCOG estimates may not accurately reflect **the declining and aging population in eastern North Dakota, from which Fargo-Moorhead traditionally draws many of its new residents**." (Emphasis added) (Knutson, 2005)`

What the Phase I report did not consider is that, because the population of the State as a whole has continued a gradual decline, the increased population growth rate experienced in Red River Valley municipalities, particularly the Fargo-Moorhead area, during the 1980s and 1990s (Fargo and West Fargo grew by 22 percent in the 1990s [Associated Press, 2003]) clearly was primarily the result of a rural-to-urban shift within the State associated with a declining agricultural economy, rather than an absolute increase in population. And because the rural population pool that contributed to the increased population growth rates in Red River Valley municipal areas in the 1980s and 1990s is relatively small and finite, that rural-to-urban shift will not be sustained over the long term. In fact, although the population of West Fargo increased by 517 people from 2001 to 2002, the population of Fargo actually declined by 268 (0.3 percent) and the population of Grand Forks dropped by 243 (0.5 percent), for a net gain of only 6 people from 2001 to 2002 in the three largest North Dakota cities in the Red River Valley (Kolpack, 2003).

Instead of basing its projections of future Red River Valley populations on established demographic principles, realistic assumptions and objective analysis of data, the Bureau's *Draft Report* continues to utilize statistical sophistry to inflate even further the exaggerated population projections of its previous *Red River Valley MR&I Water Needs Assessment*. For example, the Bureau's *Needs Assessment Phase I* report projected a 2050 population of 395,870 for the 10 largest municipalities in the Red River Valley, including 192,600 for Fargo (Bureau of Reclamation, 1998), but in the *Draft Report* the 2050 population projections are increased to 401,570 (an increase of 1.4%) for those same 10 Red River Valley municipalities, including an increase to 204,300 for Fargo (an increase of 6%) (Draft Report, p. 2-25). The year 2050 participant/municipalities population projections in the *Needs Assessment Phase I* report of 453,440 for the 10 largest municipalities in the Red River Valley, including 243,072 for Fargo, (Bureau of Reclamation, 1998), are increased to 469,854 (an increase of 3.6%) for the same 10 largest municipalities, including 243,073 (no change) for Fargo (Draft Report, p. 2-25).

Rather than recognizing the causes of the rapid growth in the populations of some Red River Valley municipalities in the 1980s and 1990s and that it has declined significantly over the last five years, the Bureau's *Current and Future Population, Red River Valley Region 2000 through 2050*, upon which the *Draft Report's* population projections are based simply concludes with the statement that:

> "The growth rate for the entire study area to the year 2050 is projected to be a little over 0.6% annually, compared to a historic growth rate of about 0.47% annually from 1960 to 2000." (Bureau of Reclamation, 2003)

The Bureau's disregard for established demographic principles, realistic assumptions and objective analysis of data is documented by the *Draft Report* itself. For example, based on U. S. Census Bureau data, the population of the Red River Valley region of North Dakota and Minnesota would be projected to grow from 446,235 in 2000 to 502,792 in 2050, an increase of 56,557 or 12.7 percent. The Bureau of Reclamation contracted with Northwest Economic Associates "to conduct an independent population projection analysis for the Red River Valley" (Draft Report, p. 2-24). The Northwest Economic Associates' report projected the Red River Valley population would grow from 445,235 in 2000 to 569,867 in 2050, an increase of 123,632 or 27.7 percent (Draft Report, p. 2-24). However, the Bureau rejected the projections of both of these independent entities having recognized expertise in demographic analysis and instead based

its *Draft Report on Red River Valley Water Needs and Options* on its own inflated projection of the population of the Red River Valley increasing by 192,365 (43.2 percent) to 538,600 in 2050 (Scenario One), and the even more exaggerated municipalities' projections showing the municipal populations of the Red River Valley increasing by 258,496, from 248,687 in 2000 to 507,093 in 2050 (Scenario Two)—an astonishing 104 percent! (Draft Report, p. 2-25).

Although:

> "Reclamation acknowledges a level of uncertainty when projecting populations through 2050 and in projecting water demands in general." (Draft Report, p. 2-26)

the *Draft Report* ignores the recommendation from the Technical Team that population projections be displayed at 10-year intervals throughout the 50-year planning period, showing the potential range of error at each 10-year increment. This would not only allow decision-makers, water facility planners and the public to make more informed decisions regarding options for meeting future Red River Valley water needs and the scheduling of their implementation, but it would enable them to understand the increasing uncertainty and risks associated with making commitments now for meeting water needs at progressively longer times in the future.

Instead:

> "Therefore, recognizing these uncertainties, Reclamation developed **two water demand scenarios to use as a range** in hydrology modeling and in developing alternatives.
>
> . . . Reclamation projections were used in the first water demand scenario (Scenario One). Population projections provided by the municipalities were approximately 17% higher than Reclamation's estimates. These projections were used in the second water demand scenario (Scenario Two). . ." (Emphasis added) (Draft Report, p. 2-26)

Of course, neither of the two scenarios upon which the *Draft Report* is based provides any indication of their extreme unreliability or of how the uncertainties regarding population and water need projections escalate over the 50-year period. Instead, the Draft Report simply presents two figures, Scenario One and Scenario Two, as representing the only choices for making decisions today regarding water needs 45 years in the future.

By using an already unrealistically long 50-year planning period and then inflating population growth over that period by 150 to 340 percent for its Scenario One projection, the *Draft Report* grossly overestimates future water needs in the Red River Valley.

Per Capita Water Use

Although the *Draft Report* does not hesitate to embrace the most giddily optimistic population projections for estimating water use 45 years into the future, it can foresee no technologic innovations or public policy changes (such as tiered water rates to discourage excessive use) being implemented that would increase the efficiency of water use in the face of declining supplies over the next half century. Consequently:

> "The water demand analysis assumes that historic water use represents future water demand on a per capita basis. Per capita use rates could increase over time due to the increased popularity of existing or new water use devices, such as high volume whirlpool baths. Per capita water use could also decrease in the future due to the improvement of

> water conserving devices. The water demand analysis assumes that both situations are equally likely to happen and therefore neutralize each other." (Draft Report, p. 2-29)

Unlike other water-short areas of the country where reducing per capita use is an integral part of sound, professionally-developed water management programs, the *Draft Report* proposes to encourage and subsidize continued profligate water consumption with half-billion-to-billion dollar Federally-financed water projects. (Who really needs to take high volume whirlpool baths—which the *Draft Report* has the audacity to pass off as "demand"!—during a drought?) Of course, reducing per capita water use would help to preserve existing supplies and reduce future water needs, which would reduce shortages, which would make it more difficult to justify half-billion-to-billion-dollar Federally subsidized water projects.

Water Conservation

The *Draft Report* states that, based on its *Water Conservation Potential Assessment Final Report*:

> "Per capita water savings range from 6.54 to 9.02 gallons per person. This is a savings of 6.1% to 8.6%. Water conservation measure cost implementation ranged from $0.51 to $0.68 per 1000 gallons saved for community water systems." (Draft Report, p. 2-40)

However, when the Bureau submitted its draft *Water Conservation Potential Assessment Report* to its own independent consultant for review, the consultant, "... put the total savings, or conservation potential, in the range of 15 percent or more, a large portion of which would be due to the plumbing code" (Maddaus, 2004). However, the *Draft Report* uses water conservation savings of half that—and does not mention the report of its independent consultant or even list it in the Literature Cited.

The Bureau's *Water Conservation Potential Assessment Final Report* acknowledges that:

> "Very few water systems in the Red River Valley have a formal water conservation program in place." (Bureau of Reclamation, 2004a)

and it:

> ". . . defines 'economically reasonable' water conservation measures as those measures that reduce water use at a cost equal to or less than the cost of alternative water supplies. Basic economics dictate that water systems will pursue the least costly sources of new water supply whether they are new sources or water conservation. The WCPA only recommends the implementation of those water conservation measures estimated to cost less than or equal to the cost of alternative water supply. **The alternative water supply cost used as a basis of comparison was the least costly (per 1000 gallons) alternative estimated in the Phase II Report.** Alternative 3 (In Basin, Enlarged Lake Ashtabula) at an estimated cost of $1.25 per 1000 gallons had the lowest total allocated cost per 1000 gallons. Therefore, a water conservation measure was considered reasonable and recommended for implementation if it had a cost of $1.25 per 1000 gallons or less." (Emphasis added) (Bureau of Reclamation, 2004)

However, the Phase II report estimated the construction cost of the Enlarged Lake Ashtabula alternative at $245,862,000 and the annualized cost at $21,500,000, compared with construction costs of $504,888,000 and annualized costs of $32,662,000 for the least costly Garrison Diversion Unit Import to Sheyenne River option identified in the *Draft Report* (p. 4-39). Thus, the *Draft*

Report bases its evaluation of water conservation measures on comparisons with an alternative water supply costing half (49%) of, and with annualized costs 34 percent less than, the least costly alternative identified in the *Draft Report*.

On one hand, the *Draft Report* dismisses water conservation measures as not having the potential to reduce water use "due to the increased popularity of existing new water use devices, such as high volume whirlpool baths" (Draft Report, p. 2-29), but the Bureau's *Water Conservation Potential Assessment* dismisses water conservation pricing because "water systems in the Red River Valley charge higher rates than their national regional counterparts, **particularly rural water systems**" (Emphasis added) (Bureau of Reclamation, 2004a), ignoring the fact that it is not in rural areas where new water devices such as high volume whirlpool baths are the most popular.

Industrial Water Needs

Industrial water use is the factor having the second greatest influence on future Red River Valley water needs. According to the *Draft Report*:

> "Two types of industrial water demands were evaluated in this study in compliance with the Act: (1) water demands for existing industrial facilities and (2) water demands for future industrial facilities. Water demands of existing facilities were relatively easy to evaluate based on historic use data, but **predicting the future was more challenging**.
>
> . . . Water demands for future industries were estimated by three industrial development reports. Reclamation prepared two of these – *Report on Red River Valley Water Needs and Options, Assessment of Commercial Needs, Future Business and Industrial Activity in the Red River Valley, Final Report* (citation omitted) and *Report on Red River Valley Water Needs and Options, Industrial Needs Assessment: Future Red River Valley Commercial Water Demands, Final Report* (citation omitted). Bangsund and Leistritz (2004), Department of Agribusiness and Applied Economics, North Dakota State University, documented in its study the third report – *Industrial Water Needs Assessment for the Red River Valley Water Supply Project*." (Emphasis added) (Draft Report, p. 2-61)

However, despite the facts that the Dakota Water Resources Act states explicitly at Paragraph 8(b)(1) that:

> "**The Secretary of the Interior shall conduct a comprehensive study** of water quality and quantity needs of the Red River Valley in North Dakota and possible options for meeting those needs."

and that North Dakota Senator Byron Dorgan had assured the Congress after the Dakota Water Resources Act was passed by the Senate on October 13, 2000, that:

> "First, **the Secretary will identify these needs** and evaluate options for meeting them." (Emphasis added) (Congressional Record – Senate, S105301, October 13, 2000])

the *Draft Report* dismisses the Bureau's own analyses of future Red River Valley industrial water needs and bases its evaluation of future industrial water needs on the Bangsund and Leistritz report:

> ". . . **Reclamation is using the Bangsund and Leistritz (2004) intermediate water demand** results from Bangsund and Leistritz (2004) intermediate water assessment both for agricultural processing and for nonagricultural manufacturing **for Scenario One**.
>
> **The Scenario Two water demand includes the high industrial water estimates** from Bangsund and Leistrirz (2004), **as requested by the water users** . . ." (Emphasis added) (Draft Report, p. 2-66)

The *Draft Report* does not mention, and it is disclosed only if the reader happens to check the Literature Cited section, that the report by Bangsund and Leistritz on future Red River Valley industrial water needs was prepared, not by or under the auspices of the Secretary as specified by the Dakota Water Resources Act and as promised by Senator Dorgan, but under contract with the Garrison Diversion Conservancy District. Thus, the analyses of future Red River Valley industrial water needs upon which the *Draft Report* is based are not those of the Secretary, but rather those of the Garrison Diversion Conservancy District and Red River Valley water users, both of which have obvious vested interests in the outcome of the Red River Valley Water Supply Study and the *Draft Report on Red River Valley Water Needs and Options*.

It is important to note in this context that the Bureau of Reclamation's August 9, 2002, draft *Red River Valley Water Supply Project Report on Red River Valley Water Needs and Options Operating Principles* states in the Introduction that:

> "The Dakota Water Resources Act (DWRA) of 2000 authorized the Secretary of the Interior to conduct a comprehensive study of the water quality and quantity needs of the Red River Valley in North in North Dakota and possible options for meeting those needs (Sections 5 and 8b). DWRA entitled the study 'Report on Red River Valley Water Needs and Options' (Needs and Options Report). **The Bureau of Reclamation (Reclamation), acting for the Secretary of the Interior, will oversee the necessary analysis and write the Needs and Options Report**." (Emphasis added)

The Bureau's August 9, 2002, draft *Operating Principles* document goes on to state under Purpose of The Operating Principles that:

> "Section 8(b)(3) of DWRA identifies the process for the Needs and Options Report and states, 'In conducting the study, **the Secretary** through an **open and public process** shall solicit input from gubernatorial designees from states that may be affected by possible options to meet such needs as well as designees from federal agencies with relevant expertise.' The ***Operating Principles*** **for the Needs and Options Report describes how this 'open and public' process will be conducted** during the course of the study..." (Emphasis added)

Under Organization, the Bureau's August 9, 2002, draft *Operating Principles* document then states that:

> "Reclamation will continue to seek **input from *Technical and Study Review Teams* as per Section 8(b)(3) of DWRA**..." (Emphasis added)

and it goes on to explain that:

> "The Technical Team is composed of representatives from the State of North Dakota, Federal agencies, **potentially affected states (Minnesota and Missouri)**, Tribes, Canada, environmental groups, water users with specific technical expertise in hydrology, ecology, engineering and other fields. **The role of the Technical Team is to**

> **provide Reclamation with objective, scientifically valid input that will be used to develop** plans of study and **study products**…" (Emphasis added)

The Bureau's August 13, 2002, *Draft Red River Valley Water Supply Project Needs Assessment Specific Plan of Study* states, regarding **Future Industrial and Large Commercial Water Demands**, that:

> "This task will develop realistic industrial and large commercial water demand estimates based on a range of potential economic development scenarios for the Red River Valley to establish peak daily, monthly and annual water use rate estimates. The task will utilize **specialized expertise forecasting economic development trends for typical Red River Valley industrial development categories (e.g., food processing** likely vs. steel production unlikely). Various levels of potential development may be evaluated to estimate **a range of potential industrial water demands**…" (Emphasis added)

The Bureau's draft March 5, 2003, *Needs Assessment Project Mobilization and Study Approach* (written in the past tense for future inclusion in the Needs and Options Report) states that:

> "**Development of accurate water use information is a key element of any water supply planning study**. The Red River Valley Water Supply Project (Red River Project) study provides a comprehensive and detailed assessment of current and future water needs of the Red River Valley…" (Emphasis added)

Under **Future economic development and growth used to determine industrial water needs**, the Bureau's March 5, 2003, draft *Needs Assessment* document states that:

> "An analysis on projected economic development and industrial growth was conducted to assess future water needs in the service area."

and it notes that both population and economic development "are difficult to forecast out 5 or 10 years much less 50, but 2050 is the design life of the Red River Project," so, "**A range of potential economic development scenarios was developed**, each incorporating different economic assumptions" (Emphasis added).

It should be noted in this context that neither the Bureau's August 13, 2000, *Draft Red River Valley Water Supply Project Needs Assessment Specific Plan of Study* nor its March 5, 2003, *Needs Assessment Project Mobilization and Study Approach* makes any mention of the Garrison Diversion Conservancy District contracting with the North Dakota State University Department of Agribusiness and Applied Economics to prepare an analysis of future agricultural and non-agricultural industrial water needs for the Red River Valley Water Supply Study. Moreover, except for those from the State of North Dakota and the Garrison Diversion Conservancy District, members of the Technical Team for the Red River Valley Water Supply Study were not consulted regarding the preparation of the analysis of future industrial water needs in the Red River Valley, nor were they advised of the Conservancy District's contract with the NDSU Department of Agribusiness and Applied Economics to prepare the analysis until the draft report was released in June 2004.

The Bureau's failure to involve the Technical Team in a substantive and meaningful way in decisions regarding the preparation of the analysis of future industrial water needs in the Red River Valley—or even to inform the Technical Team of the decisions that were being made—was simply the latest of numerous failures, dating back to the passage of the Dakota Water Resources Act of 2000, to comply in good faith with the Act's explicit directive to the Secretary to conduct the Red River Valley Water Supply Study "through an open and public process."

The *Draft Report* fails to mention that the *Industrial Water Needs Assessment for the Red River Valley Water Supply Project* prepared for the Garrison Diversion Conservancy District points out itself that:

> "**Forecasts** of trade policy, farm production, per capita incomes, and other factors affecting demand and supply of agricultural products **rarely are made beyond a 10-year period**. Given the complexity of most forecasting methods associated with those studies, **it is impossible, given the limitations of this study, to easily extend those forecasts out another 40 years**." (Emphasis added) (p. 24)

Therefore:

> "To accomplish the goals of this study, **a methodology needed to be created** to link the past developments in agricultural processing activities in the region in a manner that allow [sic] future processing levels to be projected within a reasonable range." (Emphasis added) (p. 25)

and:

> "In order to guide efforts in providing **a range of potential water use** in 2050**, three scenarios** were developed." (Emphasis added) (p. 34)

The *Industrial Water Needs Assessment* presents three scenarios for both agricultural processing water demand and non-agricultural manufacturing water demand in 2050, which appear in "Table 2.8.4 – Bangsund and Leistritz (2004) North Dakota 2050 Projected Industrial Water Demand" on page 2-64 of the *Draft Report*. These show the increased annual agricultural processing water "demand" in the Red River Valley in 2050 to range from 4,590 acre-feet in the Low Future Scenario, to 11,096 acre-feet in the Intermediate Future Scenario, to 18,828 acre-feet in the High Future Scenario (Draft Report, p. 2-64). The increased annual non-agricultural manufacturing water demand ranges from 3,078 acre-feet in the Low, to 6,662 acre-feet in the Intermediate, to 12,284 acre-feet in the High Future Scenario (Draft Report, p. 2-64). Total Industrial and Commercial Water Demand is projected to increase in 2050 by 7,668 acre-feet in the Low, 17,758 acre-feet in the Intermediate, and 31,112 acre-feet in the High Future Scenario.

Consequently, because of the admitted impossibility of accurately projecting future Red River Valley industrial water needs 50 years into the future, rather than providing an objective analysis of those needs, the *Draft Report* simply presents three hypothetical scenarios that were developed under contract with the Garrison Diversion Conservancy District of what might—or might not—occur.

The Bureau of Reclamation's own 2004 *Industrial Needs Assessment: Future Red River Valley Commercial Water Demands* states that:

> "The total additional future commercial and industrial water demand is projected to be at 2,619 ac-ft per year under the high demand scenario and 1,836 ac-ft under the low demand scenario. Under the high demand scenario this includes 1,215 ac-ft for manufacturing, 589 ac-ft for retail, 621 ac-ft for services, and 194 ac-ft for wholesale water demands. Under the low demand scenario, this includes 1,215 ac-ft for manufacturing and 621 ac-ft for services. **These projections do not include water demand projections for agricultural processing in the Red River Valley**." (Emphasis added) (Bureau of Reclamation, 2004b)

The projections in Bureau's *Industrial Needs Assessment: Future Red River Valley Commercial Water Demands* of additional annual future non-agricultural manufacturing water demands of 1,215 acre feet under its low demand scenario and 2,619 acre feet under its high demand scenario (Bureau of Reclamation, 2004b) are significantly lower than the projections in the Conservancy

District's *Industrial Water Needs Assessment* of 3,078 acre-feet under its Low Estimate to 12,284 acre-feet under its High Estimate, so at least a basis for comparison with the Conservancy District's projections is available. However, by failing to analyze future agricultural industry water needs, the Bureau provides no independent analysis for comparison with the Conservancy District's projections of 4,590 to 18,828 acre-feet per year for additional agricultural processing water needs in the Red River Valley in 2050. Instead, in violation of the directive of the Dakota Water Resources Act of 2000 that the Secretary is to conduct the Red River Valley Water Supply Study, the Bureau simply acquiesced to the Conservancy District—the local sponsor of the Garrison Diversion Unit and avowed advocate of delivering Missouri River water to the Red River Valley—to provide information for the *Draft Report on Red River Valley Water Needs and Options* on the most significant future industrial water needs in the Red River Valley.

Although the *Industrial Water Needs Assessment* prepared for the Garrison Diversion Conservancy District does not comply with the explicit requirement of the Dakota Water Resources Act for the Secretary to conduct the Red River Valley Water Supply in an open and public manner, or with the Bureau's stated commitment to seek input from the Technical Team as a means of assuring that the study is conducted in an open and public manner as required by the Act, the report does provide relevant insights regarding future industrial water needs in the Red River Valley. For example, the statements in the Conservancy District's *Industrial Water Needs Assessment* that:

- "The wide range of future water use reflects uncertainty in predicting future industrial activity within the region." (Bangsund and Liestritz, 2004, p. ix)
- "One of the primary goals of the study is to project future water use from agricultural processing out to year 2050. The time frame for the projections creates several concerns. Those concerns include the development of new technologies, changes in Federal farm and trade policies, changes in state and local policies, limited usefulness of existing governmental forecasts, and the possibility of unforeseen/unpredictable factors affecting agricultural processing during the period." (Bangsund and Leistritz, 2004, p. 23)
- "Forecasts of trade policy, farm production, per capita incomes, and other factors affecting demand and supply of agricultural products rarely are made beyond a 10-year period. Given the complexity of most forecasting methods associated with those studies, **it is impossible, given the limitations of this study, to easily extend those forecasts out another 40 years**." (Emphasis added) (Bangsund and Leistritz, 2004, p. 24)
- "**Given the scope of this study, future predictions out to 2050** for all of the factors that might affect non-food based products associated with agricultural processing **is not possible**." (Emphasis added) (Bangsund and Leistritz, 2004, p. 25)
- "If the forecasts for future agricultural processing activities were limited to the next decade, a high degree of confidence could be placed on those estimates. However, in a 50-year time horizon, the chance increases that unforeseen factors could influence the level of agricultural processing… These potential 'influences' to agricultural processing can not be forecasted or predicted." (Bangsund and Leistritz, 2004, p. 25)
- "Even if future domestic and international demand for domestic food processors could be estimated, it would be difficult to predict from what regions of the country those increases would come from [sic]." (Bangsund and Leistritz, 2004, p. 31)
- "… no clear prediction, given the scope of this study, can be made for specific changes in future demand (i.e., next 50 years) for food manufacturers in the Red River Valley…" (Bangsund and Leistritz, 2004, p. 32)

- "… **a precise prediction of how the future will unfold** with respect to all the factors influencing agricultural processing activities **over a 50-year planning period is impossible**…" (Emphasis added) (Bangsund and Leistritz, 2004, p. 35)
- "There is inherent risk in blindly accepting past changes as a predictor of future change." (Bangsund and Leistritz, 2004, p. 60)

serve primarily to confirm, not simply the inappropriateness, but the impossibility of attempting to predict industrial water needs in the Red River Valley as a basis for designing and building a half-billion-to-billion dollar water project to meet needs 50 years in the future.

However, despite this recognition of the impossibility of predicting agricultural processing activity in the Red River Valley more than a decade into the future with confidence, the *Draft Report* eschews the inclusion, even for perspective, of a reliable 10-year water needs assessment. The explanation offered by the Conservancy District' *Industrial Water Needs Assessment is* that:

> "The time frame for projections in this study was based on a 50-year period (i.e., year 2050). Projections developed in this study are designed to be point of estimates for year 2050. Inter-modal distributions of water use projections between 2002 (most recent year for which data was [sic] available in this study) to year 2050 were not included." (Bangsund and Leistritz, 2004, p. 2)

Thus, despite the citation of compelling evidence that an inter-modal distribution of Red River Valley industrial water use projections between 2002 and 2050 (perhaps at 10-year intervals with notations of their decreasing reliability) would be more realistic and more useful in designing a Red River Valley Water Supply Project, the *Draft Report* limits its assessment to point estimates for the year 2050.

As noted above, the *Draft Report's* Low, Intermediate and High annual additional industrial water use scenarios presented in Table 2.8.4 on page 2-64 show the following increases in projected future agricultural processing and non-agricultural manufacturing water uses in the Red River Valley in 2050 under the three scenarios:

	Projected Increase in Water Use over 2002 Levels		
Future Scenarios	Agricultural Processing	Non-Agricultural Manufacturing	Total
	acre-feet per year		
Low Estimate	4,590	3,078	7,688
Intermediate Estimate	11,096	6,662	17,758
High Estimate	18,828	12,284	31,112

The 400 percent variations from the Low to the High Red River Valley industrial water use scenarios again demonstrate the irrationality of attempting to design a water project to meet water needs 50 years in the future. However, it is important also to recognize that these are not actual projections of future water needs, but simply hypothetical scenarios displaying what water use might be based on different sets of assumptions, the validity of which cannot be verified. And because the validity of those assumptions cannot be verified, the validity of the scenarios themselves cannot be verified.

What these 400 percent variations from the low to high water use scenarios do show, however, is that designing a water project to meet anything other than the low water use scenario would pose the real and unwarranted risk of committing hundreds of millions of dollars to a water supply

project that would never be used at a capacity necessary to justify its cost. Consequently, IF the scenario approach employed in the Garrison Diversion Conservancy District's *Industrial Water Needs Assessment* were to be used as a basis for designing a Red River Valley water supply project, common sense would dictate that the Low Future Scenario figure of 7,688 acre-feet per year be used as the year 2050 increased industrial water need. Instead, the *Draft Report* uses the Intermediate and High Future Scenario figures of 17,758 and 31,112 acre-feet.

The Bureau's *Industrial Needs Assessment: Future Red River Valley Commercial Water Demands* indicates, however, that even the Low Future Scenario increased future water use for non-agricultural manufacturing in the Conservancy District's *Industrial Water Needs Assessment* over-estimates those needs by 17.5 to 67.6 percent (Bureau of Reclamation, 2004b). Because the Bureau's figures of 1,836 (low demand scenario) to 2,619 (high demand scenario) acre-feet of increased non-agricultural manufacturing water use in 2050 are based on projections rather than hypothetical scenarios, their validity can more readily be evaluated. This demonstrates the necessity for developing a realistic projection of future agricultural processing water needs in the Red River Valley, rather than adopting the Conservancy District's hypothetical scenario approach. When that is done, it may then be possible to begin making informed decisions regarding future industrial water use in the Red River Valley.

Future Red River Valley MR&I Water Shortages

According to the *Draft Report*:

> "West Fargo is the only municipality that has a shortage for both scenarios when compared to their permitted allocation in an average water use year." (Draft Report, p. 3-47)
>
> "For Scenario Two only, East Grand Forks also has a shortage when compared to its permitted allocation in an average water year." (Draft Report, p. 4-48)
>
> "*Municipal Water Demand Conclusions* Of the 16 municipal water systems, **13 have adequate annual permitted allocations to meet their annual maximum month water demands through 2050 for both scenarios**. West Fargo exceeds their annual permitted allocation for both average and annual maximum water demands through 2050. East Grand Forks, under Scenario Two water demands, exceeds their annual permitted allocation under average or annual maximum month demands through 2050.
>
> **Fourteen of the 16 water systems have adequate permitted daily withdrawal rates to meet their maximum peak daily water demands through 2050, under both scenarios.** Moorhead and West Fargo do not have sufficient daily withdrawal capacity. West Fargo also shows an inadequate permitted withdrawal rate, but more importantly NDSWC [North Dakota State Water Commission] (2000) has determined that the West Fargo Aquifer is not a reliable source for the city through 2050." (Emphasis added) (Draft Report, pp. 3-52, 3-53)

Under Scenario One, the combined 2050 annual water shortage for Gwinner, West Fargo and East Grand Forks would be 2,055 acre-feet (Draft Report, p. 3-49). Under Scenario Two, their combined 2050 annual water shortage would be 3,122 acre-feet (Draft Report, p. 3-50). Adding annual maximum industrial water shortages of 556 acre-feet (Draft Report, p. 3-66) increases these shortages to 2,611 acre-feet and 3,678 acre-feet, respectively.

In other words, even after doing everything possible to inflate future water use, including employing an unrealistically long 50-year planning period compounded with grossly exaggerated population projections, and allowing profligate water use to nullify water conservation measures,

the *Draft Report* still shows that significant water shortages would not be expected to occur in the Red River Valley over the next 45 years. Of course, this is the same conclusion that was reached by the Bureau's 1998 *Red River Valley MR&I Water Needs Assessment Phase I* report (Bureau of Reclamation, 1998).

There was only one thing left to do.

The Specter of Drought

Current Conditions

On the cover of the *Draft Report on Red River Valley Water Needs and Options* is an August 28, 1910, photograph of seven men working on a temporary intake pipe into the Red Lake River for Grand Forks, North Dakota. The first page of the Introduction of the *Draft Report* shows an undated picture of a low Red River near Fargo and opens with the ominous warning that:

> ". . . the Red River Valley would face critical water shortages in the near future if a 1930s drought started today." (Draft Report, p. 1-1)

The statement provides revealing insight into the tenor and objectivity of the *Draft Report*. It also is seriously misleading.

The *Draft Report* ends on a similar ominous note, with a picture of a man standing, hat in hand, on a board propped on a piece of pipe in the nearly dry bed of a river. The photograph is captioned: "1936 photo of the Red River near Fargo, North Dakota." The Conclusions solemnly explain:

> "The photo at the right shows the Red River in 1936 at the height of the 1930s drought. The city of Fargo relies totally on surface water for their water supply. The vulnerability of surface water sources during a severe drought would result in water shortages for Fargo and other water systems in the Red River Valley. Analysis of the current (2005) water demands in the Red River Valley shows that the Fargo-Moorhead area would have serious water shortage problems in the midst of a recurrence of a 1930s-type drought. In fact, hydrology modeling of 2005 water demand forecasts that the worst single monthly shortage would be a 46% deficit in February seven years into the drought.
>
> . . . Both 2005 and 2050 modeling simulations reveal a very serious shortage problem would occur during the winter when typical drought measures such as eliminating lawn watering are not applicable. In such an event, water users in the valley would have to dramatically cut their commercial and indoor water use.
>
> The impacts of a 1930s-type drought would be even worse in the Red River Valley if it were not for construction of Baldhill Dam and Lake Ashtabula by the Corps of Engineers in the 1950s. Water stored in Lake Ashtabula serves the water needs of a portion of the Red River Valley in the early years of a 1930s-type drought. Unfortunately, Lake Ashtabula's ability to store water is limited because runoff above the lake is reduced significantly in a severe drought. About five years into a drought, water in Lake Ashtabula is depleted. Surface water hydrology modeling shows that it takes another four years of normal precipitation for the reservoir to recover. So while better management of water use during the early years of a 1930s-type drought would be advisable, it would just delay major shortages a year or two at best." (Draft Report, p. 5-1).

The *Draft Report* does not define nor distinguish between water "demand," water "use," and water "need, but According to the *Draft Report*:

> "The average annual water demand represents the amount of water needed in a typical year, while the maximum annual water demands represent the highest level of water use expected." (Draft Report, p. 2-83)

The 2005 maximum Red River Valley annual MR&I water 'demand' is 65,664 acre-feet (Draft Report, p. 2-90). If a 1930s-type drought were to occur today, the "worst year" shortage of 7,000 acre-feet (Draft Report, p. B-84) would occur in 2010 (Draft Report, p. 3-103), and the total shortage for the duration of the drought would be 42,000 acre-feet (Draft Report, p. B-84). The 7,000 acre-feet "worst year" shortage is equivalent to 10.6 percent of the 65,644 acre-feet maximum annual water use.

What the *Draft Report* neglects to mention is that **these shortages would occur only if no drought contingency measures were implemented to reduce water use during a 10-year, 1930s-type drought.** As is noted above in the section on the Red River Valley MR&I Water Needs Assessment, the implementation of a Level II drought contingency response to moderate drought conditions, including such measures as implementation of a mandatory lawn-watering schedule, prohibiting certain non-essential uses (e.g., ornamental fountains, washing down buildings, parking lots and driveways), and mandatory restrictions on other types of non-essential use, would be expected to reduce water use by 10 to 20 percent, or 6,500 to 13,000 acre-feet per year, or 65,000 to 130,000 acre-feet over the 10-year course of the drought. Consequently, the Red River Valley MR&I water shortage that could develop if a 1930s-type drought were to occur today could readily be eliminated simply by implementing a few reasonable and common sense measures to reduce non-essential water use.

The *Draft Report* attempts to dismiss drought contingency measures to reduce the shortage by arguing that:

> "Although. . . the service area encounters an averaged 16% yearly shortage of their 2005 need during the worst drought year of a 1930s drought, the real concern is the range of shortages on a monthly time step. In February, the MR&I shortage in the service area is 46% of demand. The lower percentages during the late spring and early summer months are the result of spring runoff and storage in the valley. The percent short grows in the fall and continues to increase over the winter in direct relation to the depletion of storage. . .
>
> It becomes increasingly difficult to reduce these shortages through water conservation and drought contingency measures because they occur during times of the year when reductions to outdoor use and curtailing of lawn watering is difficult at best, given the northern climate in which the service area is located." (Draft Report, p. B-85)

According to the *Draft Report*:

> "[Drought contingency] measures can be used to reduce summer outdoor water use and seasonal commercial or industrial use. Winter water use is an annual baseline water need that would be reduced by water conservation but not by drought contingency measures. Drought contingency measures would be applied during peak summer water use events to reduce overall water use if an alternative could not meet the water demand during a severe drought." (Draft Report, p. 2-13)

Therefore, drought contingency measures would be applied primarily during the summer, not during the winter, and they would be on-going throughout the drought period in order to reduce the depletion of storage, so the 6,500 to 13,000 acre-feet annual reduction in use would be cumulative and would provide an additional 32,500 to 65,000 acre-feet of water in storage going into the worst year of the drought and which would be available for use during the winter at times of greater shortage.

The Bureau's *Water Conservation Potential Assessment* states that:

> "The WCPA resulted in lower per capita water saving than might be expected because of the historic water use in the Red River Valley. The largest single residential water use in the United States is outdoor landscape irrigation. The national average outdoor landscape irrigation water use is approximately 100 gpc/d [citation omitted], while such use in the Red River Valley ranges from 10 to 17 gpc/d. This demonstrates that Red River Valley residents are very conservative in their outdoor water use and eliminates an opportunity to save a significant amount of water through water conservation." (Bureau of Reclamation, 2004)

However, neither the *Water Conservation Potential Assessment* nor the *Draft Report* actually considers what water savings might be realized through the implementation of drought contingency measures. For example, the 33.2 gallon per capita per day difference between Fargo's average winter water use (98.7 gpc/d) and its average summer use (128.9 gpc/d) (Bureau of Reclamation, 2004) represents a 33.6 percent increase above baseline needs to which drought contingency measures could be applied.

It should also be noted, as pointed out above in the section on Water Conservation, that the *Draft Report* dismisses potential savings from the implementation of water conservation measures by claiming that they will be nullified by increased water use, despite the fact that the Bureau's own consultant who reviewed the water conservation measures upon which the *Draft Report* is based concluded that they could be twice what the Bureau had estimated (Maddaus, 2004).

Future Conditions

The *Draft Report* estimates the maximum annual Red River Valley water "demand" would be 104,007 acre-feet under Scenario One and 131,259 acre-feet under Scenario Two, and that the maximum annual shortages (in the event of a 1930s-type drought) would be 36,424 acre-feet (35 percent) under Scenario One and 52,015 acre-feet (39.6 percent) under Scenario Two (Draft Report, pp. 5-8, 5-9).

> "However, given the uncertainty of estimating future water needs and future water supplies, drought contingency measures are an important safety factor that must be reserved for unforeseen events." (Draft Report, p. 2-13)

Nevertheless, it is instructive to consider how effective implementation of water conservation and drought contingency measures might affect year 2050 Red River Valley water shortages during a 1930s-type drought under the *Draft Report's* Scenario One and Scenario Two projections. If it were assumed, for example, that the effective implementation of water conservation measures were to reduce baseline water use by 10 percent and the implementation of a Level III response to severe drought (continuation of Level II measures, plus assessing fines to water wasters, requesting industries and non-municipal water users to eliminate certain uses, and prohibiting all outdoor water use) would reduce water use by another 20-30 percent (Bureau of Reclamation, 2000), the total reduction in water use of 30-40 percent would eliminate even the Scenario One and Scenario Two shortages if a 1930s type drought were to occur by 2050.

The Probability of Drought

The *Draft Report* authoritatively states that:

> "A drought frequency investigation by Meridain Environmental Technology, Inc. (2004) predicts a strong probability of an extreme drought event occurring before the year 2050." (Draft Report, p. 1-1

The statement is not only seriously misleading, but it is refuted by the data contained in the *Meridian Environmental Technology* report.

The *Meridian* report does state in the Executive Summary and Conclusions that:

> "Recent research indicates a strong probability of an extreme drought event occurring before 2050 AD." (Meridian Environmental Technology, 2004)

but nowhere does the report identify that "recent research" or cite scientific data to support the statement. The only specific information provided regarding the likelihood of another 1930s-type drought occurring before 2050 is the statement that:

> "Recurrence intervals ranging from less than 25 years to greater than 100 years were computed for the 1930's drought." (Meridian Environmental Technology, 2004)

The report cites data showing a 95 percent confidence that the true probability for a drought as severe as the 1988 drought occurring by 2030 is between 29.5 and 54.0 percent, but:

> "Probably more significant was their statistical conclusion that a very extreme drought event falling within the 95th percentile or greater had an 11.1% chance of occurring by 2030." (Meridian Environmental Technology, 2004)

Of course, an 11.1 percent chance of a very extreme drought occurring by 2030 does not constitute a prediction of "a strong probability of an extreme drought event occurring before the year 2050." Instead, the prediction apparently is based simply on the premise that:

> ". . . the lack of a drought of the intensity of the 1930's drought suggests that there is a greater likelihood of such an extreme drought with time." (Meridian Environmental Technology, 2004).

In fact, however, the *Meridian* report itself admits that:

> "**The complex nature of droughts does not permit reliable forecasting of their occurrence**, duration or intensity." (Emphasis added) (Meridian Environmental Technology, 2004)

Therefore, the *Meridian* report simply concludes that:

> "Results of the study indicate that a drought of the magnitude of the 1930's drought is a realistic and statistically significant representation of an extreme drought in that it typifies the most extreme event anticipated until at least 2050." (Meridian Environmental Technology, 2004).

Nevertheless, the *Draft Report* continues to misinterpret the information contained in the *Meridian* report by erroneously claiming that it concludes that the 1930s drought "is a climatic event likely to be repeated before 2050" (Draft Report, p. 5-2). However, the *Draft Report* states that:

> "Based on this conclusion, Reclamation selected the period of 1931-2001 for modeling hydrologic flow conditions." (Draft Report, p. 5-1)

and the Bureau has acknowledged to the Technical Team that the 1930s drought was selected simply to model the impacts of drought on water shortages in the *Draft Report*.

It is important to note that, although the *Draft Report* claims that there is a strong probability of an extreme drought event occurring sometime **before** the year 2050, it only considers such an event occurring **immediately** before 2050 when water use for the 50-year study period would be at its greatest, thus further exaggerating the projected water shortage to be met with a Red River Valley Water Supply project. For example, the *Draft Report* disregards the 11.1 percent probability of an extreme drought event occurring before 2030 when water shortages could even more readily be avoided by implementing water conservation and drought contingency measures.

After exploiting every opportunity to inflate water use and to exacerbate potential shortages, the failure of the *Draft Report* to consider seriously such traditional approaches to addressing, or at least reducing, future Red River Valley water shortages reveals a lack of objectivity that only further undermines the already tenuous credibility of the entire report. To promote half-billion-to-billion-dollar water projects based solely on the speculative occurrence of drought without even considering the implementation of drought contingency measures can most charitably be described as unprofessional and irresponsible.

Finally, it is necessary to note in the context of Paragraph 8(b)(1) of the Dakota Water Resources Act of 2000, which explicitly directs the Secretary of the Interior to conduct the study of Red River Valley water needs and options, and Paragraph 8(b)(3) that requires the Secretary to conduct the study through an "open and public process," that the *Meridian Environmental Technology* report on "Drought Frequency Investigations of the Red River of the North Basin" was prepared by Dr. Leon Osborne, who developed the novel "wet future scenario" (where the high precipitation level that occurred in the Devils Lake Basin from 1993 to 2000 would continue for another 21 years, but where precipitation has been at or below average since 2001) upon which the State of North Dakota justified its irrational and ineffective outlet from Devils Lake to the Sheyenne River (U. S. Army Corps of Engineers, 2003, Appendix A, pp. A-126, A-137; Frink, 2005). However, despite Dr. Osborne's history of contractual relationships with North Dakota water development interests, the Technical Team was not consulted on, advised of, nor permitted to review the contract with Meridian Environmental Technologies for the *Drought Frequency Investigation of the Red River of the North Basin* before it was awarded.

Red River Valley Water Supply Options

According to the *Draft Report*:

> "**In 60 of the 71 years of analysis . . ., there is adequate water to meet most of the current and future MR&I water demands**; however, during a 1930s-type drought there would be severe shortages even with current water demands. **Options developed in this study are more about addressing shortages associated with drought than they are about projected increases in water demand**, although demands would be met…" (Draft Report, p. 5-2)

However, as we have already seen, the occurrence of drought in the Red River Valley within the next 45 years is highly speculative, and even if it should occur, significant water shortages could be avoided by implementing standard water conservation and drought contingency measures.

Options

The *Draft Report* presents seven options for meeting year 2050 Red River Valley projected MR&I water needs under 1930s drought conditions. Three of the options (North Dakota In-Basin, Red River Basin, and Lake of the Woods) would use water sources available within the Red River Valley (Draft Report, pp. 4-22 to 4-27). Four of the options (Garrison Diversion Unit Import to Sheyenne River, Garrison Diversion Unit Import Pipeline, Missouri River to Red River Valley Import, and Garrison Diversion Unit Water Supply Replacement Pipeline) would involve the interbasin transfer of Missouri River water to the Red River Basin (Draft Report, pp. 4-28 to 4-35). Three of the options (Garrison Diversion Unit Import to Sheyenne River, Garrison Diversion Unit Import Pipeline, and Garrison Diversion Unit Water Supply Replacement Pipeline) would utilize the Snake Creek Pumping plant, Lake Audubon, and 58 miles of the McClusky Canal features of the Garrison Diversion Unit's principal supply works (Draft Report, pp. 4-6 to 4-8).

Despite being designed to address water shortages associated with drought, none of the options includes a drought contingency plan (Draft Report, p. 2-13).

All of the options involve various combinations of pipelines, pumping plants and other structural features designed to create large water supply projects ranging in cost from $504,888,000 to $2,518,023,000 (Draft Report, pp. 4.39, 4-40). The Lake of the Woods option and all of the Missouri River import options are based on large pipelines costing from $395,296,000 (Scenario One Garrison Diversion Import to Sheyenne River) to $2,109,952,999 (Scenario Two Garrison Diversion Unit Water Supply Replacement Pipeline) as their principal water supply features (Draft Report, pp. 4-26 to 4-35), so they cannot be implemented in increments. Despite being designed to meet speculative water needs projected 45 years in the future, none of the options is designed to be implemented in increments as water needs actually materialize (Draft Report, pp. 4-22 to 4-35), but the North Dakota In-Basin and the Red River Basin options are based on independent water supply features that could be implemented separately (Draft Report, pp. 4-22 to 4-25).

In any event, because the future water needs upon which the *Draft Report* is based are highly speculative, and because the costs of the options identified for meeting those needs are so great, the only options that can realistically and responsibly be considered are the North Dakota In-Basin and the Red River Basin options that could be implemented in increments as water needs actually materialize.

Operation

The Garrison Diversion Unit Import Pipeline and the Garrison Diversion Unit Water Supply Replacement options would operate continuously to supply MR&I water to the Red River Valley (Draft Report, pp.4-7, 4-9). The North Dakota In-Basin, the Red River Basin , the Lake of the Woods, the Garrison Diversion Unit Import to the Sheyenne River and the Missouri River to Red River Valley Import options would operate only as needed to meet water needs during droughts (Draft Report, pp. 4-4, 4-6, 4-8, 4-11, 4-14).

It is important to note again that the complex nature of droughts does not permit reliable forecasting of their occurrence, severity or duration (Meridian Environmental Technology, 2004) and that there is only an 11.1 percent chance that a very extreme drought will occur by 2030 (Meridian Environmental Technology, 2004). Therefore, this means that the *Draft Report* is proposing two Red River Valley water supply options costing from $1,202,248,000 (Scenario One Garrison Diversion Import Pipeline) to $2,518,023,000 (Scenario Two Garrison Diversion Unit Water Supply Replacement) that may never be needed, and five more ranging in cost from $504,888,000 (Scenario One Garrison Diversion Unit Import to Sheyenne River) to $1,112,579,000 (Scenario Two Lake of the Woods) (Draft Report, pp. 4-39, 4-40) that may never be used.

The level of rationality involved in the *Draft Report's* consideration of options for meeting future Red River Valley water needs is reflected in all of the options presented, but nowhere is it more evident than in the North Dakota In-Basin option, the primary feature of which is a 53-71 cfs pipeline (Draft Report, pp. 4-11, 4-22) costing from $261,892,000 (Scenario One) to $291,815,000 (Scenario Two), designed to take water from the Red River downstream of Grand Forks and transport it 80-miles (Draft Report, p. C-53), back to the Sheyenne River so it can flow back into the Red River again upstream at Fargo to supply future water needs in that area (Draft Report, p. 4-22). But:

> "**This feature would be operated continuously during a 1930s type drought** when there would be more water in the lower Red River than in the upper portion of the river. **It could be used intermittently during short-term drought events**." (Emphasis added) (Draft Report, p. 4-11)

Rather than considering the obvious alternative of allowing water supplies and costs to shift population and industrial growth from Fargo to the Grand Forks area where water supplies would be adequate even in the event of a severe drought , the *Draft Report* proposes instead to subsidize continued growth in the Fargo area with a $261,000,000 pipeline—that would only be needed in the event of a severe drought—to re-circulate Red River water back to the area. Indeed, one might ask why tax dollars from Grand Forks and other areas of North Dakota and the nation should be used to subsidize growth in Fargo.

The Missouri River as a Water Source for the Red River Valley

The entire *Draft Report on Red River Valley Water Needs and Options* is predicated on the presumption of a 1930s-type drought occurring from 2040 to 2050 (Draft Report, pp. 1-1, 4-4, 4-6, 4-7, 4-8, 4-9, 4-11, 4-14, 5-1, 5-2, B-84 to B-89), so:

> "Options developed in this study are more about addressing shortages associated with drought than they are about projected increases in water demand. . ." (Draft Report, p. 5-2)

and four of the seven options identified in the *Draft Report* for meeting future Red River Valley MR&I water needs in the event of a 1930s type drought involve delivering Missouri River water to the Red River Valley (Draft Report, pp. 4-20 to 4-35),

It is important to note, therefore, that the *Drought Frequency Investigations of the Red River of the North Basin* (Meridian Environmental Technology, 2004) upon which the modeling of water shortages in the *Draft Report* is based (Draft Report, p. 5-2) points out that:

> "Of particular importance in the projection of future drought conditions for the Upper Missouri River Basin is the estimation of mountain snowpack across the Montana Rocky Mountains. As data presented in this report indicates [sic], the occurrence of both drought conditions and areal coverage of drought are highly variable. Hence, the presence of extreme drought conditions across the Montana Rocky Mountain region will dramatically reduce snowpack levels. **Since snowmelt is the primary water source for the Missouri River and since any future availability of Missouri River water for the Red River will depend upon having adequate mountain snowpack, understanding the relationship of large-scale drought to mountain snow amounts will be important in future planning for water resources management within both the Upper Missouri River Basin and the Red River Basin**." (Emphasis added) (Meridian Environmental Technology, 2004)

However, despite the fact that the water level in Lake Sakakawea behind Garrison Dam has dropped 42 feet since 1997 and is 30 feet below its long-term average level (Springer, 2005), and despite the on-going controversy over the availability of Missouri River water for other established uses within the basin (Lembrecht, 2005), the *Draft Report* provides no analysis of the probability that sufficient Missouri River water would be available to cover the projected year 2050 Red River Valley Scenario One or Scenario Two shortages.

Chapter Three of the *Draft Report*, titled "*Hydrology,*" provides 128 pages of discussion of surface water and groundwater in the Red River Basin and Appendix B provides another 182 pages of discussion of Red River Basin hydrology. But nowhere in the *Draft Report* is any information presented on Missouri River hydrology, despite the fact that four of the seven options identified in the *Draft Report* are based on delivering Missouri River water to the Red River Valley.

The importance of such an analysis to the evaluation of options for meeting future Red River Valley water needs was pointed out in the December 16, 2002, letter to the Regional Director of

the Bureau of Reclamation from the Minnesota Center for Environmental Advocacy, the Minnesota Conservation Federation, the National Audubon Society, and the National Wildlife Federation providing Comments on the Scope of Issues for the EIS regarding Alternatives for Meeting Water Needs in the Red River Valley:

> "For alternatives involving the delivery of Missouri River water to the Red River Valley, the EIS should discuss the impacts of the withdrawals not simply in relation to average total Missouri River flows, but it should identify and discuss the cumulative impacts in terms of current, authorized and proposed or anticipated future withdrawals from the river under a full range of flow conditions. **This is a particularly high imperative since this study could potentially be considering water withdrawals from an already heavily taxed and potentially over-committed river basin to meet projections for demands of a completely separate basin.**
>
> It is relevant to note here that Richard Bad Moccasin, Executive Director of the Mni Sose Intertribal Water Rights Coalition, Inc., has tabulated a total of about 21.5 million acre-feet of water rights for 'Tribes Along the Missouri.' This quantity represents an 'Annual Diversion' from the system and is stated by Director Bad Moccasin to be the equivalent of nearly 11 million acre-feet of 'Annual Depletion.'
>
> It should also be noted that Reclamation's Great Plains Regional Director Maryanne Bach reported in a letter dated September 6, 2001, that her office has 11 Missouri River water withdrawal projects in Montana and South Dakota which are in the planning, pre-construction, or construction phase. These projects are in addition to the dozens of Reclamation projects and hundreds of other projects that already are in existence and contributing to the depletion of the water supply of the Missouri River at this time." (Emphasis added) (Beard, et al. 2002)

However, despite the fact that four of the seven options identified in the *Draft Report* for meeting projected future Red River Valley MR&I water needs are based on delivering Missouri River water to the Red River Valley, the *Draft Report* provides no information or analysis regarding the availability of Missouri River water to meet future Red River Valley water needs. The *Draft Report* simply assumes the water will be there.

North Dakota's Preferred Option

Three weeks before the *Draft Report* was released and four months before comments from the public and other government agencies were due, the Garrison Diversion Conservancy District and its local front group, the Lake Agassiz Water Authority formed in 2003 and with the Manager of the Garrison Diversion Conservancy District as its Secretary-Treasurer (Weckerly, 2005), already were endorsing the Garrison Diversion Unit Import to Sheyenne River option. According to a story in the May 11, 2005 issue of *The Forum*:

> "**Representatives of cities and rural water systems in the Red River Valley on Tuesday endorsed the idea of diverting Missouri River water to the Sheyenne River as the best option for meeting future water needs**.
>
> The board of the Lake Agassiz Water Authority voted unanimously to support the alternative, but left the option of changing its mind as more information becomes available.
>
> Tuesday's vote was a preliminary step toward the state of North Dakota declaring its preference for meeting the future water needs of the Red River Valley. This fall, after further review, the Red River Valley water authority will make a formal recommendation.

> 'I think it's an important step to indicate our intentions based on what we know so far,' said Mayor Bruce Furness, chairman of the water authority.
>
> **The U. S. Bureau of Reclamation and North Dakota's Garrison Diversion [Conservancy District] are studying up to eight alternatives for meeting the Red River Valley's water needs through the year 2050**, when the region's population is expected to be roughly twice what it is today.
>
> **The bureau is expected to release its engineering analysis of the options at the end of the month**. In December, the bureau and Garrison Diversion [Conservancy District] will issue the draft environmental impact statement of the alternatives.
>
> **The option endorsed unanimously by the water authority's board would import water from the Missouri River using a canal built for Garrison and proposed pipelines**.
>
> The water would be routed to Lake Ashtabula, north of Valley City, where an existing dam would regulate pool levels and release water into the Sheyenne River, which flows into the Red River. The water would be treated to prevent biological organisms from crossing into the Red River water shed [sic], a move to try to satisfy Canadian environmental concerns.
>
> **Engineers for Garrison, which also provides staff support for Lake Agassiz Water Authority, said that option appears to be the best alternative** on technical merits.
>
> **'It appears the Sheyenne River alternative could be the best solution,' said David Johnson, Garrison's district engineer**." (Emphasis added) (Springer, 2005a)

Aside from its remarkable candor in reporting the Garrison Diversion Conservancy District's inappropriate and unlawful role in the Red River Valley Water Supply Study in direct violation of the explicit language of Paragraph 8(b)(1) of the Dakota Water Resources Act directing the Secretary of the Interior to conduct the study, the story raises the question of why, when the Garrison Diversion Conservancy District purports already to be concerned about "the awkward existence of nearly 120 miles of canal cutting across the middle of the of the State with no current function" (Haak, 1999), it would endorse an option that would add another 223 miles of pipeline (Draft Report, p. 4-29) that would also have no function, except in the unlikely event of a severe drought sometime in the next 45 years, when it then might be used for only 10 years or less (Draft Report, p. 4-7).

It is instructive to note, therefore, that:

> "While irrigation is not identified as one of the water needs to be met in DWRA, irrigation shortages are integral to the results of this study. Irrigation water use is in direct competition with other water uses." (Draft Report, p. 3-105)

and:

> "Shortages. . . also [include] irrigators along the Sheyenne River. Although they are not served as part of this project, these **irrigators could potentially draw water from the river before it gets to its intended MR&I destination**. *Project waters* are the flows that are above the natural flow in the river and are intended for a permit holder downstream with a more senior water right. Though monitored and controlled through permitting by NDSWC, **inappropriate withdrawals of project water upstream that was intended for MR&I use downstream would be difficult to document or to prevent**. Upstream withdrawals of water beyond permitted amounts would lead to shortages downstream, which in turn would lead to reductions in storage. For this reason,

> **Reclamation included shortages for irrigators on the Sheyenne River as shortages to the system**." (Emphasis added) (Draft Report, p. 3-103)

Of course, the inclusion of shortages for irrigators on the Sheyenne River as shortages to the system amounts to the *de facto* supplying of Missouri River water for unauthorized irrigation in the Hudson Bay Basin of North Dakota.

It also is relevant to consider former Garrison Diversion Conservancy District Manager Warren Jamison's statements in his March 1, 2000, presentation to the Dakota Chapter of the American Fisheries Society:

> "It is no secret that we would prefer an option that ties together the existing distribution system of the McClusky and New Rockford Canals, thus providing an economical use of the idle canals. Preliminary studies show that connecting the two existing canals with a pipeline and releasing treated water into the Sheyenne River is the least costly and most practical alternative. **It is this possibility of releasing a new water supply to the Sheyenne River that I want to call to your particular attention**.
>
> Before a Federal decision is made to introduce additional water into the Sheyenne River, the current legislation directs extensive studies and an Environmental Impact Statement
>
> . . .
>
> . . . **It is our intent that if any irrigation is ever developed, it will be as a state initiative**, which would not require the large canals and drainage systems typical of federal irrigation projects. Federal power would still be available for irrigation development…" (Emphasis added) (Jamison, 2000)

Therefore, there is no question that, once a Garrison Diversion Unit Import to Sheyenne River were built, the Garrison Diversion Conservancy District and others of the North Dakota political/water development establishment would soon begin lobbying to put the "idle" McClusky Canal and 129 miles of pipeline, which would have no use except in a severe drought, to 'economical use' to deliver Missouri River to the Sheyenne River where it would be available for irrigation development under State initiative.

It also is important to recognize that the Garrison Diversion Unit Import to the Sheyenne River—which is capable of supplying from 52,553 to 80,976 acre-feet of Missouri River water annually (Draft Report, p. 5-13)— is the only option utilizing Garrison Diversion Unit principal supply works features that is not designed for continuous operation to supply Red River Valley MR&I needs. This means that the full capacity of the pipeline could be made available for irrigation development except in the unlikely event of an extreme drought. And, because the pipeline also crosses the James River, it would be simple and relatively inexpensive for the State to install a release feature in the pipeline to permit the delivery of Missouri River water to the James River for development of irrigation in the LaMoure and Oakes areas. With Jamestown Reservoir on the James River and Lake Ashtabula on the Sheyenne River, ample storage would be available for the delivery of Missouri River water throughout the year for use during the irrigation season.

It is particularly significant to note that Subsection 9(a) of the Dakota Water Resources Act of 2000 explicitly delays the decision on the transfer of the title to the Oakes Irrigation Test Area on the James River to the State until up to two years after the record on the decision on a Red River Valley Water Supply Project.

It also is important to recall again the statement of the Manager of the Garrison Diversion Conservancy District on December 15, 2000, when the Dakota Water Resources Act was passed:

> "Passage of the Dakota Water Resources Act (DWRA) is a major chapter in a very long history book, but **is not the final chapter** needed to meet North Dakota's **highest**

> **priority water needs**. We see this as the **beginning of an important first phase**, ending in a solution that addresses North Dakota's current and future water needs." (Emphasis added) (Garrison Diversion Conservancy District, 2000)

The Dakota Water Resources Act of 2000 authorizes a Red River Valley Water Supply Project, but is it clear that the Garrison Diversion Conservancy District does not consider supplying MR&I water to the Red River Valley "to meet North Dakota highest priority water needs."

Any lingering doubt about the State of North Dakota's plan to accomplish diversion of Missouri River water to the Red River Valley under the guise of a Red River Valley Water Supply Project, was removed by the recent reaction of the North Dakota Congressional Delegation to a draft agreement on the controversy over the State's Devils Lake outlet that included a provision calling for an automatic referral to the International Joint Commission if a Red River Valley Water Supply Project option is chosen that involves the transfer of Missouri River water to the Red River Valley:

> "Governor John Hoeven struck a deal with Canadian governments over the operation of the Devils Lake outlet. Then he had to smooth political waters closer to home.
>
> North Dakota's congressional delegation bristled that language contained in a draft agreement over the outlet could have given Canadians veto power over transferring Missouri River water to eastern North Dakota.
>
> . . .
>
> **North Dakota's Democratic delegation – Sens. Kent Conrad and Byron Dorgan, and Rep. Earl Pomeroy – issued a joint statement expressing their concern that the agreement over the Devils Lake outlet could create an obstacle in diverting water from the Missouri to augment the Red River Valley's water supply**." (Emphasis added) (Springer, 2005b)

Bias in the Draft Report on Red River Valley Water Needs and Options and Violation of the Dakota Water Resources Act of 2000

As has been pointed out a number of times above, the Dakota Water Resources Act of 2000 is explicit in directing that:

> "**The Secretary of the Interior shall conduct a comprehensive study** of the water quality and quantity needs of the Red River Valley in North Dakota and options for meeting those needs." (Emphasis added) (Paragraph 8(b)(1)

and:

> "In conducting the study, **the Secretary through an open and public process** shall solicit input from gubernatorial designees from **states that may be affected** by possible options to meet such needs as well as designees from other **federal agencies with relevant expertise**." (Emphasis added) (Paragraph 8(b)(3)

Nowhere does the Act authorize the State of North Dakota, the Garrison Diversion Conservancy District or any other entity having a vested interest in the outcome of the study to have a greater role in the Red River Valley Water Needs and Options study than the designees of other states and Federal agencies, and nowhere does the Act authorize the Bureau to give them access to information not provided to other members of the Technical Team. It is relevant, therefore, to consider the degree to which bias has entered into the preparation of the *Draft Report on Red River Valley Water Needs and Options* in direct violation of the Dakota Water Resources Act of 2000:

- Seven months before the Dakota Water Resources Act of 2000 was passed, the Bureau of Reclamation, the North Dakota State Water Commission and the Garrison Diversion Conservancy District had secretly signed a Memorandum of Understanding establishing a Study Management Team composed of their own representatives to direct the Red River Valley Water Supply Study.
- Within a week after the Dakota Water Resources Act specifying that the Secretary of the Interior was to conduct the study in an open and public process was passed on December 15, 2000, the Study Management Team consisting of the Dakotas Office Manager of the Bureau, the State Engineer and the Manager of the Conservancy District met secretly with members of their staffs to initiate the Red River Valley Water Supply Study.
- The Study Management Team deliberately withheld from other members of the Technical Team and the Study Review Team information regarding the time and location of Study Management Team meetings.
- The minutes of the second meeting of the Study Management Team on January 23, 2001, following passage of the Dakota Water Resources Act on December 15, 2000, report that:

  > "Lawrence Woodbury [of Houston Engineering] handed out five task orders relating to RRV Study Activities Houston Engineering would like to begin. **Houston Engineering has an existing contract with the C-district**, and these task orders outline the scope of specific work activities under that contract." (Emhpasis added)

- Houston Engineering has a long contractual history with the Garrison Diversion Conservancy District, the North Dakota State Water Commission, the City of Fargo, and others with vested interests in the Red River Valley Water Supply Study.
- The minutes of the December 21, 2000, meeting of the Study Management Team disclose that payment of the expenses for the participation of Garrison Diversion Conservancy District staff at Technical Team meetings had been discussed. However, when later asked by other members of the Technical Team if the Conservancy District was being reimbursed by the Bureau for those expenses, neither the representative of the Bureau nor the Manager of the Conservancy District would answer the question.
- The Garrison Diversion Conservancy District contracted with its own private consultants to develop information for the Red River Valley Water Supply Study and was reimbursed by the Bureau for those consulting costs. Other stakeholders had no voice in the selection of the contractors or in the development of the contracts.
- Houston Engineering performed five of nine engineering tasks for the Red River Valley Water Supply Study.
- Houston Engineering developed the design criteria for the options considered in the *Draft Report on Red River Valley Water Needs and Options* (Draft Report, p. 4-1, 4-2)
- Houston Engineering prepared the option drawings for the *Draft Report on Red River Water Needs and Options* (Draft Report, Appendix C, Attachment 4).
- The industrial water needs projections used in the *Draft Report on Red River Valley Water Needs and Options* was prepared by the North Dakota State University

Department of Agribusiness and Applied Economics under contract with the Garrison Diversion Conservancy District.

- The Scenario Two population projections used in the *Draft Report on Red River Valley Water Needs and Options* were developed by Red River Valley municipalities having a vested interest in the outcome of the Red River Valley Water Supply Study.
- The Drought Frequency Investigation of the Red River of the North Basin utilized in the *Draft Report on Red River Valley Water Needs and Options* was prepared by Leon Osborne of Meridian Environmental Technologies, who has a history of contractual relationships with North Dakota water development interests.

These and other examples clearly demonstrate that the *Draft Report on Red River Valley Water Needs and Options* was not prepared by, or under the auspices of, the Secretary of the Interior in an open and public process as explicitly directed by the Dakota Water Resources Act of 2000. They also clearly demonstrate that every aspect of the Red River Valley Water Supply Study having a significant influence on future water needs and options was systematically and fundamentally biased to inflate those needs to make options involving the delivery of Missouri River water to the Red River Valley utilizing the Garrison Diversion project appear to be more feasible. For example:

- The *Draft Report* is based on an unrealistically long 50-year planning horizon utilized to inflate future water needs, despite wide recognition of the unreliability of population and water use projections that far into the future.
- The *Draft Report* is based on single point Scenario One and Scenario Two year 2050 population and water use projections, rather than on a series of projections at shorter intervals that would show the diminishing reliability of those projections and allow the public, decision makers and water facility managers to make informed evaluations about realistic needs.
- Population estimates by independent entities with demographic expertise were rejected for the *Draft Report's* Scenario One population projection.
- The participant municipalities' inflated population projections were incorporated for the *Draft Report's* Scenario Two population projection.
- Because future industrial water needs cannot be reliably estimated more than 10 years in the future, the *Draft Report* is not based on an objective, scientific analysis of those needs, but simply on hypothetical scenarios and speculation.
- The potential contributions of water conservation to reducing future shortages were minimized in the *Draft Report*.
- Significant MR&I water shortages would not be expected to occur in the Red River Valley by 2050 even with the inflated and speculative demands generated for the *Draft Report*, so the development of options was based on the assumption that another 1930s-type drought will occur in the decade preceding 2050.
- Although all of the options identified in the *Draft Report* for meeting future Red River Valley MR&I water needs are based on the presumption that a 1930s-type drought will occur in the decade preceding 2050, nowhere in the *Draft Report* is there any consideration of how the implementation of drought contingency measures could reduce shortages during droughts.

- Although the drought frequency report upon which the *Draft Report* is based concludes that a drought of the magnitude of the 1930s drought is a realistic and statistically significant representation of the most extreme drought anticipated until 2050, and although the *Draft Report* states that it utilized a period including the 1930s drought for modeling purposes, it dismisses consideration of drought contingency measures by claiming that they "must be reserved for unforeseen events."

- Rather than considering that a 1930s-type drought could occur any time before—or after—2050, the *Draft Report* assumed that it would occur in the decade precding 2050, when the inflated Scenario One and Scenario Two water needs would be the greatest, in order to maximize the shortages.

- None of the options identified in the *Draft Report* for meeting future Red River Valley water needs is designed to be implemented in increments as water needs do—or do not—materialize.

However, as a representative of the Lake Agassiz Water Authority said at the July 5-6, 2005, Red River Valley Water Supply Project Technical Team meeting, they see this as the State's last chance to get Missouri River water to the Red River Valley.

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FUNDING AND REIMBURSEMENT FOR THE RED RIVER VALLEY WATER SUPPLY PROJECT

The Dakota Water Resources Act of 2000 directed the Secretary of the Interior to conduct a comprehensive study of water quality and quantity needs of the Red River Valley in North Dakota and possible options for meeting those needs. The U. S. Bureau of Reclamation released its *Draft Report on Red River Valley Water Needs and Options* prepared under the Dakota Water Resources Act in May 2005.

Because decisions regarding a Red River Valley Water Supply Project will be heavily influenced by costs, it is necessary to consider not only the total cost of construction of the various water supply options identified in the *Draft Report on Red River Valley Water Needs and Options* but also how those total costs are allocated between reimbursable costs (repaid by local users of the water projects) and non-reimbursable costs (paid by U. S. taxpayers from the Federal Treasury).

The Garrison Diversion Unit Reformulation Act of 1986

The original 250,000-acre Garrison Diversion Unit irrigation project authorized in 1965 included provisions for delivering water to 14 towns and four industrial areas, none of which was located in the Red River Valley. In 1986, the project was re-authorized under the Garrison Diversion Unit Reformulation Act of 1986. Section 5 of the 1986 Act amended Section 7 of the 1965 Garrison Diversion Unit authorization act dealing with Municipal, Rural, and Industrial Water (MR&I) Water Service. The amended Subsection 7(a) in the 1986 Act authorized what became commonly known as the statewide MR&I grant program which provided Federal funds for upgrading MR&I systems in smaller communities across North Dakota, with 25 percent repayment by those local communities.

Section 8 of the 1986 Act amended Paragraph 10(b)(1) of the 1965 Act to authorize appropriations of $200 million to carry out the statewide MR&I grant program authorized in Subsection 7(a), and Paragraph 7(a)(3) directed the Secretary of the Interior "to convey to the State of North Dakota, on a non-reimbursable basis, the funds authorized in Section 10(b)(1) of this Act." This created a partially revolving, Federally-funded $200 million statewide MR&I water supply grant program where the 25 percent repayment by local sponsors was returned to the State to fund additional grants, but none of the $200 million was reimbursable to the Federal Government. The 25 percent repayment by communities receiving the MR&I grants increased the total amount ultimately available for MR&I grants under the program to $267 million.

Section 5 of the 1986 Act also amended Subsection 7(b) of the 1965 Act to direct the Secretary of the Interior to construct a Sheyenne River Water Supply and Release Feature to deliver 100 cfs of Missouri River from the Garrison Diversion project's principal supply works to the Sheyenne River for Fargo, Grand Forks and surrounding communities in the Red River Valley. Section 8 of the 1986 Act then amended Paragraph 10(b)(2) of the 1965 Act to authorize appropriations totaling $61 million to carry out Subsections 7(b) through 7(d) of the 1986 Act (Sheyenne River Water Supply and Release Feature, Indian MR&I projects, and Boundary Waters Treaty of 1909 compliance of MR&I projects delivering Missouri River water into the Hudson Bay Basin). Under the 1986 Act, the costs of the Sheyenne River Water Supply and Release Feature allocated to achieving compliance with the Boundary Waters Treaty of 1909 (i.e., a biota treatment plant) were non-reimbursable Federal costs, but the rest of the costs for the feature were reimbursable.

Consequently, two MR&I water programs were authorized by the 1986 Act. The first, authorized in Subsection 7(a) of the Act was a $200 million statewide MR&I grant program to fund upgrading of water systems in smaller communities, with 25% repayment of the costs by the local communities to the State but no reimbursement to the Federal Government. Under the 1986 Act, the State's Southwest Pipeline Project was made eligible for funding under the statewide MR&I grant program.

The second MR&I water program authorized under Subsection 7(b) of the 1986 Act was a Sheyenne River Water Supply and Release Feature to deliver 100 cfs of Missouri River water to the Sheyenne River for use by Fargo, Grand Forks and other communities in the Red River Valley, with only the biota treatment plant costs (estimated in the May 2005 *Draft Report on Red River Valley Water Needs and Options* at $7-12 million) being non-reimbursable. However, the 1986 Act included no further provisions for MR&I water supplies for cities in the Red River Valley, other than providing for the delivery of 100 cfs of Missouri River water from the Garrison Diversion project's principal supply works to the Sheyenne River, and it was left up to the communities in the Red River Valley to develop and finance their own water supply projects to utilize that water.

The Dakota Water Resources Act of 2000

With passage of the Dakota Water Resources Act of 2000, Subsection 7(b) of the 1986 Act authorizing a Sheyenne River Water Supply and Release Feature was moved to a new Paragraph 8(a)(1) dealing with a "Red River Valley Water Supply Project." In addition, under Paragraph 7(a)(3) of the DWRA the non-Federal share of the cost of construction of **ALL** MR&I water systems funded under Section 7 "shall be 25 percent." However, as in the 1986 Act, that 25% non-Federal cost share continues to be reimbursed to the North Dakota MR&I program and not to the Federal Treasury, so the funds appropriated under Paragraph 7(a)(3) are non-reimbursable to the Federal Government.

Section 8 of the Dakota Water Resources Act then expanded Subsection 7(b) of the 1986 Act from simply authorizing a Sheyenne River Water Supply and Release Feature in Paragraph 8(a)(1) to requiring in Paragraph 8(a)(2) that the feature be designed and constructed to meet municipal, rural, and industrial water supply needs, groundwater recharge, and streamflow augmentation, i.e., a Red River Valley Water Supply Project to meet all MR&I water needs of the Red River Valley.

Paragraph 7(a)(3) of the Dakota Water Resources Act explicitly provides that, in addition to the Southwest Pipeline Project, the Red River Valley Water Supply Project and the State's Northwest Area Water Supply project "shall be eligible for funding under the terms of this section." As in Paragraph 7(a)(3) of the 1986 Act, Paragraph 7(a)(3) of the DWRA also provides that the $200 million MR&I appropriation authorized under Paragraph 10(b)(1) to carry out that section of the Act shall be conveyed to the State of North Dakota "on a nonreimbursable basis."

Paragraph 10(a)(1) of the Dakota Water Resources Act then authorizes the appropriation of $200 million specifically to carry out Paragraph 8(a)(1) of the Act, i.e., a Sheyenne River Water Supply and Release Facility or "such other feature or features as are selected under subsection (d)." Subsection (d) deals with the selection of a Red River Valley Water Supply Project, so Paragraph 10(a)(1) authorizes the appropriation of another $200 million specifically for the Red River Valley Water Supply Project. However, the DWRA is silent regarding the reimbursability of this second $200 million appropriation authorized under Paragraph 10(a)(1), so it is not clear whether these funds are, as is the case with funds appropriated under Paragraph 7(a)(3), non-reimbursable

to the Federal Government, or if they are, as has been standard agency policy for municipal and industrial water supplies from other Reclamation projects, 100 percent reimbursable.

The Dakota Water Resources Act of 2000 contains two additional provisions that affect the reimbursability of the costs for a Red River Valley Water Supply Project. First, Paragraph 1(f)(3) of the DWRA provides:

> "OPERATION AND MAINTENANCE COSTS. – Except as otherwise provided in this Act or Reclamation law –
>
> (i) **The Secretary shall be responsible for the costs** of operation and maintenance **of the proportionate share of unit facilities** in existence on the date of enactment of the Dakota Water Resources Act of 2000 attributable to the capacity of the facilities… **that remain unused.**
>
> (ii) **The State of North Dakota shall be responsible for costs** of operation and maintenance **of the proportionate share of existing facilities that are used**…" (Emphasis added)

This means that, although the 1,950 cfs McClusky Canal would have to be operated and maintained for Red River Valley Water Supply Project options utilizing Garrison Diversion Unit facilities, Red River Valley cities would be required to pay operation and maintenance costs based on only the portion of the full 1,950 cfs capacity actually required to meet Red River Valley water needs. For example, under the Garrison Diversion Unit Import to Sheyenne River Import option, in the case of a severe drought, up to 78 cfs could be delivered from the McClusky Canal under the Bureau of Reclamation's Scenario One needs and up to 120 cfs could be delivered under Red River Valley municipalities' Scenario Two needs, so the cities would be required to pay only 4 to 6 percent of the operation and maintenance costs for the 1,950 cfs McClusky Canal.

Second, and most significantly, under Paragraph 1(f)(2) of the DWRA:

> "REPAYMENT CONTRACT. – **An appropriate repayment contract** shall be negotiated that provides for the making of a payment for each payment period in an amount that is commensurate **with the percentage of the total capacity of the project that is in actual use during the payment period**." (Emphasis added)

This means that, regardless of the ultimate capacity and total cost of the Red River Valley Water Supply Project option that is selected, the cities' repayment will be based only on the percentage of that ultimate capacity that actually is used during that payment period. Therefore, if the project is designed with a capacity to supply 24,000 acre-feet of Missouri River water annually to MR&I water users in the Red River Valley under the $1.4 billion Scenario Two Garrison Diversion Unit Import Pipeline option, but 2,400 acre-feet actually are used, the repayment would be based on project costs of only $140 million. In fact, because the MR&I water supply options identified in the *Draft Report on Red River Valley Water Needs and Options* are designed to meet projected shortages based on a 10-year, 1930s-style drought occurring from 2040 to 2050 with populations in the Red River Valley 50 to 100 percent larger than today, it is evident that the full capacity of a Red River Valley Water Supply Project would not be used for decades, if ever.

Of course, for those options designed to be used only in the event of a severe drought (North Dakota In-Basin, Red River Basin, Lake of the Woods, Garrison Diversion Unit Import to

Sheyenne River, and Missouri River to Red River Import), there would be no repayment what-so-ever of the $504,888,000 (Scenario One Garrison Diversion Unit Import to Sheyenne River) to $1,112,579,000 (Scenario Two Lake of the Woods) (Draft Report, pp. 4-39, 4-40) costs unless a severe drought were to occur. And, even if a severe drought were to occur, the repayment would be limited to the relatively few years the project would actually be used. What this means is that the U. S. Government very likely could end up spending $504,888,000 to $1,112,579,000 for a Red River Valley Water Supply Project for which North Dakota would repay virtually nothing.

Thus, rather than promoting, and indeed requiring, realistic and responsible analyses of future MR&I water needs in the Red River Valley and options for meeting those needs, the Dakota Water Resources Act instead establishes a powerful incentive—confirmed by the Scenario Two population and industrial growth projections developed for the *Draft Report on Red River Valley Water Needs and Option*s by the Red River Valley municipalities and the Garrison Diversion Conservancy District—for the State, the Conservancy District, and allied water development groups such as the Lake Agassiz Water Authority, to seek the most extravagant Red River Valley Water Supply Project possible, because they will not have to pay for it unless or until it is used—and then only for the proportion that is actually used. But, of course, that is what was to be expected with "the first Garrison plan written by North Dakotans for North Dakotans" (Conrad, 2001).

Consequently, under the Dakota Water Resources Act of 2000:

- The separate $200 million statewide MR&I grant program designed to upgrade water supplies for small communities authorized by Paragraph 7(a)(1) of the 1986 Act is incorporated into a single, potentially open-ended, multi-billion dollar North Dakota MR&I water program that includes the Southwest Pipeline project listed in the 1986 Act, plus the Northwest Area Water Supply project and a Red River Valley Water Supply Project.

- The costs of a Red River Valley Water Supply Project allocated to achieving compliance with the Boundary Waters Treaty of 1909 are non-reimbursable Federal costs.

- The $200 million in appropriations authorized in DWRA Paragraph 10(b)(1) for MR&I projects, including the Southwest Pipeline project, the Northwest Area Water Supply project, and a Red River Valley Water Supply Project, are non-reimbursable Federal costs under Paragraph 7(a)(3). However, because they are 25 percent reimbursable to the State by the local sponsors, $267 million actually will be available.

- The net effect for the State of North Dakota of making $267 million in non-reimbursable Federal funds available for all MR&I projects under the Dakota Water Resources Act (in addition to the $200 million previously authorized in the 1986 Act) is the equivalent of making $267 million in non-reimbursable funds available for paying the costs of a Red River Valley Water Supply Project, because the DWRA deals principally with a Red River Valley Water Supply Project and it is simply a matter of accounting as to how the funds are allocated, i.e., whether they are allocated directly to the Red River Valley Water Supply Project or to other projects, such as the Northwest Area Water Supply project, thereby indirectly making

corresponding State funds available for paying the reimbursable costs of a Red River Valley Water Supply Project.

- The $200,000,000 appropriations specifically authorized for a Red River Valley Water Supply Project in Paragraph 10(a)(1) of the Dakota Water Resources Act and the additional $200,000,000 appropriations authorized for the statewide water grant program in Paragraph 10(b)(1) and which directly or indirectly could be used for a Red River Valley Water Supply Project will have to be increased to cover the costs—which range from $500,000,000 to $2,200,000,000—of any of the Red River Valley Water Supply Project options identified in the *Draft Report on Red River Valley Water Needs and Options*. This would involve increasing the appropriation authorization ceiling in future congressional appropriation authorization bills, as was done to increase the $200 million MR&I water supply grant appropriation in Paragraph 10(b)(1) the 1986 Garrison Diversion Unit Reformulation Act by another $200 million to a total of $400 million in Paragraph 10(b)(1) of the Dakota Water Resources Act.

- Operation and maintenance costs for the McClusky Canal for Red River Valley Water Supply Project options utilizing Garrison Diversion Unit features are based on the percentage of the full capacity of the canal used, rather than on the actual operation and maintenance costs required to deliver the water.

- Repayment of the Red River Valley Water Supply Project that is selected is not based on the actual capacity and cost of the project, but only on the proportional cost for the amount of water actually used.

Because it is uncertain at this time how much of the $200 million in non-reimbursable statewide MR&I water supply grant appropriations authorized in Paragraphs 7(a)(3) and 10(b)(1) of the Dakota Water Resources Act, or that may be authorized in future appropriation authorization bills, will be utilized for the costs of a Red River Valley Water Supply Project, it is not possible to determine exactly what the reimbursable and non-reimbursable costs will be. However, it is important to recognize that the amount of current and future non-reimbursable general MR&I water supply grant appropriation authorizations under Paragraph 10(b)(1) that are allocated to the Red River Valley Water Supply Project, and the reimbursability of the current and future specific appropriations authorized for the project under Paragraph 10(a)(1), could dramatically alter the non-reimbursable Federal costs and the reimbursable State costs of any Red River Valley Water Supply Project option that is selected.

Funding and Reimbursement Scenarios under the Dakota Water Resources Act of 2000

With the virtually unlimited number of potential funding and reimbursement scenarios for a Red River Valley Water Supply Project possible under the Dakota Water Resources Act, compounded by reimbursement being based on the occurrence drought and the project capacity actually used, it is not possible to attempt to consider all of them. However, it is useful for purposes of illustration to consider three potential reimbursement scenarios that might bracket the range **IF** the projects were used to full capacity. Mid-Range Reimbursement Scenarios show what 'average' reimbursement costs might be under certain 'moderate' assumptions. Then because it is important to the communities that will repay the costs for the various water supply features developed under the Red River Valley Water Supply Project to know what the highest repayment costs might be, it is useful to consider High Range Reimbursement Scenarios. Because of the precedent established by the Dakota Water Resources Act of 2000 for extravagant congressional

largesse in the reimbursement provisions for the Red River Valley Water Supply Project, it is important to U. S. taxpayers to know what Low Range Reimbursement Scenarios could involve.

Mid-Range Reimbursement Scenarios
Under the Dakota Water Resources Act of 2000
For Red River Valley Water Supply Project Options Identified in
The Draft Report on Red River Valley Water Needs and Options

For this scenario, it is assumed that:

(1) A Red River Valley Water Supply Project will be based on the *Draft Report on Red River Valley Water Needs and Options* Scenario One 2050 population and industrial growth projections.

(2) All of the $200 million non-reimbursable statewide MR&I water supply grant appropriations authorized in Dakota Water Resources Act Paragraph 10(b)(1) (Federal non-reimbursable) are allocated to the Red River Valley Water Supply Project, but the additional $67 million generated by the 25 percent repayment to the State are used to fund other MR&I projects.

(3) The $200 million appropriation specifically for the Red River Valley Water Supply Project authorized in Dakota Water Resources Act Paragraph 10(a)(1) (State reimbursable) is 100 percent reimbursable.

(4) Costs allocated to achieving compliance with the Boundary Waters Treaty of 1909 (i.e., biota treatment plants) are non-reimbursable and are paid from the $200 million reimbursable appropriation authorized in Dakota Water Resources Act Paragraph 10(a)(1), rather than from the already non-reimbursable appropriation authorized under Paragraph 10(b)(1).

(5) Future appropriation authorizations required to complete the project are equally divided between Dakota Water Resources Act Paragraph 10(b)(1) non-reimbursable funds and Paragraph 10(a)(1) 100% reimbursable funds.

(6) The project is operated continuously at full capacity and not just during periods of drought.

Under these Mid-Range Reimbursement Scenarios, the costs of the Scenario One Red River Valley Water Supply Project options identified in the *Draft Report on Red River Valley Water Needs and Options* would be allocated approximately as follows:

Red River Valley Water Supply Project Option	Total Costs[1]	Federal Non-reimbursable	State Reimbursable
North Dakota In-Basin Appropriation Authorizations			
DWRA	$400,000,000	$200,000,000	$200,000,000
Future	157,859,000	78,929,000	78,929,000
Total	$557,859,000	$278,929,000	$278,929,000

		(50%)	(50%)
Red River Basin			
Appropriation			
Authorizations			
DWRA	$400,000,000	$200,000,000	$200,000,000
Future	149,166,000	74,583,000	74,583,000
Total	$549,166,000	$274,000,000	$274,000,000
		(50%)	(50%)
Lake of the Woods			
Appropriation			
Authorizations			
DWRA	$400,000,000	$200,000,000	$200,000,000
Future	537,228,000	268,614,000	268,614,000
Total	$937,228,000	$468,614,000	$468,614,000
		(50%)	(50%)
GDU Import to Sheyenne River			
Appropriation			
Authorizations			
DWRA	$400,000,000	$200,000,000	$200,000,000
BWT[2]		+12,464,472	-12,464,472
Future	104,888,000	52,444,000	52,444,000
Total	$504,888,000	$264,908,472	$239,979,528
		(52.5%)	(47.5%)
GDU Import Pipeline			
Appropriation			
Authorizations			
DWRA	$400,000,000	$200,000,000	$200,000,000
BWT[2,3]		+25,304,742	-25,304,742
Future	802,248,000	401,124,000	401,124,000
Total	$1,202,248,000	$626,428,742	$575,811,258
		(52.1%)	(47.9%)
Missouri River to Red River Valley Import			
Appropriation			
Authorizations			
DWRA	$400,000,000	$200,000,000	$200,000,000
BWT[2]		+7,209,501	-7,209,501
Future	475,378,000	237,689,000	237,689,000
Total	$875,378,000	$444,449,501	$ 430,479,499
		(50.8%)	(49.2%)
GDU Water Supply Replacement Pipeline			
Appropriation			
Authorizations			

	DWRA	$ 400,000,000	$ 200,000,000	$200,000,000
	BWT[2,4]		+121,352,143	-122,352,143
	Future	1,826,667,000	913,333,500	913,333,500
Total		$2,226,667,000	$,1,234,685,643	$991,981,000
			(55.4%)	(44.6%)

[1]Cost figures for Scenario One Red River Valley Water Supply Project options are from the *Draft Report on Red River Valley Water Needs and Options*, Appendix C.

[2]Non-reimbursable costs of features allocated to achieving compliance with the Boundary Waters Treaty of 1909 are paid from reimbursable appropriation authorizations under DWRA Paragraph 10(a)(1) and become non-reimbursable.

[3]The GDU Import Pipeline requires two biota treatment plants.

[4]The biota treatment plant for the GDU Water Supply Replacement Pipeline option is a $121 million treatment plant designed to deliver water meeting Safe Drinking Water Act standards by pipeline directly to MR&I water systems in the Red River Valley. Because the costs of the treatment plant would be allocated to achieving compliance with the Boundary Waters Treaty, they would be non-reimbursable.

High Range Reimbursement Scenarios
Under the Dakota Water Resources Act of 2000
For Red River Valley Water Supply Project Options Identified in
The Draft Report on Red River Valley Water Needs and Options

For this scenario, it is assumed that:

(1) The Red River Valley Water Supply Project will be based on the *Draft Report on Red River Valley Water Needs and Options* Scenario One 2050 population and industrial growth projections.

(2) Half of the $200 million non-reimbursable MR&I water project appropriations authorized in Dakota Water Resources Act Paragraph 10(b)(1) (Federal non-reimbursable) are allocated to the Red River Valley Water Supply Project, and half, plus the $67 million generated by the 25 percent repayment to the State, are allocated to other MR&I projects.

(3) The $200 million appropriation specifically for the Red River Valley Water Supply Project authorized in Dakota Water Resources Act Paragraph 10(a)(1) (State reimbursable) is 100 percent reimbursable.

(4) Costs allocated to achieving compliance with the Boundary Waters Treaty of 1909 (i.e., biota treatment plants) are non-reimbursable and are paid from the $200 million reimbursable appropriation authorization in Dakota Water Resources Act Paragraph 10(a)(1), rather than from the already non-reimbursable $200 million appropriation authorized in Paragraph 10(b)(1).

(5) The project is operated continuously at full capacity and not just during periods of drought.

Under these High Range Reimbursement Scenarios, the costs of the Scenario One Red River Valley Water Supply Project options identified in the *Draft Report on Red River Valley Water Needs and Options* would be allocated approximately as follows:

Red River Valley Water Supply Project Option	Total Costs[1]	Federal Non-reimbursable	State Reimbursable
North Dakota In-Basin			
Appropriation Authorizations			
DWRA	$300,000,000	$100,000,000	$200,000,000
Future	257,859,000	0	257,859,000
Total	$557,859,000	$100,000,000	$457.859,000
		(17.9%)	(82.1%)
Red River Basin			
Appropriation Authorizations			
DWRA	$300,000,000	$100,000,000	$200,000,000
Future	249,166,000	0	249,166,000
Total	$549,166,000	$100,000,000	$449,166,000
		(18.2%)	(81.8%)
Lake of the Woods			
Appropriation Authorizations			
DWRA	$300,000,000	$100,000,000	$200,000,000
Future	637,228,999	0	637,228,000
Total	$937,228,000	$100,000,000	$837,228,000
		(10.7%)	(89.3%)
GDU Import to Sheyenne River			
Appropriation Authorizations			
DWRA	$300,000,000	$100,000,000	$200,000,000
BWT[2]		+12,464,472	-12,464,472
Future	204,888,000	0	204,888,000
Total	$504,888,000	$112,464,472	$392,423,528
		(22.3%)	(77.7%)
GDU Import Pipeline			
Appropriation Authorizations			
DWRA	$ 300,000,000	$100,000,000	$ 200,000,000
BWT[2,3]		+25,304,742	-25,304,742
Future	902,248,000	0	902,248,000
Total	$1,202,248,000	$125,304,742	$1,076,943,258
		(10.4%)	(89.6%)
Missouri River to Red			

River Valley Import			
Appropriation Authorizations			
DWRA	$300,000,000	$100,000,000	$200,000,000
BWT[2]		+7,209,501	-7,209,501
Future	575,378,000	0	575,378,000
Total	$875,378,000	$107,209,000	$768,168,499
		(12.2%)	(87.8%)
GDU Water Supply Replacement Pipeline			
Appropriation Authorizations			
DWRA	$ 300,000,000	$100,000,000	$200,000,000
BWT[2,4]		+121,352,143	-121,352,143
Future	1,926,667,000	0	1,926,667,000
Total	$2,226,667,000	$221,352,143	$2,005,531,857
		(9.9%)	(90.1%)

[1]Cost figures for Scenario One Red River Valley Water Supply Project options are from the *Draft Report on Red River Valley Water Needs Options*, Appendix C.

[2]Non-reimbursable costs of features allocated to achieving compliance with the Boundary Waters Treaty of 1909 are paid from reimbursable appropriation authorizations under Dakota Water Resources Act Paragraph 10(a)(1) and become non-reimbursable.

[3]The GDU Import Pipeline option requires two pumping plants.

[4]The biota treatment plant for the GDU Water Supply Replacement Pipeline option is a $121 million treatment plant designed to deliver water meeting Safe Drinking Water Act standards directly by pipeline to MR&I water systems in the Red River Valley. Because the costs of the treatment plant would be allocated to achieving compliance with the Boundary Waters Treaty of 1909, they would be non-reimbursable.

Low Range Reimbursement Scenarios
Under the Dakota Water Resources Act of 2000
For Red River Valley Water Supply Project Options Identified in
The Draft Report on Red River Valley Water Needs and Options

For this scenario, it is assumed that:

(1) A Red River Valley Water Supply Project will be based on the *Draft Report on Red River Valley Water Needs and Options* Scenario One 2050 population and industrial growth projections.

(2) All of the $200 million non-reimbursable statewide MR&I water project grant appropriations authorized in Dakota Water Resources Act Paragraph 10(b)(1) (Federal non-reimbursable) are allocated to the Red River Valley Water Supply Project, but the additional $67 million generated by the 25 percent repayment to the State are used to fund other water projects.

(3) The $200 million appropriation specifically for the Red River Valley Water Supply Project authorized in Dakota Water Resources Act Paragraph 10(a)(1) (State reimbursable) is 100 percent reimbursable.

(4) Costs allocated to achieving compliance with the Boundary Waters Treaty of 1909 (i.e., biota treatment plants) are non-reimbursable and are paid from the $200 million reimbursable appropriation authorized under Dakota Water Resources Act Paragraph 10(a)(1), rather than from the already non-reimbursable $200 million appropriation authorized under Paragraph 10(b)(1).

(5) Future appropriation authorizations required to complete the project are entirely from increased appropriation ceilings for non-reimbursable appropriations under Dakota Water Resources Act Paragraph 10(b)(1).

(6) The project is operated continuously at full capacity and not just during periods of drought.

Under this Low Range Reimbursement Scenario, the costs of the Scenario One Red River Valley Water Supply Project Options identified in the *Draft Report on Red River Valley Water Needs and Options* would be allocated approximately as follows:

Red River Valley Water Supply Project Options	Total Cost[1]	Federal Non-reimbursable	State Reimbursable
North Dakota In-Basin			
Appropriation Authorizations			
DWRA	$400,000,000	$200,000,000	$200,000,000
Future	157,859,000	157,859,000	0
Total	$557,859,000	$357,859,000	$200,000,000
		(64.1%)	(35.9%)
Red River Basin			
Appropriation Authorizations			
DWRA	$400,000,000	$200,000,000	$200,000,000
Future	157,859,000	157,859,000	0
Total	$557,859,000	$357,859,000	$200,000,000
		(64.1%)	(35.9%)
Lake of the Woods			
Appropriation Authorizations			
DWRA	$400,000,000	$200,000,000	$200,000,000
Future	537,228,000	537,228,000	0
Total	$937,228,000	$737,228,000	$200,000,000
		(78.7%)	(21.3%)
GDU Import to Sheyenne River			
Appropriation			

Authorizations			
DWRA	$400,000,000	$200,000,000	$200,000,000
BWT[2]		+12,464,472	-12,464,472
Future	104,999,000	104,999,000	0
Total	$504,999,000	$317,463,462	$187,535,538
		(62.9%)	(37.1%)
GDU Import Pipeline			
Appropriation			
Authorizations			
DWRA	$400,000,000	$200,000,000	$200,000,000
BWT[2,3]		+25,304,742	-25,304,742
Future	802,248000	802,248,000	0
Total	$1,202,248,000	$1,027,555,742	$174,695,258
		(85.5%)	(14.5%)
Missouri River to Red River Valley Import			
Appropriation			
Authorizations			
DWRA	$400,000,000	$200,000,000	$200,000,000
BWT[2]		+7,209,501	-7,209,501
Future	475,378,000	475,378,000	0
Total	$875,378,000	$682,587,501	$192,790,499
		(78.0%)	(22.0%)
GDU Water Supply Replacement Pipeline			
Appropriation			
Authorizations			
DWRA	$ 400,000,000	$ 200,000,000	$200,000,000
BWT[2,4]		+121,352,143	-121,352,143
Future	1,826,667,000	1,826,667,000	0
Total	$2,226,667,000	$2,148,019,143	$ 78,657,857
		(96.5%)	(3.5%)

[1]Cost figures for Scenario One Red River Valley Water Supply Project options are from the *Draft Report on Red River Valley Water Needs and Option*.

[2]Non-reimbursable costs of features allocated to achieving compliance with the Boundary Waters Treaty of 1909 are paid from reimbursable appropriation authorizations under Dakota Water Resources Act Paragraph 10(a)(1).

[3]The GDU Import Pipeline requires two biota treatment plants.

[4]The biota treatment plant for the GDU Water Supply Replacement Pipeline option is a $121 million treatment plant designed to supply water meeting Safe Drinking Water Act standards for deliver by pipeline directly to MR&I water systems in the Red River Valley. Because the costs of the treatment plant would be allocated to achieving compliance with the Boundary Water Treaty of 1909, they would be non-reimbursable.

Implications for the Draft Report on Red River Water Needs and Options

It is relevant to note in the context of this analysis that Paragraph 8(d)(1) of the Dakota Water Resources Act provides:

> "IN GENERAL. – After reviewing the final report required by subsection (b)(1) [the Red River Valley Water Needs and Options Report] and complying with subsection (c) [the Environmental Impact Statement for the Red River Valley Water Supply Project], the Secretary, in consultation and coordination with the State of North Dakota, shall select 1 or more project features described in subsection (a) [dealing with a Red River Valley Water Supply Project] that will meet the comprehensive water quality and quantity needs of the Red River Valley. The Secretary's selection of an alternative shall be subject to judicial review."

Although this analysis is not able to identify the actual non-reimbursable Federal and reimbursable State costs of the Red River Valley Water Supply Project options identified in the *Draft Report Red River Valley Water Needs and Options*, it does disclose something equally important. With reimbursement under the provisions of the Dakota Water Resources Act of 2000 potentially ranging from 3.5 percent to 90 percent on projects costing from $550 million to $2.2 billion—or a fraction of that depending on the capacity actually used, it will be impossible for the Secretary of the Interior, the State of North Dakota, the U. S. Congress or the citizens of the Red River Valley to make objective and informed decisions regarding Red River Valley Water Supply Project options until the funding and reimbursement provisions of the Dakota Water Resources Act are clearly and explicitly defined for all of the options.

The problem created by the ambiguity of the repayment provisions of the Dakota Water Resources Act of 2000 is illustrated by the fact that it would be possible for the State to be required to repay from $187,535,538 (37.1%) (Low Range Reimbursement Scenario) to $392,433,528 (77.7%) (High Range Reimbursement Scenario) of the costs of the least expensive $504 million GDU Import to Sheyenne River option, or it could to be required to repay as little as $78,647,857 (3.5%) (Low Range Reimbursement Scenario) to as much as $2,005,531,187 (90.1%) (High Range Reimbursement Scenario) of the costs of the most expensive $2.2 billion GDU Water Supply Replacement Pipeline option. Of course, for those options that are used, the State would be required to repay only for the portion of the total capacity utilized during the time they actually are used, and for options that are not used, the State would be required to repay nothing at all. Clearly, neither the State nor the Secretary nor the Congress can make informed decision on Red River Valley Water Supply Project options under those circumstances.

It also is relevant to note that Subparagraph 8(a)(3)(B) of the Dakota Water Resources Act specifies that:

> "No project feature or features that would provide water from the Missouri River or its tributaries to the Sheyenne River water supply and release facility or from the Missouri River or its tributaries to such other conveyance facility as the Secretary selects under this section shall be constructed unless such feature is specifically authorized by an Act of Congress approved subsequent to the Secretary's transmittal of the report required in subparagraph (A). If, after complying with subsections (b) through (d) of this section [dealing with the Red River Valley Water Supply Study, the Environmental Impact Statement for the Red River Valley Water Supply Project, and the process for selection of an alternative by the Secretary], the Secretary selects a feature or features using only in-basin sources of water to meet the water needs of the Red River Valley identified in

> subsection (b), **such features are authorized without further Act of Congress**. The Act of Congress referred to in this subparagraph **must be an authorization bill, and shall not be a bill making appropriations**." (Emphasis added)

Although Subparagraph 8(a)(3)(B) states that construction of an in-basin Red River Valley Water Supply Project would be "authorized without further Act of Congress," because the costs of all of the Red River Valley Water Supply Project options identified in the *Draft Report on Red River Valley Water Needs and Options* exceed the appropriations authorized by the Dakota Water Resources Act for such a project, additional appropriations to cover the full costs would have to be authorized, and under Subparagraph 8(a)(3)(B), that authorization would have to be in an authorization bill and not in an appropriations bill.

Because project costs will be a major consideration for the Secretary, the State and the affected local communities in the selection of a Red River Water Supply Project option, and because the funding and reimbursement provisions for a Red River Valley Water Supply Project under the Dakota Water Resources Act of 2000 are so uncertain, the Bureau of Reclamation has a clear and inescapable obligation to include in the Final Red River Valley Water Needs and Options Report to be prepared by the Secretary and transmitted to the Congress under Dakota Water Resources Act Paragraph 8(b)(3) a comprehensive and detailed analysis of the funding and reimbursement requirements of each option identified in the report. A formal request for such an analysis is hereby incorporated in this review.

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Protecting, maintaining and improving the health of all Minnesotans

September 7, 2006

Mr. Maynard Friesz
Office of Senator Byron Dorgan
322 Hart Senate Office Building
Washington, DC 20510

Dear Mr. Friesz:

In recognition of the Senate Interior Committee field hearing at Fargo on August 24, 2006 it is my understanding that the hearing record is open for 15 days and that you are the contact person for additional comments to the hearing record. Neither staff nor myself were able to attend the hearing, however since our agency has followed the RRVWSP project for several years we would like to submit the following to the record:

> Attached is previous comment submitted by the Minnesota Department of Health to the DEIS record.

In the event you have questions on any of the content of the letter or attachments, please contact either Bruce Olsen (650-201-4681) or Mike Howe (320-650-1076) of my staff.

Thank you for the opportunity to comment on this project.

Sincerely,

John Linc Stine, Director
Environmental Health Division
P.O. Box 64975
St. Paul, Minnesota 55164-0975

JLS/pc

Enclosure:
April 14, 2006 MDH Comment Letter DEIS

Copy to: Lynda Boudreau, MDH Deputy Commissioner
Kent Lokkesmoe, MDNR
Will Haapala, MPCA
Ron Harnach, BWSR
Jason Rohloff, Office of Governor Pawlenty

Protecting, maintaining and improving the health of all Minnesotans

April 14, 2006

Mr. Dennis Breitzman, Area Manager
Bureau of Reclamation
Dakota Area Office
304 East Broadway
Bismarck, North Dakota 58502

Re: Minnesota Department of Health Comments on the *Draft Environmental Impact Statement for the Red River Valley Water Supply Project*

Dear Mr. Breitzman;

Following extensive review and coordination with other agencies of the State of Minnesota, the Minnesota Department of Health (MDH) offers the following comments to the Draft Environmental Impact Statement (DEIS) for the Red River Valley Water Supply Project (RRVWSP). MDH has taken the lead among MN State agencies for comments on the topic of aquifer storage and recovery (ASR). ASR is a component of at least four of the eight options subject of the DEIS. MDH's position on the other DEIS issues can be presumed to be generally consistent with the positions of other MN state agencies.

This letter will summarize the items that MDH seeks to have addressed in the final Environmental Impact Statement (EIS). We are also attaching an April 14, 2006 Memo stating technical comments about utilization of ASR in conjunction with the RRVWSP.

Issues that MDH would like to see addressed in further detail in the final EIS:

1) Since the development of ASR in the Red River Valley has not been done previously, it is imperative that pilot work and extensive testing and monitoring of the geochemistry of the storage aquifers be done. MDH believes that it is prudent to include much more detail in the EIS on the design and operation of the ASR proposals in order to fully evaluate the environmental impact on those aquifers.
2) The DEIS states that "...other difficult aspects of ASR include regulatory requirements and the establishment of rights to the stored water which are not addressed within the content of this document." MDH believes that since implementation of ASR for the Red River Valley will involve at least three Minnesota State Agencies, possibly three North Dakota State Agencies, two EPA regional offices and potential legislative involvement, it is appropriate to immediately identify a more specific ASR proposal and include a conceptual

design, governance plan and estimated requirements for construction time and materials in the EIS.

3) A final statement in the DEIS discussion on the Moorhead ASR proposal states "Social and economic considerations may prove problematic..." without clearly stating what those social and economic considerations are. It is MDH's position that those social and economic considerations need to be clearly spelled out and included in the EIS.
4) Not connected to ASR, safe drinking water is best secured through a concerted effort to protect sources of drinking water as spelled out in the Safe Drinking Water Act. Source water protection was not discussed in the DEIS. MDH believes that it is important to identify the spill response plans for Lake of the Woods, the Pelican River, Ottertail Outwash et. al. aquifers, the Missouri River, Audubon Lake, McClusky Canal and the Sheyenne River areas. Additionally, the EIS should describe appropriate measures to address and manage potential contaminant sources such as feedlots, septic tanks, and other land use activities that could potentially degrade the quality of the water for drinking purposes for all options.

A memo containing technical comments regarding ASR is attached as a supplement to this letter.

Thank you for the opportunity to comment on the RRVWSP DEIS.

Sincerely,

John Linc Stine, Acting Director
Environmental Health Division
P.O. Box 64975
St. Paul, Minnesota 55164-0975

JLS/pc
Enclosure

Copy to: Lynda Boudreau, MDH Deputy Commissioner
Kent Lokkesmoe, MN DNR Waters
Will Haapala, MN PCA
Ron Harnack, BWSR

Memo

MINNESOTA MDH DEPARTMENT OF HEALTH

Date: April 14, 2006

To: John Linc Stine
Acting Division Director
Environmental Health Division

From: Bruce Olsen
Supervisor, Source Water Protection Unit

Subject: MN Department of Health (MDH) Technical Comments Regarding the Draft EIS Pertaining to Aquifer Storage and Recovery (ASR)

Item 1 – Chemical Reactions Between the Injected Water and Groundwater May Result in Plugging of the Well Screen or Aquifer Materials.

The Minnesota Department of Health (MDH) agrees with the comments in the draft EIS that the effects of injecting treated surface water or groundwater into deeper aquifers be determined before large-scale ASR facilities would be constructed. The MDH recommends that the potential for plugging of the aquifer materials by the precipitation of iron or manganese be evaluated by laboratory testing before actual pilot testing with injection and recovery is undertaken. Injecting surface water or groundwater that has differing chemical or physical properties will result in changing the chemistry of the ambient groundwater. However, the degree to which this may affect the efficiency or even the practicality of storage or recovery is not known. Therefore, it is important to evaluate these potential impacts and their additional costs on pursuing ASR options before federal, state, and local funding is committed.

Item 2 – The Potential for ASR to Increase Existing Arsenic Levels in the Moorhead Aquifer.

Naturally occurring arsenic levels in the Moorhead aquifer already exceed the federal maximum contaminant level (MCL) for drinking water in some areas of the Red River valley in Minnesota. For example, the wells used city of Dilworth pump from this aquifer and have arsenic levels that are consistently above the MCL. Mixing of injected water and ambient groundwater is very likely to occur and the ambient groundwater in the deeper aquifer has potential to affect the quality of the water that is recovered.

The reaction between chemically reduced groundwater in the deeper aquifer and treated water containing oxygen may mobilize arsenic from aquifer materials and further increase arsenic levels. If so, the water that is recovered may have to be treated to remove the arsenic before it can be used for drinking water. This would increase treatment costs and affect the long-term costs of pursuing any water supply option that includes ASR. Also, increasing arsenic levels

very likely will result in additional environmental review by the State of Minnesota to determine whether ASR presents an endangerment to others who use the Moorhead aquifer as their source of water supply.

Item 3 – ASR will Require Permitting and Environmental Monitoring.

The operation of an ASR facility in Minnesota will have to be permitted by 1) the MDH to meet well construction and public water supply regulations, 2) the Minnesota Pollution Control Agency to meet pollution prevention regulations, and 3) the Minnesota Department of Natural Resources to meet water use regulations. Furthermore, ASR is a type of underground injection that must be permitted by U.S. Environmental Protection Agency Region 5 because the state of Minnesota does not have primacy for federal underground injection control regulations. The four agencies are currently coordinating their permitting efforts on proposals for two other ASR projects in Minnesota. This experience has identified permitting requirements that will likely affect ASR as a water supply option in the Red River valley of Minnesota.

Generally, permitting of ASR will progress by first evaluating the environmental impacts of pilot testing at the proposed site(s). Long-term permitting for ASR in Minnesota would only occur if the initial results did not show any degradation of the groundwater or potential adverse impacts on other groundwater users. Permitting requirements will likely include the construction of monitoring wells and monitoring the effects on groundwater levels and the chemical impacts on groundwater quality. The costs associated with monitoring and reporting should be considered in determining the overall costs of using ASR in water supply options for the Red River valley in Minnesota.

Will Haapala, Regional Manager

Red River Water Supply Project
Draft Environmental Impact Statement
Minnesota Pollution Control Agency Comments
Public Hearing, Perham, Minnesota, Thursday, February 16, 2006

Thank you for the opportunity to comment on the Red River Water Supply Project Draft Environmental Impact Statement. Also, we are encouraged by the Bureau's decision to extend the comment period by 30 days. The Minnesota Pollution Control Agency offers the following comments regarding the RRVWSS DEIS:

- **Public Involvement Program**

  We did not receive responses to our comments and questions about the Red River Valley Water Needs and Options Draft Report before the report was finalized. This reduced our confidence in the Project Public Involvement Program.

- **Water Supply Needs**

  We do not agree with the growth and population assumptions and projections used as the basis for estimating future water supply needs.

- **Project Benefits and Costs**

  The report and DEIS do not adequately address cost to benefit ratio and affordability of the project.

- **Invasive Species and Biota Treatment**

  The MPCA is seriously concerned that options which rely on interbasin transfer of Missouri River water will also cause transfer of invasive species to the Red River Basin. We believe that the DEIS does not adequately address this risk. Also, the DEIS does not provide us confidence in the reliability of the proposed biota treatment systems.

- **Planning**

  Water supply planning for the Minnesota portion of the Red River Valley would be better done by more closely integrating it with Minnesota state, regional and local water supply planning.

- **Effects of Aquifer Storage and Recovery**

  The potential adverse effects inherent in aquifer storage and recovery for the North Dakota In-Basin and Red River Basin alternatives are not adequately reported and evaluated.

Minnesota Pollution Control Agency

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April 6, 2006

Ms. Signe Snortland
Red River Valley Water Supply Project
Bureau of Reclamation
P.O. Box 1017
Bismarck ND 58502-1017

Dear Ms. Snortland:

Enclosed are the Minnesota Pollution Control Agency's comments on the Red River Valley Water Supply Project Draft Environmental Impact Statement.

Sincerely,

John N. Holck

John N. Holck
Assistant Division Director
Regional Division

JNH:smd

Enclosure

cc: William Haapala, MPCA Northwest Regional Manager
Kent Lokkesmoe, DNR Division of Waters

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Red River Valley Draft Environmental Impact Statement Comments
Minnesota Pollution Control Agency
April 5, 2006

The Minnesota Pollution Control Agency's (MPCA) Northwest Regional Office has reviewed the Red River Valley Draft Environmental Impact Statement. Our comments are limited to two issues:

1. The demographic analysis, and
2. The water quality assessments.

Comments regarding source water assessments, as stated in the MPCA's comments on the Red River Valley Needs and Options Study, September 2005, are still of concern, but will be addressed by Minnesota Department of Health.

Regarding the selection of counties included in the demographic and economic analysis: pages 134-135 list the counties included. Page 135 states: "The Minnesota study area counties include Becker, Clay, Kittson, Lake of the Woods, Otter Tail, Polk, Roseau, and Wilkin Counties. The counties that comprise the economic impact area extend beyond the water user area and include counties where construction impacts could occur." The report does not provide a rationale for including these Minnesota counties in the overall population estimates.

The population estimates should describe the potential water users of the projects. There could be RRV project users in Wilkin, Clay, Polk and Kittson counties of Minnesota. There will not be water users in Lake of the Woods, Otter Tail and Roseau counties, therefore these counties should be excluded from the population tables.

Page 134 further states: "All of the counties in the study area experienced a population loss from 1990 to 2003 except for Cass, Pembina, Clay, and Otter Tail Counties." The accompanying chart shows that the population of Pembina County declined between 1990 and 2003; the text should be corrected to match the data in the chart.

Including the population of Otter Tail County as potential water users misleads the reader because it inflates the overall population increases. The Minnesota State Demographic Center predicts that the population of Otter Tail will grow 37 percent by 2030 (p. 12, McMurray, Martha, Minnesota Population Projections 2000 – 2030. October 2002 Minnesota Planning State Demographic Center. Accessed April 4, 2006 http://www.demography.state.mn.us/DownloadFiles/00Proj/PopulationProjections02Intro.pdf). Otter Tail's anticipated population growth is due to in-migration of retiring senior citizens moving to homes on lakes. This phenomenon is not related to the water needs of the Red River Valley, and Otter Tail county residents will not be users of any of the water provided by this project. Including Otter Tail County inaccurately represents the population growth for the project area because it inflates the projected need and the size of the project needed. The population projections should only include potential project users.

Regarding water quality, unlike the Needs and Options study, the draft Environmental Impact Statement examines water quality conditions with respect to existing water quality standards, guidelines and concerns, and examines water quality conditions with respect to the effect of the seven alternatives. These studies all document the fact that water quality of the Red River of the North is limited:

"Not all surface waters can be used for their intended purpose, usually because of poorer than expected water quality, some physical modification of the habitat, or a biological problem. The stressors within the Red River Basin, which cause use impairment are most often associated with the following: ammonia concentrations, materials that consume oxygen (e.g., biochemical oxygen demand), dissolved solids,

sedimentation, suspended solids (turbidity), bacteria from mammals, and trace metals like mercury," states p. 77 of the Draft EIS.

The report further states the number of samples that exceed numeric standards is less than:

- 3 percent of the sulfate samples;
- 12 percent of the fecal coliform bacteria samples collected during the recreation season;
- 15 percent of the TDS samples; and
- 4 percent of the dissolved oxygen samples.

Finally, the Draft EIS notes: "The total phosphorus concentration exceeds the recommended levels more than 50 percent of the time within the Red River Basin." (Ibid). The draft EIS predicts that the actual change in concentration of selected pollutants may be as low as 0.1 percent or up to plus or minus 15 percent for some pollutants in some locations. These changes are characterized as not of concern.

The state of Minnesota considers water quality to be of concern, or threatened, when 10 percent of water quality samples do not meet standards. Therefore, the seemingly small changes noted above could change the water quality from supporting standards to exceeding standards. Furthermore, it should be noted that in July 2004, the governors of North Dakota and Minnesota and the premier of Manitoba agreed to reduce by 10 percent the amount of phosphorus entering Lake Winnipeg through the Red River. Any increases would be contrary to this political agreement.

The study also notes that if the predicted drought occurs, base flow in the Red River of the North could be return flow or effluent flow dominated. "Whether water with the quality of effluent is more desirable than a lack of water quality because of little or no flow is a policy decision," states p. 125 of the supporting report on existing water quality standards. This is a policy decision that ought to be considered within the draft environmental impact statement. The results of this discussion could lead to specific permit language for some of the action alternatives, which would likely limit operation of those alternatives, as is the case with the permit for the Devils Lake discharge. The draft EIS ought to consider this issue.

Prepared by Molly MacGregor, MPCA, Red River Basin Coordinator, (218) 846-0494
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8 September 2006

Senator Byron Dorgan, Ranking Member and the
United States Senate Committee on Appropriations
Subcommittee on Interior and Related Agencies
Washington DC

Via: Maynard Friesz (maynard_friesz@dorgan.senate.gov)

Senator Conrad Burns (Chairman) (MT)
Senator Byron Dorgan (Ranking Mem) (ND
Senator Ted Stevens (AK)
Senator Thad Cochran (MS)
Senator Pete Domenici (NM)
Senator Robert Bennett (UT)
Senator Judd Gregg (NH)
Senator Larry Craig (ID)
Senator Wayne Allard (CO)
Senator Robert C. Byrd (WV)
Senator Patrick Leahy (VT)
Senator Harry Reid (NV)
Senator Dianne Feinstein (CA)
Senator Barbara Mikulski (MD)
Senator Herb Kohl (WI)

Re: **Red River Valley Water Supply Project Field Hearing**

Dear Senator Dorgan and Members of the Subcommittee on Interior:

Thank you for the opportunity to provide substantive input to the Senate Committee on Appropriations/Subcommittee on Interior and Related Agencies field hearing for the ***Red River Valley Water Supply Project (RRVWSP)***. The identification of a viable and sustainable in-basin water supply alternative for the Red River Valley is an unprecedented and forward thinking opportunity to meet the water needs of Eastern North Dakota from within the boundaries of the Red River watershed in an environmentally responsible and solution-oriented manner, and should be given full and fair consideration.

The **Red River Basin Alternative** is a sustainable and implementable solution that meets the caveats of the RRVWSP to provide for the long-term water needs of the Red River Basin in a way that is conservative of both economic and natural resources. As stipulated by NEPA and Council on Environmental Quality regulations, this alternative meets the purpose and need for action, as well as being technologically and economically feasible. This alternative has the additional advantage of providing resolution to the past, present and potential future strife and controversy at the interstate and international level that accompanies alternatives that propose the utilization of Missouri River water as a source, which is outside of the Red River Basin watershed. In addition, an in-basin water supply alternative will obviate the need for dependence upon the Missouri River system, which at present is suffering from the adverse effects of drought with reservoir levels at record lows. According to the North Dakota Governor's Office, John Hoeven is "organizing a letter from Missouri River Basin governors to congressional and Corps leaders urging stronger drought conservation measures throughout the (Missouri) basin to save water for the mutual benefit of all states".

Interstate Cooperation: There will need to be a significant level of cooperation with Minnesota in the identification of in-basin water sources to meet anticipated

needs in the Red River Basin. Continued interstate collaboration and cooperation in the identification of surface and groundwater resources within the watershed and across state lines is recommended and encouraged. In addition, the establishment of an inter-jurisdictional and interagency agreement or compact for sustainable water resource sharing and use is recommended herein, as a means to strengthen this alternative across state lines. This accord should encompass: bi-state agreement on sustainable water withdrawals in the basin; ongoing monitoring and adaptive water management strategies; and the option for legislative or regulatory implementation. The Great Lakes Basin Sustainable Resources Agreement can serve as one of several models of both provincial-state international and interstate agreement upon which an interstate water compact for a Red River in-basin water source alternative can be formulated.

Water Conservation: Water conservation strategies are important components of water management across North Dakota, and specifically with this water supply project. These practices constitute best practices during normal conditions, but are essential during drought conditions. Proven conservation strategies that reduce water demand and use abound. The RRVWSP DEIS assessed "reasonable water conservation measures" in their calculation of reduced Red River Valley water system per capita demand. The inclusion of water conservation in the environmental assessment process should go beyond this analysis, to include not only the benefits of water conservation strategies that are commensurate with normal-to-drought conditions, but the value of avoided environmental impacts that result from conservation. This would also be consistent with the Governor's current demand for a similar assessment for the Missouri River, based on its present drought condition.

On a larger scale, effective water conservation should include a cumulative effects assessment that measures not only potential savings in water use, but also the impacts of accumulated water withdrawals, both consumptive and non-consumptive, across the watershed/basin ecosystem. Relative to the RRVWSP DEIS, this is applicable to both the in-basin and out-of-basin alternatives that have been proposed. Within the Red River Basin Alternative, the location and extent of water resources, projected water withdrawal (i.e., surface and subsurface) and water use need to be assessed, potentially through an effort to map basin groundwater watersheds in terms of current and projected levels, as a function of human water withdrawal. A system for monitoring and reporting of the surface and subsurface watershed is also recommended. Reporting should include an ongoing assessment of water conservation practices, the impacts of water withdrawals, and watershed restoration activities that mitigate or prevent damage from water withdrawal. In terms of out-of-basin alternatives, proposed withdrawals from the Missouri River should be measured and assessed in terms of the environmental consequences in a drought condition similar to the drought parameters utilized to estimate need in the Red River basin.

Drought Contingency Planning: Drought contingency planning is an essential component of responsible water management, and is highly relevant to the RRVWSP. As summarized in the DEIS (pp. 280-281), the city of Fargo has

developed a Drought Management Plan that details five drought-related water demand reduction strategies that range from no reduction of water demand in normal conditions, through 5-10%, 10-20%, 20-30% and >30% reductions, correlated to increasing drought severity. Although the Final Needs and Options Report (Appendix C, Attachment 9) calculated significant construction cost savings associated with drought contingency-related reductions in water demand in all project alternatives, the RRVWSP DEIS concluded that,

> *"All of the alternatives except No Action would meet future water demands without incorporating drought contingency measures in water demand estimates. Because of the uncertainties involved in estimating future water demands and future water supplies, drought contingency measures are reserved as an important safety factor that would be implemented if unforeseen events would occur* (pp. 281-282).

It is incongruous that the RRVWSP DEIS finds the uncertainties in estimating future water demands and supplies too high to factor in realistic drought contingency measures, yet not too high to put forth water supply alternatives (from the Missouri River Basin) that range from the hundreds of millions to billions of dollars. It is recommended herein that substantive and credible drought contingency measures be incorporated into the RRVWSP. It is further recommended that drought contingency planning be expanded basin-wide. Responsible and sustainable water and natural resource management dictates that measures to curb water use during droughts should be mandatory, significant, and commensurate with drought severity.

Fiscal Conservation and Planning: According to the RRVWSP DEIS,

> *"The seven action alternatives have varying degrees of construction phasing potential, i.e., some features could be built and put into operation before an alternative is completed... An alternative with features suitable for phased construction has an advantage over an alternative with limited phasing potential. The primary advantage in phasing construction is that Project features that are not immediately needed could be built and funded later when size of the features would be better understood and increased population and new industry could help finance these feature.*

The North Dakota In-Basin Alternative has the lowest percent of total cost for the most expensive feature at 47%, which is closely followed by the Red River Basin Alternative with at 54%. These alternatives would have more construction flexibility than the others... Generally, the Missouri River import alternatives have less flexibility. (pp. 279-280).

Both the North Dakota In-Basin Alternative and the Red River Basin Alternative represent more fiscally conservative approaches in that they obviate the need for large, "up-front" capital outlays mandated by the Missouri River options, which may or may not be required 30 to 50 years hence. The in-basin alternatives can be implemented in a phased approach, commensurate with need based on actual population, demand and climatic condition. This fiscal conservatism is especially important, given our current budgetary and deficit conditions at the federal level.

Environmental Conservation and Planning: Drought, like flooding, is part of a natural cycle within which the Red River Basin region has evolved over the millennia. While the case can certainly be made that human activities have altered the intensity and/or frequency of these natural phenomena, native flora and fauna (aquatic and terrestrial) of the region have adapted to this dynamic flow scenario. Although the RRVWSP DEIS depicts habitat improvements in the Sheyenne and Red Rivers from the alternatives that augment in-stream flows using Missouri River water (pp. 48-63), it should be noted that flow variability can be ecologically critical for some native species, and it can be presumed that other aquatic species have adapted to variable high flow/low flow/no flow conditions. It should therefore not be assumed that in-stream flow augmentation into the Sheyenne and Red Rivers, particularly when there is a risk of out-of-basin biota transfer, is wholly beneficial. In addition, when the hydrologic regime of the Missouri River watershed is altered from permanent withdrawal of water out of that basin, those impacts also need to be addressed for varied climatic conditions.

Conflict Resolution: The most effective public policy is based upon a foundation of sound science, particularly with regard to sustainable natural resource management. The Draft Report on the *Red River Valley Water Needs and Options* and the *Red River Valley Water Supply Project DEIS* have generated a significant amount of intrastate, interstate, and international controversy, debate and disagreement. The development of the Red River Basin Alternative as described in the DEIS would obviate several areas of serious and unresolved controversy that have been raised at the state and federal agency level. As such, it has a higher likelihood of acceptance and implementation in a shorter timeframe. Areas of discord that would be eliminated as a result of this alternative are summarized as follows:

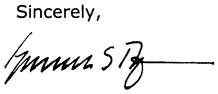
1. RRVWSP DEIS planning horizon and estimates of population/industrial growth and water use/need in the Red River Basin: Many entities have stated that a 50-year planning horizon is untenable and inherently invalid. The population projections utilized in the DEIS did not follow standard population projection techniques, and have generated agency-based disagreement (i.e., USEPA, MN DNR, MO DNR, etc.) Implementation of this in-basin alternative can be phased according to more accurate population projections (i.e., less than 20-year) and actual water use and drought-related demands.
2. RRVWSP DEIS estimates of population growth and water use/need in the Missouri River Basin: While the analysis of future growth and need in the Red River Basin incorporated significant growth projections and 1930s-style drought conditions, the assessment of Missouri River withdrawals assumed no growth or increase in existing water usage, unless a documented plan was already in place. The Red River In-Basin Alternative obviates the need for Missouri River Water, and the subsequent potential ecological impacts of river water withdrawal.
3. Political jurisdiction of the Garrison Conservancy District: Concern over the gubernatorial delegation of the ND Garrison Conservancy District to represent the state of North Dakota has centered around their conflict of interest with

the outcome of the RRVWSP DEIS, based on the potential for financial gain for the alternative that they have identified as preferred by the state. The Red River In-Basin Alternative removes this potential conflict of interest.

4. Insufficient or unacceptable assessment of the risk assessment for biota transfer: Because 4 of the proposed alternatives involve the movement of water across the Continental Divide and into the Hudson Bay drainage, it is imperative that the potential risks of biota transfer and the accompanying ecological and economic impacts be thoroughly analyzed and understood. This has regional, national and international significance. State and federal agencies have raised significant concerns with the process and conclusions in the DEIS. The Red River In-Basin Alternative removes this controversy and the risk of interbasin transfer of biota.

In summary, a great deal of time, energy and effort has been put into the RRVWSP to date. One of the most positive results of this process has been the identification of the environmentally and economically viable Red River Basin Alternative. This alternative has the capacity to meet the needs of the RRVWSP in a biologically and politically acceptable manner. It is an alternative that is acceptable to **all** of the regional, interstate, and international jurisdictions. Its economic viability lies in the fact that it can be implemented in response to actual drought conditions, without large, "up-front" outlays of cost and infrastructure that would be incurred from interbasin alternatives. I urge the Committee to help find the collective courage and will to choose and implement this water supply project that is based on future viability and sustainability, rather than past constraints and conditions. I look forward to being a supportive partner in the implementation of an in-basin alternative. Thank you for your time and attention to the written record of this field hearing.

Sincerely,



Genevieve Thompson
VP and Executive Director, Audubon Dakota

CONCLUSION OF HEARING

Senator DORGAN. With that, Congressman Pomeroy, thank you for being a part of this. I thank all of you for being here and thanks to the witnesses who testified. The hearing record will remain open for 15 days for those who wish to submit additional testimony. This hearing is concluded.

[Whereupon, at 12:25 p.m., Thursday, August 24, the hearing was concluded, and the subcommittee was recessed, to reconvene subject to the call of the Chair.]

○