Red River Valley Water Supply Project Environmental Impact Statement

Summary of Public Scoping Final Report

2003

U.S. Department of the Interior
Bureau of Reclamation
Dakotas Area Office

State of North Dakota
Garrison Diversion Conservancy District

INTRODUCTION

This Summary of Public Scoping compiles public and agency comments received during the formal scoping process for the Red River Valley Water Supply Project Environmental Impact Statement (EIS). Following brief background information on the Red River Project and on the scoping process, this report presents a summary of scoping comments gathered by the lead agencies for consideration in preparing the EIS and summary responses.

Purpose and Need for Federal Action

The following Statement of Purpose and Need was included in the Notice of Intent to Prepare an EIS published in the Federal Register on October 8, 2002 (Appendix A):

> The Red River Valley Water Supply Project EIS will evaluate alternative ways to meet the comprehensive "water quality and quantity needs of the Red River Valley in North Dakota" [DWRA Section 8(b)(1)]. The needs are defined as municipal, rural, and industrial supplies; water quality; aquatic environment; recreation; and water conservation measures [Section 8(b) (2)].

BACKGROUND

On December 15, 2000, the 106th Congress passed the Dakota Water Resources Act of 2000, which was signed into law on December 21, 2000 (Public Law 106-554). Among other things, the Dakota Water Resources Act of 2000 (DWRA) states 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@ (Section 8(b)(1)). In addition, the DWRA states that, Apursuant to an agreement between the Secretary and State of North Dakota as authorized under section 1(g)Y. 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" (Section 8 (c)(2)(A)).

Pursuant to Section 102 (2)(c) of the National Environmental Policy Act (NEPA) of 1969, as amended, the Bureau of Reclamation and the State of North Dakota are jointly preparing this EIS. The State of North Dakota has designated the Garrison Diversion Conservancy District (GDCD) to serve as the state lead in preparation of the EIS. Reclamation, acting under the authority of the Secretary of the Interior, is the lead federal agency. Reclamation is concurrently preparing a feasibility-level engineering report, *Report on the Red River Valley Water Needs and Options* (Needs and Options Report), to assess the needs and to identify alternatives.

Cooperating agencies include the cities of Fargo, North Dakota, Grand Forks, North Dakota, and Moorhead, Minnesota; Minnesota Department of Natural Resources; North Dakota State Historic Preservation Office; U.S. Army Corps of Engineers; U.S. Fish and Wildlife Service, U.S. Forest Service (Sheyenne National Grassland); and U.S. Geological Survey (USGS). These agencies have been invited

to be cooperating agencies because of their expertise or jurisdiction. The Environmental Protection Agency was also invited, but declined due to an insufficient travel budget and the lack of staff resources which preclude full participation. The State of Missouri requested cooperating agency status.

SCOPING PROCESS

Scoping is an important part of the NEPA process. It serves as the public=s opportunity to provide input and direction on the EIS throughout its preparation. Reclamation and GDCD developed a public involvement strategy that included publication of a Notice of Intent, holding six public scoping meetings, meeting with state and federal agencies, distributing newsletters, sending scoping letters to agencies, forming a cooperating agency team, issuing news releases, posting web sites and distributing this Summary of Public Scoping.

Input analyzed for this Summary of Public Scoping came from the following:

1. Series of open houses and public scoping meetings held in six locations in North Dakota (Fargo, Valley City, Grand Forks, Pembina, Wahpeton, and Bismarck).
2. Consultation meetings with federal, state, and local agencies in North Dakota and Minnesota.
3. Comments on previous Red River Valley studies.
4. Written comments submitted by agencies, organizations, Tribes, and the public.

The format of public scoping meetings included breakout sessions, during which facilitators recorded comments on flip charts. Notes from these sessions and all written comments are included in Appendix B.

This Summary of Public Scoping is based upon both oral and written input from federal, state, and local agencies, Tribes, and other interested persons. It describes the scope of actions, alternatives, and impacts to be studied in the Red River Project EIS, and it identifies the significant environmental issues that will be studied in detail as well as those that are not significant or are outside the scope of this analysis.

SCOPING SUMMARY

The following paragraphs summarize comments received during the scoping period. The wording is intended to categorize and summarize the substance of the comments, not reproduce the exact wording of individual comments. The order in which the issues are presented does not reflect their relative importance.

Geographic Scope of Analysis

- Inclusion of Minnesota

Comment: Several individuals and entities commented that alternatives should be formulated to meet needs in both North Dakota and Minnesota.

Response: Three different geographic scopes have been identified for the EIS. These are (1) the area to be served by the project, (2) the area for potential water sources, and (3) the area to be evaluated for potential environmental impacts.

Water needs will be quantified for the Red River Valley in North Dakota and Minnesota. Needs must be quantified for both states to estimate future depletions, and subsequent surface water and groundwater availability.

Section 8(b)(2) of DWRA mandates " … 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."

Because of this specific language in DWRA, the geographic scope which was disclosed in the Notice of Intent to Prepare an EIS published in the Federal Register on October 8, 2002 (Appendix A) included only the North Dakota portion of the Red River Valley in the project service area. Many individuals and entities commented that alternatives should be formulated to meet needs in both North Dakota and Minnesota.

Because North Dakota and Minnesota share the Red River and there is no interstate compact allocating flows, the Red River Project could affect water availability in Minnesota cities bordering the river. Inclusion of Minnesota cities along the Red River in the project service area is therefore reasonable under NEPA.

CEQ regulations require evaluation of all reasonable alternatives, including those outside the jurisdiction or authority of the lead agency. In the *Forty Most Asked Questions concerning CEQs National Environmental Policy Act Regulations (40 CFR 1500-1508). Federal Register Vol. 46, No. 55, 18026-18038. March 23, 1981.,* CEQ states that, "Alternatives that are outside the scope of what Congress has approved or funded must still be evaluated in the EIS if they are reasonable because the EIS may serve as the basis for modifying the Congressional approval or funding in light of NEPA's goals and policies" (Section 1500.1(a)).

Therefore, the geographic scope for the project service area has been expanded to include the Red River Valley in North Dakota and the Minnesota cities of Breckenridge, Moorhead, and East Grand Forks. If a project is ultimately constructed, providing water to Minnesota will require additional Congressional authorization.

The geographic area considered for potential water sources will include the Red River Basin in North Dakota and Minnesota and the Missouri River.

The geographic scope for analysis of environmental impacts of alternatives includes the Red River Basin and the Missouri River from North Dakota to its confluence with the Mississippi River.

Determination of Water Needs and Options to Meet Those Needs

Several individuals and entities commented on various aspects of the quantification of needs, and availability of surface water and groundwater supplies to meet those needs.

- Quantification of Need

Comment: This issue includes questions on estimating future water needs identified in DWRA, and how that could influence identification of alternatives to be evaluated, and ultimately selection of an alternative to

implement. In particular, estimates of future population, per capita demand, industrial demand, and potential water conservation savings were frequently brought up as issues during scoping.

Response: As part of the Needs and Options Report, Reclamation will estimate year 2050 water needs for municipal, rural, and industrial (MR&I) water; water quality; aquatic environment; recreation; and water conservation measures. The needs for each sector will be estimated separately, and will be reviewed by an interagency technical team prior to incorporation in the EIS.

- Tributary Flows

Comment: This issue relates to the need for hydrologic modeling of streamflow in tributaries to the Red River, which generally was not done in previous studies. Several individuals commented that inadequate modeling of tributary flows could result in overestimation of available water during a drought.

Response: Reclamation has contracted with USGS to update the naturalized flow database that will be used for hydrologic modeling. The updated database will include additional detail on tributary flows.

- Time Step for Hydrologic Modeling

Comment: This issue relates to whether use of monthly flows and demands are adequate for modeling potential water shortages. Several comments were received indicating that daily modeling was needed to estimate peak demands, and to evaluate the adequacy of system storage to meet those peaks.

Response: Selected periods will be modeled using a daily time step to assess the adequacy of monthly modeling and to potentially develop conversion factors for monthly and daily shortages.

- Determination of Drought Scenario for Modeling Shortages

Comment: Previous Reclamation studies have used the 1930s drought as a basis for estimating future shortages. Some entities and individuals have commented that the 1930s drought was an anomaly that is unlikely to occur again in the foreseeable future. Others commented that a drought more severe than the 1930s should be considered.

Response: Reclamation will evaluate the effects of climatic cycles on streamflow within the Red River Basin. This will, in part, be used to establish the appropriate drought scenario to use for hydrologic modeling, and will provide the reader context regarding the likelihood of more or less severe droughts.

- Purchase of Irrigation Groundwater Rights

Comment: We received several comments indicating that purchase of irrigation groundwater rights for MR&I use should be included as a component of all alternatives evaluated in the EIS.

Response: Groundwater withdrawals will be quantified, and purchase of irrigation rights may be included as a component of one or more alternatives.

- Desalination of Dakota Aquifer

Water

Comment: Issues were raised pertaining to the low yield of the Dakota Aquifer, the high cost of desalination, and problems associated with brine disposal.

Response: Desalination of Dakota Aquifer water will be evaluated as a potential water supply and may be incorporated as a component of one or more alternatives. The issues will be addressed in the EIS.

Scope of Alternatives

- Features and Alternatives

Comment: Concerns were raised about specific features of the eleven specific alternatives disclosed for comment during the public scoping process, like the practicality of ring dikes, desalination of the Dakota Aquifer, and the environmental impacts of constructing Kindred Dam or raising Lake Ashtabula. The adequacy of in-basin water sources, the political challenges of importing water from Minnesota, and the benefits as well as the potential adverse effects of importing Missouri River water were also discussed. Other new features and alternatives such as a Minnesota water supply were identified.

Response: As required by the Council on Environmental Quality implementing regulations (40 CFR 1502.2[e]), a full range of reasonable alternatives will be evaluated in the EIS. These alternatives will include No Action and development of in-basin and out-of-basin water sources. The inclusion of a No Action Alternative, which was objected to by a number of participants, is required by NEPA and is the basis against which all other alternatives are compared. The EIS will evaluate potential environmental impacts of specific alternatives together with engineering and socioeconomic considerations. A preferred alternative has not been identified at this time.

The following general alternatives, which meet appraisal-level MR&I needs, are expected to be evaluated in the EIS:

No Action Alternative **-** This alternative is the future without the Red River Project.

North Dakota In-basin Alternative B An in-basin alternative that would use water sources within the Red River Valley of North Dakota.

Principal Supply Works Import to Sheyenne River Alternative **B** Missouri River import alternative that would use part or all of the existing Garrison Diversion Unit (GDU) Principal Supply Works and the Sheyenne River to convey water to the Red River Valley.

Principal Supply Works Import Pipeline Alternative B Missouri River import alternative that would use part or all of the existing GDU Principal Supply Works and an enclosed pipeline system to deliver water to the Red River Valley.

Missouri River to Red River Valley Import Alternative **B** This river import alternative would use a pipeline directly from the Missouri River to the Red River Valley.

Minnesota Water Supply Alternative B Available surface and/or groundwater from Minnesota would be used to supplement the existing water supply within the Red River Valley in North Dakota.

At least one specific alternative within each of these general categories will be identified by GDCD and Reclamation. These will be disclosed for public comment during public meetings in June 2003.

Environmental Consequences of Alternatives

- Biota Transfer

Comment: Included in this issue is the potential for the Red River Project to transfer organisms between the Missouri River Basin and the Red River Basin, and the ecological and economic consequences of transferring unwanted organisms. Numerous entities commented on the importance of this issue, particularly in regard to compliance with the Boundary Waters Treaty and the Executive Order on Invasive Species.

Response: Reclamation has contracted with USGS Columbia Environmental Research Center to conduct a biota transfer risk and consequence assessment for the Red River Project. Risks and consequences (ecological and economic) will be estimated for each alternative evaluated in the EIS, including No Action. USGS will evaluate the potential risks of a transfer of non-native biota and the uncertainty associated with the risk estimations.

- Missouri River Depletion

Comment: This issue includes potential impacts to the Missouri River from a diversion of water to the Red River Valley.

Response: Direct, indirect, and cumulative effects on the Missouri River will be evaluated for each alternative. The analysis will include ecological impacts, including endangered species, as well as impacts to navigation, recreation, and water supply. The cumulative effects analysis will include existing and reasonably foreseeable future withdrawals from the Missouri River.

- Riverine and Riparian Resources

Comment: Effects on riverine and riparian ecosystems along the Sheyenne River (including Lake Ashtabula), the Red River, and other potentially affected streams (e.g., Ottertail River) were raised as an issue.

Response: Potential impacts to fisheries, invertebrates, and phytoplankton will be evaluated.

- Water Quality

Comment: Potential water quality changes in the Sheyenne and Red Rivers due to imported water, changes in flow rates, or changes in reservoir operations are part of the water quality issue. Water quality impacts resulting from treatment disinfection byproducts and disposal of brine from desalination are concerns.

Response: Effects on water quality, flow rates, and reservoir operations will be addressed in the EIS.

- Wetlands

Comment: This issue includes effects on wetlands, including construction impacts and indirect impacts associated with changes in aquifer levels or streamflow.
Response: The direct, indirect, and cumulative impacts of construction and operation of each alternative will be evaluated.

- Terrestrial Habitats

Comments: Changes in quality and quantity of terrestrial habitats was raised as a concern.

Response: Impacts to terrestrial habitats caused by construction or operation of project features (e.g., pipeline impacts, inundation under new or expanded reservoirs) will be addressed.

- Groundwater

Comment: This issue includes effects on groundwater quantity and quality, including effects of aquifer recharge and interactions with surface water.

Response: Changes in groundwater hydrology for each alternative will be investigated.

- Cultural Resources

Comment: The potential effects on historic archaeological, architectural, or traditional properties were of concern.

Response: Reclamation will consult with the North Dakota and Minnesota State Historic Preservation Officers and Tribes to determine the effects of the proposed alternatives on historic properties.

- Threatened and Endangered Species

Comments: Effects on species that are federally listed or proposed for listing as threatened or endangered were raised as an issue.

Response: In compliance with the Endangered Species Act, Reclamation will prepare a biological assessment to determine if the project may adversely affect threatened or endangered species. If potentially adverse effects are found, Reclamation will begin formal consultation with the U.S. Fish and Wildlife Service.

- Devils Lake Outlet

Comment: The potential cumulative impacts of the project with either a state or federally-funded outlet from Devils Lake were highlighted by a number of commenters. In particular, impacts to riverine and riparian habitats and associated biotic communities along the Sheyenne and Red Rivers, bank erosion, and water quality (both for aquatic life and human use) are a concern.

Response: Impacts will be evaluated with and without a Devils Lake outlet.

- Agriculture

Comment: This issue includes construction-related effects on agricultural lands (e.g., ring dikes) as well as effects caused by changes in water availability (e.g., impacts of purchasing irrigation water rights).

Response: Potential impacts to agriculture from each of the alternatives will be evaluated.

- Recreation

Comment: A number of comments were received regarding affects on fishing, boating, and other water-based or water-dependent recreation activities.

Response: The effects of the alternatives on recreation within the project area will be addressed.

- Socioeconomic

Comment: This issue includes the costs of construction, operation and maintenance, and mitigation, and the economic impacts of alternatives (both positive and negative), including environmental justice. In addition, the distribution of project costs, repayment obligations, and the ability and willingness of project beneficiaries to pay for reimbursable costs were cause for concern.

Response: Socioeconomic impacts of the alternatives will be evaluated in the EIS.

Outside the Scope

The following comments and resources were identified during the scoping process, but either are not expected to have potentially significant impacts or are beyond the scope of analysis for this EIS.

- Global Climate Change

Effects of global climate change, including global warming and long-term changes in precipitation patterns, are considered outside the scope of the EIS.

- Inlet to Devils Lake

This issue is outside the scope of this EIS. The use of any funds authorized under DWRA to transfer water from the Missouri River drainage basin to Devils Lake is prohibited by DWRA (Section 8(f)). This includes use of previously constructed GDU facilities.

Issues Not Identified as Significant

- Noise

Noise was not identified as a significant issue.

- Air quality

Air quality was not identified as a significant issue.

- Paleontological Resources

Paleontological resources were not identified as a significant issue.

- Mineral Resources

Mineral resources were not identified as a significant issue.

FUTURE PUBLIC INVOLVEMENT

Additional opportunities for public involvement will be provided during the preparation of the Red River Project EIS. The next public meetings are scheduled in Grand Forks, North Dakota (June 23), Breckenridge, Minnesota (June 24), Fargo (June 25), and Valley City, North Dakota (June 26). Public comments will also be invited during the review period for the draft EIS scheduled for December 2005.

APPENDIX A

RED RIVER VALLEY
WATER SUPPLY PROJECT EIS

NOTICE OF INTENT

4310-MN-P

DEPARTMENT OF THE INTERIOR

Bureau of Reclamation

Alternatives for Meeting Water Needs in the Red River Valley, North Dakota

AGENCY: Bureau of Reclamation, Interior.

ACTION: Notice of intent to prepare an environmental impact statement.

SUMMARY: On December 15, 2000, the 106th Congress passed the Dakota Water Resources Act of 2000, which was signed into law on December 21, 2000 (Public Law 106-554). Among other things, the Dakota Water Resources Act of 2000 (DWRA) states 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" (Section 8(b)(1)). In addition, the DWRA states that, "pursuant to an agreement between the Secretary and State of North Dakota as authorized under section 1(g).... 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" (Section 8 (c)(2)(A)).

Pursuant to section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969, as amended, the Bureau of Reclamation (Reclamation) and the State of North Dakota (ND) will jointly prepare this environmental impact statement (EIS). The State of North Dakota (ND) has designated the Garrison Diversion Conservancy District (GDCD) to serve as the State lead in preparation of the EIS for the Red River Valley Water Supply Project. Reclamation, acting under the authority of the Secretary of the Interior, is the

lead Federal agency. Cooperating agencies will be identified at a later date.

Reclamation and the GDCD will use the NEPA compliance process to ensure that the public has opportunities to review and comment on long-term water supply and management alternatives for the Red River Valley Water Supply Project. Public comments are invited and encouraged regarding both the scope of environmental and socioeconomic issues and alternatives that should be evaluated in the EIS.

Reclamation and the GDCD have scheduled six public scoping meetings in which Federal, State, local and tribal government agencies, non-governmental organizations, the public, and the international community are invited to participate in the open exchange of information and to submit comments on the proposed scope of the EIS. Each meeting will be preceded by a 2-hour open house during which Reclamation staff, GDCD staff, and other study participants will provide information and answer questions.

DATES: See Supplementary Information section for the locations, dates, and times of the scoping meetings.

Written comments on the scope of the issues and alternatives to be evaluated in the EIS will be accepted and should be postmarked or e-mailed no later than December 16, 2002, to be most effective.

ADDRESSES: Written comments should be submitted to: Bureau of Reclamation, Dakotas Area Office, P.O. Box 1017, Bismarck ND 58502.

FOR FURTHER INFORMATION CONTACT: Signe Snortland, Red River Valley Water Supply Project EIS, Bureau of Reclamation, Dakotas Area Office, P.O. Box 1017, Bismarck ND 58502; Telephone: (701) 250-4242 extension 3619; or FAX to (701) 250-4326. You may submit e-mail to ssnortland@gp.usbr.gov or access the Red River Valley

Water Supply Project website at http://www.usbr.gov/gp/dkao/rrvwsp.htm.

SUPPLEMENTARY INFORMATION: In 1944, the U.S. Congress passed the Flood Control Act (the Missouri-Basin Pick Sloan Act), which authorized the construction of dams on the Missouri River and its tributaries. The Garrison Diversion Unit (GDU) was authorized in 1965, and construction began in 1967. The project was designed to divert Missouri River water to central and eastern ND for irrigation; fish and wildlife enhancement; municipal, rural, and industrial (MR&I) water supply; and recreation development. Most of the currently authorized principal supply works have been completed, except for about a 20-mile reach between the end of the McClusky Canal and beginning of the New Rockford Canal.

The project was reformulated in 1986 to reduce the emphasis on irrigation and increase the emphasis on meeting the MR&I water needs throughout ND. The 1986 Reformulation Act authorized a Sheyenne River water supply and release feature and water treatment plant capable of delivering 100 cubic feet per second of water to eastern ND.

The authorization for the GDU was amended again in December 2000 by DWRA. The DWRA requires that an EIS and feasibility-level study be prepared to aid decision-making on a preferred alternative for meeting water needs in the Red River Valley in North Dakota.

Development of a reliable water supply for the Red River Valley has been a subject of great interest to local residents, along with government agencies and entities concerned with water management and development. Although rivers in eastern ND such as the Red and Sheyenne rivers are prone to flooding and excessive runoff, they also

experience low flow and drought conditions such as those that occurred in the 1930's and 1980's.

In 1994, Reclamation initiated an appraisal-level (preliminary) assessment of MR&I water needs in the Red River Valley as an outcome of the ND Water Management Collaborative Process. That study was completed in two phases. The first phase was further subdivided into parts A and B. Phase IA compared the existing and projected future MR&I water needs in the Red River Valley with the surface water flows and groundwater resources available to meet those needs. That report, completed in April 1998, concluded that significant shortages could occur during future droughts if no action is taken.

The Phase IB report provided an evaluation of seasonal instream flow needs for water quality and maintenance of aquatic life in the Sheyenne and Red rivers. That report was finalized in August 1999.

The Phase II report presented a range of preliminary alternatives to meet the shortages identified in the Phase IA report. These alternatives included both in-basin and out-of-basin water supplies along with water conservation and a variety of management and operational techniques.

Purpose of and Need for the Federal Action

The Red River Valley Water Supply Project EIS will evaluate alternative ways to meet the comprehensive "water quality and quantity needs of the Red River Valley in North Dakota" [DWRA Section 8(b)(1)]. The needs are defined as municipal, rural, and industrial supplies; water quality; aquatic environment; recreation; and water conservation measures [Section 8(b)(2)].

Proposed Alternatives

As required by Council on Environmental Quality (CEQ) implementing regulations (40 CFR 1502.2[e]), a full range of reasonable alternatives will be evaluated in the EIS. These alternatives will include No Action and development of in-basin and out-of-basin water sources. The EIS will evaluate potential environmental impacts of specific alternatives together with engineering and socioeconomic considerations. A preferred alternative has not been identified at this time.

Eight preliminary alternatives, including No Action, were described in the Phase II Needs Assessment. These alternatives were:

- No Action. This alternative represents the reasonably foreseeable future condition if a Red River Valley Water Supply Project is not constructed.
- Construction of a new water supply reservoir on the Sheyenne River near Kindred.
- Raising the height of Baldhill Dam on the Sheyenne River near Valley City to increase water storage.
- Development of groundwater resources including purchase of existing rights, new well fields, desalinization, and aquifer storage and recovery.
- Importation of Missouri River water via a pipeline from Bismarck to Fargo.
- Importation of Missouri River water via a pipeline from Lake Oahe south of Bismarck to the vicinity of Wahpeton.
- Importation of Missouri River water to the upper Sheyenne River utilizing existing GDU principal supply works.
- Importation of Missouri River water via a system of closed pipelines from the

GDU principal supply works to cities, industries, and rural water systems.

Other potential water sources including Minnesota sub-basins and Devils Lake may be evaluated in detail in the EIS. Comments or suggestions on these alternatives or suggestions of other alternatives that should be considered are welcome.

Preliminary Identification of Environmental Issues

The following issues have been tentatively identified for analysis in the EIS. This list is preliminary and is intended to facilitate public comment on the scope of this EIS. It is not intended to be all-inclusive nor does it imply any predetermination of potential impacts. Reclamation and the GDCD invite comments on this list:

- Impacts on streams and lakes, groundwater, floodplains, wetlands, and on water uses and quality.
- Impacts on aquatic and terrestrial plants and animals and their habitats including species that are federally or State-listed as threatened or endangered, proposed, candidate, or of special concern and/or critical habitat.
- Potential impacts from the transfer of biota, including parasites and pathogens, between the Missouri River basin and the Hudson Bay basin.
- Potential impacts to Canadian waters due to transfer of harmful biota or changes in water quality or quantity.
- Potential cumulative environmental impacts to the Missouri River from past, present, and foreseeable future withdrawals.
- Potential cumulative environmental impacts to the Sheyenne and Red rivers, including effects of the proposed Devils Lake outlet as well as other reasonably foreseeable discharges or withdrawals.

- Impacts on cultural resources such as historic, archaeological, architectural, or traditional properties.
- Socioeconomic impacts on affected communities related to long-term water supply and management.
- Environmental justice, particularly whether or not water management activities have a disproportionately high and adverse effect on minority and low-income populations.
- Compliance with all applicable Federal, State, and local statutes and regulations and with international agreements and required Federal and State environmental permits, consultations, and notifications.
- Compliance with all applicable Executive Orders.

Timing

Reclamation and the GDCD plan to issue the draft EIS by December 2005. Reclamation and the U.S. Environmental Protection Agency will separately publish notices of availability of the draft EIS in the Federal Register. Reclamation and GDCD will publicize the availability of the draft EIS in other media and will provide opportunities for Federal, State, local and tribal government agencies, non-governmental organizations, the general public, and the international community to participate in additional information forums and to submit comments.

Locations, Dates and Times of Scoping Meetings

- Monday, October 28, 2002, 7:00 p.m., Fargo, North Dakota, Fargo Civic Auditorium, 207 4th Street North, lower level, Room A

- Tuesday, October 29, 2002, 7:00 p.m., Valley City, North Dakota, AmericInn Hotel, 330 Wintershow Road
- Wednesday, October 30, 2002, 7:00 p.m., Grand Forks, North Dakota, Grand Forks City Council Chambers, 225 North 4th Street, third floor
- Wednesday, November 6, 2002, 7:00 p.m., Pembina, North Dakota, Pembina State Museum, Exit 215 off of Interstate 29, 805 Highway 59
- Thursday, November 7, 2002, 7:00 p.m., Wahpeton, North Dakota, Wahpeton City Hall, 1900 4th Street North, Community Room
- Friday, November 8, 2002, 1:00 p.m., Bismarck, North Dakota, Doublewood Hotel, Interstate 94 and Exit 159.

Issues raised at the scoping meetings will be documented in the Scope of Statement (SOS) for the Red River Valley Water Supply Project EIS. The objectives of this report are to summarize the essence of the comments in a clear and concise manner and to accurately portray the scope of the EIS. The SOS will be distributed to public libraries near the meeting locations, posted on Reclamation's Red River Valley Water Supply Project EIS web page, and mailed upon request.

Public Disclosure Statement

Comments received in response to this notice will become part of the administrative record for this project and are subject to public inspection. Our practice is to make comments, including names and home addresses of respondents, available for public review. Individual respondents may request that we withhold their home address from public disclosure, which we will honor to the extent allowable by law. There also

may be circumstances in which we would withhold a respondent's identity from public disclosure, as allowable by law. If you wish us to withhold your name and/or address, you must state this prominently at the beginning of your comment. We will make all submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, available for public disclosure in their entirety.

Dated: September 12, 2002

/s/Maryanne C. Bach
Maryanne C. Bach
Regional Director
Great Plains Region

APPENDIX B

RED RIVER VALLEY WATER SUPPLY PROJECT EIS

PUBLIC SCOPING COMMENTS

Log of Scoping Correspondence
Red River Valley Water Supply Project
Environmental Impact Statement

Date	Date Sent	To	From Person and organization	Subject
01/17/2003	01/14/2003	Signe Snortland	Bruce W. Furness, Mayor of Fargo	Fargo EIS Public Scoping Meeting Comments RRV Water Supply Project (LETTER)
01/03/2003	12/31/2002	Signe Snortland	Allen Grasser City of Grand Forks	Grand Forks EIS public scoping comments RRV Water Supply Project (LETTER)
12/26/2002	12/19/2002	Signe Snortland	Larry Kramka MN Department of Natural Resources	Comments on the Scoping document, RRV Water Needs Assessment EIS (LETTER)
12/23/2002	12/16/2002	Signe Snortland	Leanne Tippett MO Department of Natural Resources	Comments on EIS scoping RRVWSS (LETTER)
12/23/2002	12/16/2002	Dean Karsky	Red Geurts/Karl Rosvold Cargill Sweeteners	RRV EIS public comment (LETTER)
12/20/2002	12/16/2002	Signe Snortland	Cynthia Cody U.S. Environmental Protection Agency	Scoping comments for RRV WSP, Draft EIS (LETTER)
12/19/2002	12/17/2002	Bureau or Reclamation (Signe Snortland)	Mary Wilson Tribal Historic Preservation Office Standing Rock Sioux Tribe	RRV Water Supply Project EIS scoping (LETTER)
12/17/2002	12/17/2002	Signe Snortland	Mary S. Wilson Environmental Protection Program/THPO Standing Rock Sioux Tribe	RRV Water Supply Project EIS (FAX)
12/16/2002	12/16/2002	Maryanne Bach	Daniel Beard, National Audubon Society; David Conrad, National Wildlife Federation; Dave Moran, MN Conservation Federation; Mark Ten Eyck, MN Center for Environmental Advocacy	Comments of Scope issues for EIS regarding alternatives for meeting water needs in RRV (E-MAIL)

Table of incoming documents on RRV_external

Date	Date Sent	To	From Person and organization	Subject
?	12/16/2002	Signe Snortland	Steven Mahfood, Leanne Tippett MO Department of Natural Resources	RRV Water Supply Project EIS Scoping Comments (LETTER)
12/16/2002	12/16/2002	Dennis Breitzman	R. Kellow Transboundary Waters Unit Environment Canada	Scoping Comments: RRV Water Supply Project EIS (FAX)
12/16/2002	12/16/2002	RRVWSPmail (Signe Snortland)	Richard Betting	Concur with scoping comments of National Wildlife Federation (E-MAIL)
12/03/2002	12/03/2002	RRVWSPmail (Signe Snortland)	Andre Delorme Valley City State University	Comments on the RRV Water Supply Project EIS (E-MAIL)
11/18/2002	11/12/2002	RRV EIS (Signe Snortland)	Schluckr?	What will impact be to fisheries in Lake Sakakawea or Missouri River? (COMMENT CARD)
11/18/2002	11/15/2002	Richard Nelson	Francis Ziegler ND Department of Transportation	RRV Water Supply Project EIS scoping – they don't believe they need to attend (LETTER)
11/14/2002	11/06/2002	Signe Snortland	Paul Stolen MN Department of Natural Resources	Approach to handling economic and environmental impacts (OFFICE MEMORANDUM)
11/12/2002	11/08/2002	Richard Nelson	Merlan Paaverud, Jr. State Historical Society of ND	RRV Water Supply Project EIS Scoping (LETTER)
11/11/2002	11/11/2002	Dave Koland	Dale Frink ND State Water Commission	FW: RRV Water Supply Needs Assessment Meeting (E-MAIL)
11/06/2002	10/31/2002	Red River Valley EIS (Signe Snortland)	Kenneth Norman Moorhead Public Service	City of Moorhead's comments to the RRV EIS (LETTER)
11/05/2002	?	Maryanne Bach (Signe Snortland)	Gary Pearson D.V.M.	Which agency will represent the State of ND in the preparation of the EIS for RRV Water Supply Project (LETTER)
11/05/2002	11/05/2002	Signe Snortland	Andre DeLorme Valley City State University	Macro invertebrate sampling on the Sheyenne (E-MAIL)
11/04/2002	10/31/2002	Red River Valley EIS (Signe Snortland)	Mark Voxland, Mayor Moorhead, MN	City of Moorhead's Comments to the RRV EIS (LETTER)

Table of incoming documents on RRV_external

Date	Date Sent	To	From Person and organization	Subject
11/01/2002	10/30/2002	Bureau of Reclamation (Signe Snortland)	Mary Wilson Tribal Historic Preservation Office Standing Rock Sioux Tribe	RRV Water Supply Project EIS Scoping (LETTER)
11/01/2002	10/28/2002	Signe Snortland	Bryan Stotts US Department of Ag, Sheyenne Ranger District	In response to Notice of Intent to prepare an EIS on alternatives for RRV (LETTER)
?	11/01/2002	RRV Water Supply Project	Michael PoLovitz	Low Head dams on Red River (COMMENT CARD)
?	10/29/2002	RRV Water Supply Project	Larry J. Robinson	Very important to compile various issues raised at meetings and get out those who attend (COMMENT CARD)
?	10/29/2002	RRV Water Supply Project	Paul Lacina	Compliments on meeting and a comment on promoting water conservation (COMMENT CARD)
10/25/2002	?	RRV EIS	Lynn C. Larsen, Richland County Commissioner	A Written Comments card (photocopied)
10/24/2002	?	RRV EIS	Red Geurts, Cargill Corn Milling	A Written Comments card (photocopied)
10/20/2002	10/20/2002	Elaine Felchle (Dean Karsky)	Romona Klein	Concern over rural well water shortages if Valley City builds an ethanol plant. (E-MAIL)
10/18/2002	10/18/2002	RRVWSPmail	David Martin	To CCFM public affairs committee members regarding RRV EIS scoping meeting date held in Fargo (E-MAIL)
10/08/2002	10/07/2002	Red River Valley Water Supply Project	Senator Harvey Tallackson	Building a dam on the south branch of the Park River east of Adams (COMMENT CARD)
04/20/2001	04/20/2001	Signe Snortland	Gary Pearson for National Wildlife Federation and National Audubon Society	New or expanded features/alternatives (E-MAIL)

Minnesota Department of Natural Resources
Division of Waters
2115 Birchmont Beach Rd. NE
Bemidji, MN 56601

December 19, 2002

Ms. Signe Snortland
US Bureau of Reclamation
Dakota Areas Office
P.O. Box 1017
Bismarck, ND 58502
FAX 701-250-4326

RE: Comments on the Scoping Document, Red River Valley Water Needs Assessment EIS

Dear Ms. Snortland:

We appreciate and thank you for allowing us some extra time to submit comments on this public notice.

The Minnesota Department of Natural Resources (MDNR) has fully participated in the previous studies and discussions that have been undertaken on this project. This began with written comments in 1998 on the Phase I and II planning studies that were done prior to the passage of the Dakota Water Resources Act (December 2000.) From the inception, this participation has concerned topics substantively relevant to the EIS that is to be prepared.

The MDNR involvement has also included having several staff members participating as members of the Technical Team developing detailed plans of study. However, from the beginning, we have noted our limited ability to be able to attend all meetings--and verbally debate some of the major issues--because staff are fully committed to other work. Therefore, we wish to reiterate again that USBR needs to integrate our written comments into Specific Plans of Study.

The previous written comments cover many details regarding Minnesota concerns, and recommend study topics that need to be addressed in the EIS. They should be incorporated as part of the scoping record, and are referenced in Attachment B. If you are missing any of these items please let me know.

The primary points we want to make (contained in Attachment A) in this comment letter concern some of the overall "big picture" issues that seem to be as yet undecided or unresolved, and to encourage USBR to accomplish consensus building among the diverse stakeholders. Topics in this letter include urging additional emphasis on the role of other stakeholders besides North Dakota, the key issue of the Alternatives Analysis in the EIS, and focusing more attention on the most significant impact topics (Items 1-4.) We do also include a few miscellaneous but important items

brought up during Technical Committee discussion that may have been missed in written comments. (Items 5 through 7.)

If you have any questions, please give me a call. Thank you for the opportunity to submit comments.

Sincerely,

Larry Kramka, Regional Hydrologist
MDNR

c: Don Buckhout
Kent Lokkesmoe
Lee Pfannmuller
Ron Payer
Henry Drewes
Paul Stolen
Laurie Martinson

ATTACHMENT A

1. Role of other states and Canada in the EIS. Clearly, other states are potentially affected by some of the alternatives being studied in this EIS. This includes Minnesota and downstream states on the Missouri River such as Missouri. As a federal agency, it is imperative that USBR act as a neutral party on this topic, because there are substantive differences in effects among the affected states. The clear possibility of adverse impacts in Canada heighten this need. It is still unclear what role these states and Canada will *specifically* play in the preparation of the EIS. In the beginning, the Technical Team included essentially all the major stakeholders: Canada, Minnesota, Missouri, other federal agencies, and environmental groups. Good, consensus-building discussions were held during this period. However, within the last year the Technical Team role has been narrowed to that pertaining to the DWRA studies, leaving the participation of these stakeholders in the EIS preparation unclear.

Some discussions of Minnesota-side data needs have been held with USBR and Minnesota. Also needed are specific discussions of the role of Missouri and Minnesota as "cooperating agencies." A possible first step would be for USBR to provide an interpretation of CEQ regulations on this topic, including how these states should participate in decisions made by the joint leads (USBR and North Dakota), along with an invitation similar to the initial invitation made at the beginning of the Technical Team meetings. We favor the consensus building approach that has previously occurred and could be built upon during the EIS preparation.

The unsettled nature of the next point is indicative of the lack of resolution of the role to be played by states other than North Dakota, as well as Canada and other parties, in the EIS preparation.

2. Geographic scope of analysis for "needs and options" and alternatives. Extensive discussions have been held regarding the topic of geographic scope of the studies, yet it is still undecided. Clearly, an Alternatives Analysis is a crucial part of an EIS. Such an analysis must consider impacts and alternatives in the basin as a whole. As MDNR has indicated in writing, studies of the "in-basin" alternatives need to look at possible options for supplying portions of water needs during drought conditions from the Minnesota side. (Letters of 12/17/2001 and 1/23/2002 in Attachment B.) What appears to remain a point of contention is the manner in which Minnesota "Needs and Options" should be studied.

It is our contention that CEQ regulations regarding the content of an alternatives analysis, and regarding the role of "cooperating agencies," provides the answer to this question. This is especially true when one considers the fact that Minnesota rivers provide the primary Red River flow during drought conditions. DWRA does not constrain the EIS analysis in any form–it is essentially silent except to say an EIS will be prepared jointly with USBR and North Dakota. Therefore, if one accepts the logic of studying Minnesota side alternatives for supplying water to communities along the Red River during a severe drought regardless of which state they are in, then one must also accept the logic that "needs" have to be studied as well, in order to have a rational Alternatives Analysis.

Foreseeing it's role as a "cooperating agency", Minnesota has already indicated its willingness to enter into studies of a Minnesota-side water supply at the feasibility level, even if it may result in

a need to consider changes in Minnesota law and regulation. We think we are being pragmatic in doing this, since in visualizing a sudden onset of a severe drought, this is exactly what the public on both sides of the river would expect. With good reason, political boundaries vanish in the public's eyes when there are genuine hardships to be faced.

It is clear that North Dakota wants to import Missouri River water into the Red River basin. It is even built into North Dakota law to pursue this option. However, neither this desire, nor the DWRA, binds Minnesota or the USBR to ignore Minnesota-side water shortage problems during droughts, nor Minnesota-side solutions to these problems. In fact, one could easily make the case that the Minnesota letters and *CEQ regulations* binds the USBR, as a neutral federal agency, to fully explore "needs and options" on the Minnesota side of the basin when studying a drought scenario–since the drought will affect Minnesota cities supplied by the Red River as well as North Dakota cities. If studies show that it is feasible to seriously pursue Minnesota-side water supplies to be in the mix of solutions to drought-driven water needs of Red River communities (such as Moorhead, Fargo, Grand Forks, and East Grand Forks), then there is no obstacle to this approach, since Minnesota has stated its willingness to seriously study the issue, including even changes in law and regulations. The fact that DWRA is silent on Minnesota-side "needs and options" merely means that it gives no direction to USBR–however, it is our opinion that the CEQ regulations *do* give such direction.

Note: We recognize and support decisions that the other part of the geographic scope of the impact assessment covers downstream effects on the Missouri River.

3. Temporal scope of analysis. There are many facets to what time frames apply to different portions of this analysis, such as population and industrial growth, and so forth. The EIS needs to focus also on another long-term aspect of Missouri River import alternatives: if such an importation is seriously contemplated, what is the limit for such an importation, when is it likely to be reached, and what will happen after? These questions get at the important concept of seek long term, sustainable solutions that is covered in the testimony of MDNR Deputy Commissioner Morse in the June 21, 1999 letter cited in Attachment B.

4. Biota transfer issues. This topic – and downstream effects on the Missouri – are by far the two most important environmental issues raised by the alternatives that involve import of Missouri River water to the Red River basin. *Yet, even after the extensive rounds of meetings of the Technical Committee, and development of numerous Specific Plans of Study, it is still very unclear how biota transfer is to be addressed in the EIS.* MDNR has commented on the biota transfer topic since it first commented on these proposals in 1998. As our latest comments indicate (October 17, 2002) we continue to be highly concerned.

These concerns are heightened by the following issues, which have not been resolved in the discussions to date on the Specific Plan of Study on this important topic:

➡Apparent reliance on the proposed methodology of numerical risk assessment to

address this highly complex ecological issue, and that this study is being done under the DWRA rather than the EIS.

➡No detailed Specific Plan of Study has been developed for addressing biota transfer in the aquatic resources section of the EIS, while very detailed Specific Plans of Study have been developed for addressing engineering aspects, water needs, and so forth. The detailed Specific Plans of Study needed for a proper NEPA analysis would address such general topics as ecological, natural resource, and economic impacts in the Red River basin should specific (named) organisms be transported to the Red River basin by the conveyance systems, or by breakdown of the built-in "safety" features.

➡The Garrison Conservancy District, a North Dakota state agency constrained by North Dakota law to pursue importation of Missouri River water to the Red River basin, having lead agency status in joint preparation of the federal EIS *coupled with* the lack of explication of the Specific Plan of Study and of role of other states as cooperating agencies, and of Canada, in this EIS decision process.

➡Numerous statements by the Garrison Conservancy District that the numerical risk assessment done for the NAWS project is the model to be used for the RRVWNA. No EIS was done for this project, and MDNR and other stakeholders found this analysis to be seriously flawed (see letter from Larry Kramka, 8/9/2001 to Dennis Breitzman, referenced in Attachment B.)

➡An apparent inordinate focus on contentions by some North Dakota agencies that there are numerous pathways that already exist whereby biota that exist in the Missouri basin will enter the Red River basin, and therefore little is to be done about prevention. This was demonstrated in the first round of Technical Team meetings, and is also present in several of the major studies funded by the Garrison Conservancy District and North Dakota Water Commission that are cited in the draft SPOS for the biota risk assessment. This approach runs counter to many laws and public policies throughout the US and Canada regarding control of exotic species. These laws and policies have been put into place because of the huge economic damages caused by their spread. (See for example the current proposals for the Chicago River to attempt to prevent Mississippi River organisms from entering the Great Lakes, which is receiving national attention.)

The lawsuit filed by the Province of Manitoba against US federal agencies on the NAWS project contains good discussions about the scientific, economic, and ecological basis for being concerned about the type of assessment that needs to be accomplished regarding the impacts of biota transfer. It is therefore applicable to the RRVWNA analysis. MDNR wishes to incorporate by reference into the scoping decision these discussions (Case 1:02CV02057, US District Court, District of Columbia.)

5. <u>Environmental criteria for screening alternatives</u>. During the Technical Team meetings,

several participants recommended that the need for environmental criteria for screening alternatives was just as important as economic and engineering criteria, which appeared to have been developed in detail.

6. Alternatives analysis: aquatic ecosystem restoration. During the Technical Team meetings, MDNR recommended that this alternative be developed. Main components would be flood plain and wetland restorations, and the possible influence of these features on extending river flows farther into the drought cycle. The efficacy of such measures in accomplishing this may not be as yet fully established; however, data is being gathered in the Red River basin and elsewhere, and may be available for use in the EIS. For instance, Devils Lake studies include a major study of wetland restorations north of Devils Lake, and groundwater studies around Devils Lake, since extensive increases in groundwater levels have occurred along with the lake rise. Such measures could contribute to a long-term, sustainable approach that would provide a partial response to the drought scenario being studied for this project. (See the letter submitted by MDNR Deputy Commissioner Morse to Senator Gordon Smith during the debate over the DWRA; see Attachment B, letter of June 21, 1999.)

7. Aquatic environment and recreation needs. During the first round of technical meetings, we expressed concerns about statements implying that diverted Missouri River water in such waterways as the Sheyenne River would be considered as an asset to aquatic environments and recreational uses. We do not favor this approach, but if it is taken in the studies, it is imperative that adverse downstream impacts to aquatic environments and recreational (and other) uses of the Missouri River be also addressed, including cumulative impacts. We would point out that it would be easier to do studies of the Sheyenne to demonstrate benefits to this river from such flows, but much more difficult to study the adverse effects in the Missouri–even though they would be certain to occur.

ATTACHMENT B

October 17, 2002. Letter to Signe Snortland, Project Manager, USBR from Paul Stolen, Regional Environmental Assessment Ecologist. Comments on preliminary draft of Biota Transfer Specific Plan of Study, RRVWNA. It raises concerns about the approach of addressing the biota transfer issue with a numerical risk assessment, pointing out that this numerical approach may not fulfill NEPA requirements, and that the Plan has no detail on how the impact assessment will be accomplished.

January 23, 2002. Letter from Kent Lokkesmoe, Director, MDNR Division of Waters, to Bob Harms, North Dakota Governor Hoeven's staff, enclosing Larry Kramka's December 17th letter. It reviews the key points made and that during drought conditions, flows from the Minnesota side of the basin dominate Red River flows. It notes that the conditions referred to in Larry Kramka's letter would not be different from typical provisions evaluated for Minnesota cities facing these conditions.

December 17, 2001. Letter from Larry Kramka, MDNR to Signe Snortland, USBR Project Manager, describing the need to study the whole basin and pursue in-basin alternatives. It recommends studying at the feasibility level the alternative of supplying a portion of the water needs of ND cities along the Red River from the Minnesota side of the basin. It indicates the conditions under which Minnesota would consider such an alternative, such as during severe drought conditions, imposition of strict water conservation measures, and so forth, and indicates Minnesota would consider changes in law and regulation to accomplish this if studies indicated feasibility.

August 9, 2001. Letter from Larry Kramka, MDNR to Dennis Breitzman, USBR Bismarck District Chief appealing the FONSI for the NAWS project on the basis of inadequate biota assessment analysis, the use of water treatment technology to prevent biota transfer rather than biota containment methodology, and evidence that North Dakota agencies intended to use the same methods of analysis as precedent for other features of the Garrison Diversion Project.

April 30, 2001. Memo to RRVWNA Technical Team from Paul Stolen, MDNR. Enclosing pertinent excerpts from MDNR Exotic Species Control Program Annual Report 2000, "Harmful Exotic Species of Aquatic Plants and Wild Animals in Minnesota."

April 11, 2001. Letter from Paul Stolen, MDNR to Signe Snortland, USBR Project Manager for RRVWNA proposing language regarding biota transfer in the Master Plan of Study (MPOS) , as per agreement reached at the Technical Team meeting on April 4. Suggestions are made for two areas of the MPOS, the Environmental Components and Engineering Features.

April 2, 2001. Letter from Larry Kramka to Dennis Breitzman, USBR Bismarck District Chief , "Biota assessment issues in the North Dakota Water Needs Assessment EIS." The letter describes necessary changes in the Devils Lake Biota Assessment Scope of Work to make it more applicable to the RRVWNA EIS. It also points out major problems with the biota transfer section of draft MPOS.

March 28, 2001. Letter from Larry Kramka MDNR to Signe Snortland, USBR, making the following points: 1) Formally requesting the biota transfer risk assessment report for the Northwest Area Water Supply Project, 2) asking the involvement of the EPA in Technical Team meetings, 3) noting that MDNR was preparing a letter regarding modifications of the Devils Lake Scope of Work for biota transfer, 4) asking for corrections to the meeting minutes, and 5) asking for membership on the Study Review Team.

March 15, 2000. Comment letter from Tom Balcolm, MDNR on Phase II; *Appraisal of Alternatives to Meet Projected Shortages* (February, 2000.) Nine pages of comments covering Water demand and Use Projections, Future Development Scenarios, Need for an Ecosystem Focus, Recreational Economics

Assessment, Biota Transfer, Water Conservation, Drought Contingency Planning, interbasin Transfer Alternatives, Alternatives Evaluation, Financial Analysis. Concluding comments note that the issues raised in the comments "if considered.....may eliminate the need for any type of extensive infrastructure for the purpose of meeting water supply needs in the Red River Basin of North Dakota.

March 1, 2001. First meeting of the RRVWNA Technical Team Meeting. MDNR distributed a proposed Scope of Work for studying the biota transfer issue in the Devils Lake federal EIS, and noted its relevance to the RRVWNA EIS studies. The Corps of Engineers had solicited this Scope of Work from MDNR

December 14, 1999. Comment letter from Tom Balcolm, MDNR on Phase I, Part B: *Instream Flow Needs Assessment*. Nine page letter disagreeing with the USBR's ". . .conclusion that the aquatic life maintenance seasonal instream flow regime would maintain the ecological integrity of these rivers" because USBR did not adequately address the other components of the river system. The letter recommended that the assessment address five inter-related components, hydrology, geomorphology, water quality, biology, and connectivity.

June 21, 1999. Letter from MDNR Deputy Commissioner Morse to Senator Gordon Smith, Chair, Subcommittee on Water and Power, US Senate, commenting on the proposed Dakota Water Resources Act. "Grave concerns" are expressed over a transfer of Missouri River water out of it's watershed, and concerns about navigation impacts, water quality, and biota transfer are discussed. A sustainable in-basin approach is recommended: "It is our belief that we must begin to live within the confines of our natural resources. . .(and) question whether transporting water across a watershed divide would be sustainable for either watershed."

June 29, 1998. Comment Letter from Tom Balcolm, MDNR on Phase I, Part A: *Municipal, Rural, and Industrial Appraisal Report*. Four pages plus attachments. Topics include noting inadequacy of study area (only North Dakota), disagreement with projected demand, notations of inadequacy of importance of recreational value of the Red River and instream flow and evaporative losses. Attachments included information on water conservation, and DNR comments on the ProGold corn milling plant during its permitting process (The USBR forecasts assumed the construction of 5 more such plants in making its industrial use assumptions in the study), information from the Red River Impoundment EIS regarding low flow stream conditions, and on water appropriations in the basin in Minnesota.

STATE OF MISSOURI

Bob Holden, Governor • Stephen M. Mahfood, Director

DEPARTMENT OF NATURAL RESOURCES

www.dnr.state.mo.us

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December 16, 2002

Ms. Signe Snortland
Bureau of Reclamation
Dakota Areas Office
P.O. Box 1017
Bismarck, ND 58502

Re: Red River Valley Water Supply Project EIS Scoping Comments

Dear Ms. Snortland:

As you are aware, members of my staff are participating in the Red River Valley Water Supply project on both the technical and study review teams. This participation reflects the high priority Missouri River issues receive in our agency. While we support the right of North Dakota citizens to have a clean, safe water supply, we firmly believe this goal can be accomplished without transferring water from the Missouri River basin. Therefore, we must state at the outset that the state of Missouri remains staunchly opposed to any such transfer.

However, in the interest of cooperation and in an attempt to promote a more thorough process, we submit the following comments:

- Independent estimates of the population and water needs completed by a party or parties outside the basin should be included as part of the study;

- The future projected industrial water needs used in the Phase I/II reports are highly speculative and unsupportable. This limitation of the earlier reports needs to be addressed in the current studies;

- All alternatives involving the interbasin transfer of water should be evaluated in relation to existing and projected in-basin depletions and withdrawals in the Missouri River basin; and,

- Since the Missouri River contributes over two-thirds of the flow of the Mississippi River at St. Louis depending on the time of year, Mississippi River basin states should be kept abreast of the developments in the studies and invited to participate in the process as "affected states."

We also share the concerns of our colleagues in Manitoba and Minnesota, as well as the national and regional environmental groups participating in this process, regarding transfer of harmful biota, invasive species and water quality. While these issues do not directly impact Missouri, as a natural resource agency we recognized the critical nature of these concerns. Therefore, we ask that you also carefully consider the comments of these entities as you move forward with this project.

Thank you for your attention to this matter. If you have any questions please contact Leanne Tippett at P. O. Box 176, Jefferson City, MO 65102 or by phone at (573) 751-7840.

Sincerely,

DEPARTMENT OF NATURAL RESOURCES

Steven Mahfood
Director

Leanne J. Tippett
Assistant to the Director

SM/ltk

Cargill Sweeteners
North America

December 16, 2002

Red River Valley EIS
Bureau of Reclamation
P.O. Box 1017
Bismarck, ND 58502-1017

Re: Public Comments relating to the Red River Valley Water Supply Project

The intent of this letter is to provide comments relating to the Red River Valley Water Supply Project. Cargill Sweeteners recognizes that water supply issues in the eastern part of North Dakota are of critical importance to our processing operation.

Study Alternatives

Cargill Sweeteners has reviewed the alternatives identified in the Phase II report. Of particular interest are alternatives that involve pipeline conveyances. Cargill Sweeteners supports the alternatives that provide the most equitable and economical solution that includes an outlet in the Wahpeton area. An outlet in the Wahpeton area ensures a water supply to the uppermost areas of the Red River Basin to support the existing infrastructure and economic development for our community.

Artificial Groundwater Recharge

Cargill Sweeteners supports the investigation of the feasibility of Artificial Groundwater Recharge (AGR) technology. However, we believe that the implications of AGR on water allocation permits must be included in that investigation. Specifically, how will AGR affect the water users withdrawal calculation?

Cargill believes that if a water user artificially recharges an aquifer, that a form of credit can be applied to the water users allocation permit.

18049 County Road 8E
Wahpeton, ND 58075

Tel 1-800-266-6732
Tel 1-701-671-1675
Fax 1-701-671-1625

Incorporating Industrial Needs

Cargill Sweetener supports the inclusion of industrial water needs in the study. This includes not only identified facilities, but also potential facilities and expansion of existing facilities. A reliable source of high-quality water is a key factor in the decision making process utilized by all industries, and for the economic growth of the region.

The availability of a dependable supply of water is imperative to Cargill Sweeteners and other water users in the Red River Valley. Water availability plays large role in Cargill's operations in Wahpeton and in our future operating decisions.

Sincerely,

Red Geurts
Asst. V.P. / General Manager

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
999 18TH STREET - SUITE 300
DENVER, CO 80202-2466
Phone 800-227-8917
http://www.epa.gov/region08

December 16, 2002

Ref: EPR-N

Signe Snortland
Bureau of Reclamation
P.O. Box 1017
Bismarck, ND 58502-1017

Re: Scoping Comments for Red River Valley Water Supply Project, Draft Environmental Impact Statement

Dear Ms. Snortland:

The U.S. Environmental Protection Agency Region 8 (EPA) has reviewed the scoping materials for the Red River Valley Water Supply Project (RRVWSP), North Dakota. We also have reviewed the draft Plans of Study for hydrology, engineering, and needs assessment. We thank the Bureau of Reclamation (Bureau) for these and other materials in our ongoing partnership in the Red River Valley studies. We provide these scoping comments in anticipation of our review of the Draft EIS (DEIS) in accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act. We thank you for the opportunity to comment early in the planning process.

The Bureau already plans to address many of our concerns: ecosystem processes and ecological effects to terrestrial and aquatic systems, the presentation of scientific literature, adaptive management, water conservation. Our comments are meant to provide a broad scope of issues, that may help to prepare the DEIS. From the review of the scoping information, there are several important environmental issues that should be discussed in the DEIS. Key issues include the following: evaluation of reasonable alternatives to meet regional water supply needs; evaluation of water treatment needs for raw water and waste water; disclosure of impacts to drinking water, aquatic uses, and other current water uses; and the cumulative effects of proposals.

Reasonable Alternatives to Provide Water Supply

Water Conservation

The scoping materials indicate that water conservation and the potential to reduce water demand through water conservation will be estimated in the study. We believe that water conservation should be evaluated as part of meeting the potential economic demands and human needs for water supplies in the Red River Valley and should be considered as a component for all alternatives. An evaluation of the region's opportunity to meet its water demands without importing water from outside the basin should be conducted.

EPA encourages the Bureau to consider the concepts of "sustainable water management" as it proceeds with each proposal. The concepts of sustainable water use are based on recognition of both human and ecological water requirements and the necessity of managing and using water "... without undermining the integrity of the hydrological cycle or the ecological systems that depend on it" (Gleick, Peter, *Water In Crisis: Paths To Sustainable Water Use*, **Ecological Applications**, Vol. 8, No. 3, August 1998). While such concepts may be perceived as theoretical, EPA is willing to work with the Bureau to develop sustainable water management concepts as they apply to the RRVWSP.

When looking at water quality and water conservation practices, such programs as agricultural best management practices should be evaluated for their joint benefits to provide additional water supply, improve water quality for both municipal, residential and industrial (MR&I) and agricultural uses, protect human health, improve fish and wildlife habitat, and so forth. Often, when a Purpose and Need is for a single objective – water supply enhancement – the other values of improved water and other resources management are not fully considered in the economic and environmental evaluations of a specific proposal. EPA believes that opportunities generally exist for significant economic and environmental benefits as a result of improved water management.

Preliminary Bureau studies indicated that the least costly water conservation alternatives will cost $0.17 to $1.37 per 1,000 gallons to users, depending on the repayment method (Engineering Specific Plan of Study). The least-cost alternatives for an alternative water source range from $0.17 to $0.32 per 1,000 gallons. Please explain in the DEIS why the Engineering Specific Plan of Study concluded that the opportunities for water conservation do not significantly affect the size of and need for a RRVWSP.

Purpose and Need

The region has been stated to be increasingly urbanized. There is discussion in the scoping materials about the possibility that food processing will be a potentially significant demand factor as the region grows. Careful evaluation of the economic importance and contributions of each sector and use should be completed. Please evaluate the opportunities for water conservation by all users and types of uses and describe the importance of water as an environmental resource and as a commodity for production in each broad water-use sector that is identified for MR&I use.

Cost effective provision of safe and adequate water supplies is an objective which EPA fully supports for all communities. Scoping materials indicated that the capability (both ability to pay and willingness to pay) of local communities to repay MR&I water service costs will be evaluated for Red River Valley water users. If that capability falls short of the actual costs for improved water supplies, then that information should be disclosed for decision-making. The Bureau presumably will apply the Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies (commonly referred to as the "P&G") to evaluate the economic and environmental impacts of the proposal. Under the P&G, if a proposal is not economically supportable based solely on economic criteria, that particular proposal should be carefully scrutinized for its non-monetized and non-quantified environmental, social, and international costs and benefits.

The DEIS should specify how and where additional water will be used. Please identify the MR&I needs and uses that are proposed. EPA understands that there are legal and political challenges involved, but the Red River Valley's needs in State of Minnesota should be considered along with those of North Dakota. In addition, substantial opportunities may exist to use the water resources of both States to meet the Valley's needs in both States. Water resource management within the basin could avoid nonnative biota issues associated with importing water from outside the basin and potentially minimize international concerns.

Urban uses and 'needs' in many areas are not for household and industrial uses but, rather, for outdoor uses such as lawn watering and parks. Such uses may not require a high-quality, potable supply of water and a gray water supply system could be considered as one alternative to meet those low-quality demands in a way that can separate household uses from lower-value water uses.

The planning period is through 2050. Please indicate if that planning period will capture all of the possible future demand and whether a proposal is sized to meet a demand far into the future. EPA recommends an 'adaptive management' approach that can provide future water supplies as the demand develops, rather than invest in expensive infrastructure for a capacity that far exceeds existing demand.

Aquatic Impacts

Clean Water Act Section 404(b)(1) Evaluation

If implementing any features of the Red River Valley Water Supply Study may require a Clean Water Act Section 404 permit, the Bureau should include evaluation of compliance with the Section 404 (b)(1) Guidelines (40 CFR, part 230) as part of the NEPA process. Both the US Corps of Engineers and EPA should be consulted in this evaluation process.

Fish and Aquatic Wildlife Resource Impacts

Scoping materials do not address the aquatic, recreational, and commercial fishery impacts to the Red River and Hudson Bay drainage of Manitoba, Canada. Timely and close U.S. consultation and coordination with Manitoba and Canada, with the assistance of the International

Joint Commission (IJC), International Red River Board (IRRB), and the Garrison Joint Technical Committee (JTC), can help to ensure that the United States fulfills its requirements for implementing U.S. Executive Order 13112 on Invasive Species and the Boundary Waters Treaty Act of 1909.

It also is unclear how the State of Minnesota's interests will be considered in regard to concerns about aquatic impacts from the importation of Missouri River water and potentially the importation of nonnative biota into the Red River. Under Executive Order 13112, the Bureau is required, to the extent practicable and permitted by law, to identify actions that can increase the risk of introducing invasive species; prevent the introduction of invasive species; and conduct research to prevent introduction of invasive species. Further, the Executive Order provides that Federal agencies not authorize, fund, nor carry out actions that are believed likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless, pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions.

The DEIS should assess concerns about those species that are present in the Missouri River Basin but not found in the Sheyenne and Red Rivers. Those fish and invertebrate species that are potentially more sensitive to environmental change should be evaluated for the potential impacts on them. Many important nonnative species, such as zebra mussel (*Dreissena polymorpha* Pallas), may be introduced or enhanced if a Missouri River inlet were constructed. Control of environmentally- and economically-damaging, nonnative species such as zebra mussel has proven difficult and ineffective. A Missouri River inlet has the potential to significantly change the Red River's ecosystems by introducing native and nonnative Missouri River fish species, including the Asian carp species such as silver carp (*Hypophthalmichthys molitrix* Valenciennes) and zander (*Stizostedion lucioperca*). Likewise, the potential for inter-basin transfer of disinfectant-resistant spore-forming protozoans (*Cryptosporidium*, Whirling Disease), and other fish pathogens and parasites should be considered.

The impacts to all aquatic resources – fish and wildlife, habitats, stream morphology, nonnative and native biota, water quality, and so on – must be balanced against the economic benefits and costs from proposed actions. Pricing of adverse impacts to the environment probably will not be possible in the studies, but there should be some metrics and other decision criteria developed to the extent practicable, to compare economic benefits and costs with positive and negative impacts of the proposals that are not monetized nor in some cases even quantified.

There is a clear need for environmental risk analysis for the proposed alternatives. Such analysis should consider sensitivity analyses for the environmental impacts that may occur and the likelihood of their occurrence. Such a sensitivity analysis would evaluate what effects could occur to keystone species, the best available science regarding the potential for the impacts of nonnative biota to the economic and environmental resources of the Red River basin, and other tools and techniques. For example, the scoping materials in the Engineering Specific Plan of Study indicate that biota treatment will reduce nonnative biota transfer. Nonnative biota such as fish parasites and aquatic pathogens could have sublethal and lethal impacts to native species that can alter

entire aquatic systems. Evaluations of environmental risks should be presented in the DEIS, using the best available information and science, in a manner that is easily understood.

Cumulative Effects

Evaluation of alternatives which provide water to the Sheyenne and/or Red Rivers should consider the cumulative impacts of connected actions. In particular, the proposals should evaluate the cumulative impacts that they may have when combined with the impacts from Federal and State proposals for an outlet from Devils Lake, including the following resources and issues: (1) water quantity / flows, (2) water quality, (3) riparian lands and wetlands, (4) stream morphology, (5) native and nonnative biota, (6) aquatic fish and wildlife resources and related terrestrial wildlife resources (e.g. impacts to fish and bird species listed as protected under the Endangered Species Act in the Missouri River basin and the potential impacts to Missouri River operations to protect those listed species), (7) groundwater, (8) socioeconomic impacts, (9) archaeological impacts, (10) environmental justice and compliance with Executive Order 12898, and (11) compliance with the Boundary Waters Treaty of 1909.

Thank you again for your willingness to consider our comments. We trust that they will be useful for preparing the DEIS. If you have any questions or would like to discuss our comments and the NEPA process, please feel free to contact Brad Crowder of my staff at (303) 312-6396 or by email at crowder.brad@epa.gov. Gene Reetz is our wetlands team leader and can be contacted regarding wetlands and aquatic resources issues at (303) 312-6396 or by email at reetz.gene@epa.gov.

Sincerely,

Cynthia G. Cody
Director, NEPA Program
Office of Ecosystems Protection and Remediation

TRIBAL HISTORIC PRESERVATION OFFICE
STANDING ROCK SIOUX TRIBE
P.O. Box D
Fort Yates, N. D. 58538
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(701) 854-7265
(701) 854-3476
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December 17, 2002

TO: Bureau of Reclamation
Dakotas Area Office
P.O. Box 1017
Bismarck, ND 58502

SUBJECT: Red River Valley Water Supply Project EIS Scoping

The Standing Rock Sioux Tribe depends on the Missouri river for its primary water source and for this reason has always taken a strong interest in any use of Missouri river water.

As stated in Resolution No: 327-85 that appears in the Standing Rock Sioux Tribes Water Code Adopted February 1983 the "Tribe's Indian Winters Doctrine Water Rights are supreme, prior and paramount to state created water rights with a priority date of April 29, 1868." Legally, *Winters* rights include future needs, which are not lost if they are not exercised, however with States awarding new non-Indian rights regularly, the tribe has concerns that projected demands on water may one day exceed supply.

Alternatives 5, 6, 7a,7b,7c,7d, 8 all include the development of Missouri River water to meet the water needs of users in the Red River Valley. We feel that it is well within the scope of this EIS to consider the cumulative impact diversion of Missouri river water will have on reserved tribal land, water, and treaty rights. In the past, the standard language by which federal agencies 'recognize' tribal rights has routinely been insubstantial. Prior to the construction of diversionary water systems on the Missouri, both state and federal planners must determine that adequate treatment can be provided to uphold tribes' Winter's Doctrine Water Rights.

Please send Phase IA and IB and Phase II reports referenced in 4310-MN-P Scoping notice.

Sincerely,

Mary Wilson
NEPA Coordinator

Tim Mentz, Sr. ◆ Tribal Historic Preservation Officer ◆ e-mail: tmentz@westriv.com
Tribal Historian ◆ e-mail: @westriv.com
Byron Olson ◆ Tribal Archaeologist ◆ e-mail: bolson@westriv.com
Mary Wilson ◆ Environmental Protection Specialist ◆ e-mail: mwilson@westriv.com
George Ironshield ◆ Repatriation Coordinator ◆ e-mail:gishield@westriv.com

FAX TRANSMITTAL FORM

Mary S. Wilson/Environmental Protection Program/THPO
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TEL: 701-854-2120
FAX: 701-854-2138

To: Signe Snortland Date: 12-17-02

Telephone: (701) 250-4242

FAX: (701) 250-4326

Comments: Red River Valley Water Supply Project EIS

TRIBAL HISTORIC PRESERVATION OFFICE
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December 17, 2002

TO: Bureau of Reclamation
Dakotas Area Office
P.O. Box 1017
Bismarck, ND 58502

SUBJECT: Red River Valley Water Supply Project EIS Scoping

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Please send Phase IA and IB and Phase II reports referenced in 4310-MN-P Scoping notice.

Sincerely,

Mary Wilson

Mary Wilson
NEPA Coordinator

Tim Mentz, Sr. ◆ Tribal Historic Preservation Officer ◆ e-mail: tmentz@westriv.com
Tribal Historian ◆ e-mail: @westriv.com
Byron Olson ◆ Tribal Archaeologist ◆ e-mail: bolson@westriv.com

Alicia Waters - Comments on Scoping for EIS on Alternatives for Meeting WaterNeeds in the Red River Valley

From: "David Conrad" <CONRAD@nwf.org>
To: <mbach@gp.usbr.gov>, <ssnortland@gp.usbr.gov>
Date: 12/16/2002 10:07 PM
Subject: Comments on Scoping for EIS on Alternatives for Meeting WaterNeeds in the Red River Valley
CC: <dbreitzman@gp.usbr.gov>

Dear Dr. Bach and Ms. Snortland:

Please find attached the comments of Minnesota Center for Environmental Advocacy, Minnesota Conservation Federation, National Audubon Society and the National Wildlife Federation regarding the scope of the Bureau's Environmental Impact Statement on Alternatives for Meeting Water Needs on the Red River Valley.

With best regards, david conrad

David Conrad
Water Resources Specialist
National Wildlife Federation
1400 16th Street, NW
Washington DC 20036

ph 202-797-6697
fax 202-797-5486
conrad@nwf.org

Minnesota Center for Environmental Advocacy • Minnesota Conservation Federation • National Audubon Society • National Wildlife Federation

December 16, 2002

Dr. Maryanne Bach, Regional Director
Bureau of Reclamation
Great Plains Region
P. O. Box 36900
Billings, Montana 59107-6900

Re: Comments on Scope of Issues for EIS regarding Alternatives for Meeting Water Needs in the Red River Valley

Dear Dr. Bach:

The National Wildlife Federation, the Minnesota Conservation Federation, the National Audubon Society, and the Minnesota Center for Environmental Advocacy appreciate the opportunity to provide comments on the scope of issues and alternatives to be considered in the Bureau of Reclamation's forthcoming environmental impact statement on Alternatives for Meeting Water Needs in the Red River Valley, ND. These comments are provided in response to the ***Federal Register*** notice of October 6, 2002.

The National Wildlife Federation (NWF) is the nation's largest conservation education organization, with approximately 4 million members and supporters, and affiliate conservation organizations in 46 states and territories. The National Audubon Society (Audubon) is a network of community-based nature centers and chapters, environmental education programs, and advocacy on behalf of areas sustaining important bird populations. Audubon engages millions of people of all ages and backgrounds in positive conservation experiences. The Minnesota Conservation Federation (MCF), the state's oldest conservation organization, is dedicated to preserving Minnesota's natural resources-its air, soil and minerals, its forests, waters and wildlife - through education and grassroots legislative action. Minnesota Center for Environmental Advocacy (MCEA) is a nonprofit organization using law, science and research to protect Minnesota's natural resources, wildlife and the health of its people. Since MCEA's founding in 1974, we have advocated sound environmental policies that provide positive, long-term solutions to the most critical environmental issues facing Minnesota.

Collectively our organizations have a long history of involvement in issues related to federal water resource development, and in particular with regard to the water and related resources of the Missouri and Red River Basins, which are the subject of the Bureau's EIS and water supply study. In initiating this EIS process, the Bureau has the opportunity to make an important contribution to the wise management of water in the Red River Valley. For at least the past three decades huge controversy has been generated over the issue of potential interbasin transfer of water and related impacts associated with the

Garrison Diversion Project as well as the Devils Lake project and others. Concerns about the impacts of such transfers go even beyond the Missouri River Basin to the Mississippi Basin and the Great Lakes – all of which are linked hydrologically and ecologically. The people of these regions find their necessary water supplies threatened by the potential of such transfers especially during times of drought. It is our hope that through an honest, thoughtful, and cooperative effort, actively involving all who have interests in these issues, environmentally and economically sound solutions can be identified to meet the Red River Valley's future water requirements.

We have learned especially over the past century that many serious environmental problems as well as enduring, politically-charged controversies have been created when we establish dependencies upon water that is transferred from one river basin at the expense of another. For example, no river has suffered more large-scale environmental damage or engendered more regional and international political controversy than the Colorado River, due in part to a series of transfers to other basins. We believe that cost-effective and environmentally-sound and sustainable solutions to meet legitimate Red River Valley water needs can be developed *within the Red River Basin* and that the Bureau and the States of North Dakota and Minnesota have every reason to work closely together in concert with those downstream in Manitoba and Canada to find and implement such solutions.

In addition to the above more general comments, the following are more detailed comments regarding the scope of issues and alternatives that we believe should be addressed in the Bureau's EIS:

1. Identify and quantify the various categories of needs (municipal, rural, industrial, recreation, streamflow augmentation, etc.) separately and identify alternatives to meet those needs individually and in various combinations.

   Address the highly speculative nature of future industrial water needs such as those included in the Red River Valley MR&I Water Needs Assessment, and display alternatives for meeting future Red River Valley water needs with and without those hypothetical industrial water demands. In addition, the EIS should discuss the likelihood that, during periods of prolonged, severe drought, the volume of crops available to agricultural processing plants in the Red River Valley will decline dramatically, resulting in a corresponding decrease in the demand for water for those agricultural processing operations.

   The Red River Valley MR&I Water Needs Assessment shows that, other than in periods of a 1930s-style drought, rural water shortages constitute the primary future shortages in the Red River Valley. Most of these rural water systems currently utilize groundwater sources, and the Red River Valley MR&I Water Needs Assessment points out that many of those aquifers are considered to be at their limit of supporting current uses. It also shows that irrigation accounts for 82% to 97% of the current permitted uses in many of those aquifers. Therefore, every alternative for meeting future Red River Valley water needs considered in the EIS should include at least one

sub-alternative involving the transfer of groundwater allocations from irrigation to rural water systems to meet rural water shortages.

2. Recognize and discuss the difficulty of projecting water needs 50 years into the future and develop alternatives for meeting those needs in shorter intervals (e.g., 10 year) in order to avoid building features or projects now that may not be needed for decades or may never be needed.

3. Address the differences between Reclamation's population projections and the Participants' population projections used in the Red River Valley MR&I Water Needs Assessment and develop demographically valid and defensible most-probable projections.

   The EIS should analyze and discuss the basis for municipal and rural population projections and the relationships between the two. For example, the Red River Valley MR&I Water Needs Assessment assumed that rural populations will either increase or remain stable while the population of Fargo will continue to grow, but it did not analyze the extent to which Fargo's recent growth has resulted from a shift of population from rural to urban areas. The EIS should identify the factors responsible for population growth in urban areas such as Fargo (natural increase, in-state rural to urban migration, influx from other states, etc.) and evaluate the probability of their continuing. For example, if migration from rural areas in North Dakota to cities like Fargo is a major factor contributing to the growth in municipal populations, the EIS should evaluate how much longer and at what level that shift is likely to continue in the face of declining rural populations.

4. Clearly display municipal water demand projections at various realistic levels of consumption and discuss alternatives for meeting future Red River Valley water needs in relation to those demand projections.

   In the Red River Valley MR&I Water Needs Assessment, the figure for residential, commercial and public use for Fargo in the year 2050 was projected to be 131 gallons per capita per day (gpc/d), which is 31 gpc/d more than Grand Forks, 26 gpc/d more than Valley City and 10 gpc/d more than West Fargo, Moorhead, East Grand Forks, Drayton and Gafton. These levels of consumption should be evaluated in terms of consumption levels that can be and have been achieved in other areas, and alternatives should be displayed based on these other lower levels of consumption.

5. Address alternatives that look at the "demand side" of the equation. There would appear to be tremendous potential for the implementation of basin-wide or water provider-based water conservation and water reuse measures to meet or substantially reduce expanded water supply demands. Great advances have been made, both nationally and internationally, with the implementation of innovative, contemporary measures such as incentive programs for the installation of water efficient appliances and low flush toilets, leak detection and system loss reduction programs, the use of treated waste water for outside uses such as lawn watering (especially golf courses

and public parks), community based education programs, incentive programs for low water-use landscaping, and tiered pricing within water systems, to name a few. For example, "Water Efficient Durham," a publication of Durham Region Works Department, Whitby, Ontario, Canada, reports that average household use per capita per day is 112 gallons in the United States, compared with 92 gallons in Canada, 53 gallons in the United Kingdom, 53 gallons in Sweden, 40 gallons in France and Germany, and less than 36 gallons in Israel.

6. Address the uncertainty of the occurrence of another 1930s-style drought, which was a major factor in the shortages identified in the Red River Valley MR&I Water Needs Assessment, and display alternatives for meeting future Red River Valley water needs with and without the occurrence of another 1930s style drought. The EIS should also identify specific additional measures that could be implemented to deal with 1930s-style drought conditions with the alternatives designed to supply future water needs under non-drought conditions. Further, an analysis should be included of the statistical correlation between the occurrence of drought and low water supplies in the Red River Basin and in the Missouri River Basin. Isn't it likely that the Missouri River Basin would be in a drought situation at the same time the Red River Basin faces that condition?

7. 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.

   The potential compounding effects of the U. S. Army Corps of Engineers' proposed decision to modify the Missouri River operating manual by committing larger

volumes of water for the purpose of retaining higher levels in upstream reservoirs would be particularly significant in this context.

8. In discussing the environmental impacts of alternatives involving the interbasin transfer of Missouri River water to the Red River Valley, the EIS should not only present a risk analysis of foreign biota transfer, but it should provide a detailed discussion of the potential environmental impacts of such foreign biota introductions for all alternatives for which the risk is greater than zero.

9. For alternatives not involving use of existing Garrison Diversion Unit facilities, the EIS should discuss abandonment options that would reduce or eliminate the perpetual Federal maintenance costs for those features.

10. For alternatives involving the use of existing Garrison Diversion Unit facilities, the EIS should describe the secondary and cumulative impacts of potential Federal and non-Federal irrigation development utilizing those facilities for water conveyance. For example, the Dakota Water Resources Act Section 9(a) delays the transfer of the title to the Oakes Test Area from the Federal Government to the State of North Dakota or its designee until up to two years after "execution of the record of decision...on whether to use the New Rockford Canal as a means of delivering water to the Red River Basin." The manager of the Garrison Diversion Conservancy District has stated that irrigation under the Dakota Water Resources Act will be developed primarily through state and private initiatives. He also has stated that he is pursuing the Warren Act (which provides for the conveyance of water in Federal facilities for non-Federal uses) as a means for expanding irrigation development in the Oakes Test Area beyond the acreage that could be supplied from the Jamestown Reservoir. With additional water supplied from the Garrison Diversion Unit principal supply works through the New Rockford Canal and the James River Feeder Canal/New Rockford Canal Emergency Outlet, irrigation could be developed through state and private initiatives beyond the 5,000 acres in the Oakes Test Area authorized in the Dakota Water Resources Act. The EIS should discuss thoroughly the potential for expanded irrigation development beyond that authorized in the Dakota Water Resources Act under Red River Valley Water Supply Project alternatives that utilize existing Garrison Diversion Unit facilities.

11. In evaluating and describing the costs of municipal water under the various Red River Valley Water Supply alternatives, the EIS should present the information in terms and contexts that are comprehensible and relevant to decision-makers and the public. For example, for Alternative 7C utilizing the existing Garrison Diversion Unit facilities, the Red River Valley MR&I Water Needs Assessment shows construction costs of $305,185,000, annual operation and maintenance costs of $9,243,000, and annualized costs of $31,000,000, and it shows a high-range Typical Added Water Service Cost for municipal systems of $1.91 per month for that alternative. For Alternative 3, Enlarged Lake Ashtabula, the Red River Valley MR&I Water Needs Assessment shows construction costs of $245,862,000, annual operation and maintenance costs of $3,976,000 and annualized costs of $21,500,000. However, despite construction

costs that are $59,323,000 less, annual operation and maintenance costs that are $5,267,000 less, and annualized costs that are $9,500,000 less, the Red River Valley MR&I Water Needs Assessment shows a high-range Typical Added Water Service Cost under the Enlarged Lake Ashtabula alternative of $2.96 per month.

Thus, despite construction costs for the Enlarged Lake Ashtabula alternative that are 81% of the construction costs for the Garrison alternative, annual operation costs that are only 43% and annualized costs that are 69% of the Garrison alternative, the typical added monthly municipal water costs for the enlarged Lake Ashtabula alternative are 155% higher than for the Garrison alternative. Similarly, the Red River Valley MR&I Water Needs Assessment shows the Bismarck-to-Fargo pipeline alternative would have construction costs 223%, annual operation and maintenance costs 102% and annualized costs187% those of the 7C Garrison alternative, but the typical added monthly municipal water service cost for the pipeline is 464% that of the Garrison alternative. In order for decision-makers and the public to be able to evaluate the various alternatives objectively and make informed decisions regarding alternatives for meeting future Red River Valley water needs, the construction cost, annual operating and maintenance cost, annualized cost, and water service cost figures should be displayed so that comparisons can readily be made, and such discrepancies as these should be explained fully and clearly in the EIS. Otherwise, the reader will be unable to understand why water service costs are more for alternatives that cost less than the Garrison alternatives and they are disproportionately higher for alternatives that cost more than the Garrison alternatives.

12. The U. S. Army Corps of Engineers is preparing an EIS on alternatives for addressing flooding at Devils Lake, including construction of an outlet from the lake to the Sheyenne River, and the State of North Dakota has authorized and has initiated construction of an outlet from West Bay of Devils Lake to the Sheyenne River. Therefore, the EIS for the Red River Valley Water Supply Project should discuss the impacts of the operation of an outlet from Devils Lake to the Sheyenne River on the quality and quantity of surface water supplies available for municipal use in the Red River Valley and how the operation of an outlet would affect the various Red River Valley Water Supply Project alternatives considered. In addition, the State of North Dakota has repeatedly stated its interest in and its intent to pursue an inlet to deliver Missouri River water to Devils Lake to stabilize the lake when precipitation levels decline. Therefore, the EIS should also discuss the cumulative and secondary impacts of Red River Valley Water Supply Project alternatives involving the use of Garrison Diversion Unit project features associated with their potential use to supply Missouri River water for an inlet to Devils Lake.

13. The effects of implementing water conservation measures in the Red River Valley MR&I Water Needs Assessment were assumed to be offset by increased demands for water during droughts for uses such as lawn watering. Drought contingency measures were not incorporated because they were deferred for droughts more severe than the 1930's drought that was modeled in the study. However, the EIS should incorporate state-of-the-art water conservation measures and aggressive drought

contingency measures in *all alternatives considered*, including the "no action" alternative.

Once again, we appreciate the opportunity to provide these comments on the scope of issues to be considered in the Bureau's upcoming Environmental Impact Statement on Alternatives for Meeting Water Needs in the Red River Valley. If you wish to further discuss any of the issues identified in these comments, please feel free to contact David Conrad, National Wildlife Federation, at 202-797-6697, or by email at conrad@nwf.org).

Sincerely,

Daniel P. Beard
Chief Operating Officer
National Audubon Society

David R. Conrad
Water Resources Specialist
National Wildlife Federation

Dave Moran
Executive Board Member
Minnesota Conservation Federation

Mark Ten Eyck
Senior Attorney
Minnesota Center for Environmental Advocacy

CC: Dakotas Area Manager Dennis E. Breitzman
RRVWSS Study Manager Signe Snortland

December 16, 2002

Ms. Signe Snortland
Bureau of Reclamation
Dakota Areas Office
P.O. Box 1017
Bismarck, ND 58502

Re: Red River Valley Water Supply Project EIS Scoping Comments

Dear Ms. Snortland:

As you are aware, members of my staff are participating in the Red River Valley Water Supply project on both the technical and study review teams. This participation reflects the high priority Missouri River issues receive in our agency. While we support the right of North Dakota citizens to have a clean, safe water supply, we firmly believe this goal can be accomplished without transferring water from the Missouri River basin. Therefore, we must state at the outset that the state of Missouri remains staunchly opposed to any such transfer.

However, in the interest of cooperation and in an attempt to promote a more thorough process, we submit the following comments:

- Independent estimates of the population and water needs completed by a party or parties outside the basin should be included as part of the study;

- The future projected industrial water needs used in the Phase I/II reports are highly speculative and unsupportable. This limitation of the earlier reports needs to be addressed in the current studies;

- All alternatives involving the interbasin transfer of water should be evaluated in relation to existing and projected in-basin depletions and withdrawals in the Missouri River basin; and,

- Since the Missouri River contributes over two-thirds of the flow of the Mississippi River at St. Louis depending on the time of year, Mississippi River basin states should be kept abreast of the developments in the studies and invited to participate in the process as "affected states."

We also share the concerns of our colleagues in Manitoba and Minnesota, as well as the national and regional environmental groups participating in this process, regarding transfer of harmful biota, invasive species and water quality. While these issues do not directly impact Missouri, as a natural resource agency we recognized the critical nature of these concerns. Therefore, we ask that you also carefully consider the comments of these entities as you move forward with this project.

Thank you for your attention to this matter. If you have any questions please contact Leanne Tippett at P. O. Box 176, Jefferson City, MO 65102 or by phone at (573) 751-7840.

Sincerely,

DEPARTMENT OF NATURAL RESOURCES

Steven Mahfood
Director

Leanne J. Tippett
Assistant to the Director

SM/ltk

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ENVIRONMENT CANADA
TRANSBOUNDARY WATERS UNIT
Room 300, 2365 Albert Street
REGINA, SASKATCHEWAN
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Tel: 306-780-6042

FAX TRANSMITTAL COVER SHEET

NO. OF PAGES: 13 (Including cover sheet) DATE: December 16, 2002

12/16 per Jim R. document was emailed to Denny Maryann Sign

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Fax: 701-250-4590
e-mail: Kwirkus@gp.usbr.gov

FROM: Jim Rogers for
Richard Kellow
Executive Director

Tel: 306-780-7004
Fax: 306-780-6810

MESSAGE: Letter & Comments RRVWS Project Environmental Impact Statement

Attached is the letter dated December 16, 2002 from Richard Kellow on the subject noted above.

Should you have problems in the transmission of this fax, please call 306-780-3883.

Thank you. Glenda.

Attachments

Fax to:		
	D. Williamson, MC	(204-948-2357)
	D. Wright, DFO	(613-996-9055)
	J. Cooper, EERD	(819-994-0237)
	M. Bach, BOR, Billings	(406-247-7604)

Environment Canada Environnement Canada

TRANSBOUNDARY WATERS UNIT
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December 16, 2002

Our File: 7031-36/J268-1

Dennis Breitzman
Area Manager, Dakotas Area Office
U.S. Bureau of Reclamation
304 East Broadway Avenue
Bismarck, N.D. 58502

Dear Mr. Breitzman:

Scoping Comments: Red River Valley Water Supply Project Environmental Impact Statement

On October 8, 2002, the Bureau of Reclamation, Department of Interior published a Notice of Intent to prepare an environmental impact statement for the Red River Valley Water Supply Project (RRVWSS) in the U.S. Federal Register (Volume 67, Number 195, Page 62813-62815). The Bureau of Reclamation's RRVWSS, authorized by the Dakota Water Resources Act of 2000 (DWRA), will study the water quality and quantity requirements of the Red River Valley in the State of North Dakota. The DWRA requires that an Environmental Impact Statement (EIS) and feasibility-level study be prepared to aid decision-making on a preferred alternative for meeting water needs in the Red River Valley in North Dakota.

In response to the Notice of Intent, Environment Canada, along with Fisheries and Oceans Canada, and Manitoba Conservation have jointly prepared the attached list of issues to be considered in preparing the EIS for the RRVWSS. It is our understanding that a full Environmental Impact Statement will be prepared, circulated for comment and considered by the Bureau in accordance with Section 102(2)(C) of NEPA, the CEQ regulations and the Bureau's NEPA regulations before any final agency action is taken on the Red River Valley Water Supply Project (RRVWSS).

It is also our understanding that the Bureau of Reclamation will abide by its decision in the Northwest Area Water Supply (NAWS) Environmental Assessment that NAWS would be considered a unique project and would not be considered as a precedent for other projects.

Canada

Because of the environmental and socio-economic importance of the Red River and Lake Winnipeg, where the Red River eventually drains, projects that could potentially impact these waters are of significant interest to Canada and Manitoba. Consequently, Canada and Manitoba agencies have previously provided comments on Phases I and II of the Red River Valley Water Needs Assessment between 1998 and 2000. Comments have also been provided on the Master Plan of Study for the RRVWSS and the drafts of the Specific Plans of Study for the Engineering, Environmental, Hydrology, Water Needs and Biota Transfer components. All of these comments, some of which are reiterated in the attached document, should be considered as part of this submission. Of particular concern is the inconsistency of the language of the DWRA and the question of completion of the feasibility-level study relative to the EIS. We find the wording of the DWRA confusing and inconsistent with the current accepted practices of water management planning. We would encourage that these inconsistencies be addressed and a basin approach to find solutions to possible future water needs in the Red River Valley be taken.

Given the linkage of the feasibility-level study to the EIS, it is also important that all studies carried out as part of the planning study not only be done using scientifically accepted approaches through peer review but be completed well in advance of the EIS. I refer for example, to our comments of August 17, 1998 to you on the Red River Valley Water Needs Report which, we believe, used techniques that are no longer considered valid and which therefore, resulted in an over-estimation of future water needs Furthermore, because of the scientific uncertainty surrounding accurately predicting future climate scenarios, it is recommended that a phased-approach be used. To this end, it is recommended that a planning horizon of no more than 15 years be used to project water needs and to develop and implement reasonable options to meet these actual needs.

It is our view that in-basin solutions are the most sustainable and present the greatest protection to the environment. Canada, as part of its public policy, opposes the transfer of water between river basins. Although such transfers have occurred in both countries in the past, Canadians are no longer willing to accept the damages to their economy, environment and health caused by such transfers.

In providing these comments and any comments made during the participation of staff from Canadian federal or provincial agencies at meetings of any of the committees established to help carry out work to complete work on the RRVWSS, it is important to note the following:

- These comments are not considered consultations with Canada;

- These comments are specific to this project and do not address Government of Canada's broader policy concerns. These broader policy concerns will need to be addressed in other forums after the project is presented to Canada, and;

- Before the United States presents the final project to Canada, the responsible federal agency, will have complied with all U.S. domestic requirements, including all U.S. federal and state legislation, and with treaties and agreements entered into by the United States, including the Convention for the Protection of Migratory Birds with Canada of 1996, and the Canada-United States Boundary Waters Treaty of 1909, specifically, addressing Article IV of the Boundary Waters Treaty which provides that "boundary waters and waters flowing across the boundary shall not be polluted on either side to the injury of health or property on the other."

Thank you for the opportunity to review your documents and provide comments for developing the scope of the Environmental Impact Statement for the Red River Valley Water Supply Project. We hope that you still keep Canada informed on the progress of your study and development of the EIS.

Yours sincerely

for R. Kellow
Executive Director

Attachment

cc: M. Bach
D. Williamson
D. Wright
J. Cooper

Environment Canada Comments on
Developing of the Environmental Impact Statement
for the
Red River Valley Water Supply Study
by the
U.S. Bureau of Reclamation
December 16, 2002

Development of additional water supplies in the Red River Valley in North Dakota has been discussed by local residents, U.S. and North Dakota government officials and local agencies. Similar to the remainder of the Great Plains, flows in the streams of eastern North Dakota are prone to periods of high runoff, such as the early 1950s and the 1990s and of low flows, such as during the 1930s and 1980s. Flows have also varied from very high to very low in the following year, such as 1979 and 1980.

The Dakota Water Resources Act of 2000 (DWRA) authorizes the Red River Valley Water Supply Project and directs the Secretary of Interior to 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. The needs identified include municipal, rural, industrial (MR&I), water quality, aquatic environment, recreation, and water conservation measures. The Act also directed the Secretary prepare an Environmental Impact Statement for the project.

The Bureau of Reclamation (Reclamation) is conducting the study of water supply demands and alternatives within the Red River Valley in North Dakota. Between 1998 and 2000, Reclamation had reported on appraisal-level studies for the Red River Valley Water Needs Assessment. Phase IA (April 1998) appraised municipal, rural and industrial (MR&I) water needs assessment. Phase IB (August 1999) addressed instream flows in the Sheyenne and Red Rivers. Phase II (January 2000) reported on alternatives to meet the MR&I needs identified in Phase 1A. In August 2002, the Bureau of Reclamation described the individual studies and overall study tasks for the needs and options study in accordance with the process required by National Environmental Policy Act (NEPA). These study documents explain the public scoping, data collection, analysis, and synthesis needed to prepare two documents: a draft feasibility-level engineering report and associated draft Environmental Impact Statement (EIS). The National Environmental Policy Act (NEPA) requires federal agencies to integrate environmental values into their decision making processes by considering the environmental impacts of their proposed actions and reasonable alternatives to those actions.

The U.S. Army Corps of Engineers is conducting two related studies in the Red River basin: the EIS for an outlet from Devils Lake to the Sheyenne River and the Red River Reconnaissance study. The State of North Dakota (State Water Commission) has authorized and initiated construction related to an outlet from West Bay of Devils Lake

to the Sheyenne River. Reclamation should be co-ordinating its work on the Red River Water Supply Study with the studies by the Corps of Engineers and the State Water Commission to eliminate redundant work and to assure consistency between the studies. Since construction has begun, Reclamation should consider the State outlet, with reasonable operating plan, in the analyses of all its alternatives.

Scope of EIS

(1) Fully Assess Transboundary Impacts.

In 1997, the Council on Environmental Quality (CEQ) issued a definitive policy statement concerning agency obligations under NEPA to consider "transboundary impacts." In a Memorandum to Heads of Agencies on the Application of the National Environmental Policy Act to Proposed Federal Actions in the United States with Transboundary Impacts, dated July 1, 1997, the CEQ unequivocally concluded, "NEPA requires agencies to include analysis of reasonably foreseeable transboundary effects of proposed actions in their analysis of proposed actions in the United States. The same memorandum indicated that "[a]gencies must analyze indirect effects, which are caused by the [proposed Federal] action, are later in time or further removed in distance, but are still reasonably foreseeable, including growth-inducing effects and related effects on the ecosystem, as well as cumulative effects." It went on to state, "Agencies should be particularly alert to actions that may affect migratory species, air quality, watersheds, and other components of the natural ecosystem that cross borders, as well as to interrelated socio-economic effects."

The EIS must adequately address these issues or the environmental analysis may be considered insufficient. The need to assess potential transboundary impacts is particularly strong in for the Red River Valley Water Supply Study given that the International Joint Commission (IJC) concluded in 1977 that construction of elements of the Garrison Diversion Unit should not take place until "the Governments of Canada and the United States agree that methods have been proven that will eliminate the risk of biota transfer, or if the question of biota transfer is agreed to be no longer a matter of concern" (IJC, Report on the Transboundary Implications of the Garrison Diversion Unit, 1977, p. 121). In the May 25, 2001 letter from the Canadian Ambassador to the United States, Michael Kergin, to Secretary of the Interior Norton, stated that Canada has emphatically <u>not</u> "agreed" that biota transfer "is no longer a matter of concern" to earlier comments in U.S. federal documents. The Bureau must, at least, analyze the consistency of any proposed action with (1) the conclusions of the IJC regarding the inter-basin transfer of Missouri River water to the Hudson Bay Basin; and (2) U.S. obligations under the BWT to avoid polluting, on the U.S. side of the boundary, waters crossing the boundary causing injury to health or property in Canada. The EIS must not conclude, without scientific or technical data, that biota transfer risks in Canada are *not* "reasonably foreseeable" within the meaning of the CEQ memorandum.

Furthermore, the Bureau must develop specific technical data in the NEPA process that would ensure that Canadian natural resources are sufficiently protected from biota transfer. In addition, since the CEQ guidance states that agencies should "set[] forth clear steps to evaluating effects . . . when information is unavailable," the Bureau must provide details in the EIS on how it has met the CEQ requirements for dealing with incomplete scientific information regarding inter-basin biota transfers and the risks associated therewith, including statements about the relevance of unavailable technical information about biota transfer and its impacts, or any evaluation of such impacts based on theoretical approaches or generally accepted research methods.

The full EIS should also examine invasive species issues in accordance with Executive Order 13112, 64 *Fed. Reg.* 6183 (Feb. 3, 1999). Executive Order 13112 requires that Federal agencies "not authorize, fund, or carry out actions that it believes are likely to cause the introduction of invasive species in the United States *or elsewhere*" (emphasis added) unless "all feasible and prudent measures to minimize risk of harm will be taken. Although these obligations are qualified by the phrases "to the extent practicable" and "within Administration budgetary limits," this Executive Order imposes an obligation on the Bureau to minimize the risks of the spread of invasive species to Canada. The EIS should identify prudent measures to eliminate the risk of transfer of invasive species, including not transferring water across the basin divide or significantly lowering the risk factor by including full treatment of water to drinking water standards within a closed system.

The CEQ regulations specify a number of factors relating to the "intensity" of potential environmental effects that bear upon the question whether an agency must prepare an EIS. Canada and Manitoba's expressed policy and technical concerns about Garrison Diversion projects, including Northwest Area Water Supply (NAWS) project and RRVWSS, demonstrate the issues are substantial relating to the size, nature and effect of the projects, thus fitting within the CEQ's "controversy intensity" factor. The controversy involves genuine disagreement as to the environmental effects of the proposed interbasin transfers of water.

(2) Planned Mitigation Measures Should Not Prevent the Need for an EIS.

A list of environmental commitments should not be used to avoid the preparation of a full EIS. Full analysis of all risks and methods to lower these risks are appropriate. *National Audubon Society v. Hoffman*, 132 F.3d 7, 17 (2d Cir. 1997) declared that "agencies should define 'significance' broadly and not rely on proposed mitigation measures as an excuse to avoid preparing an EIS." In particular, "A mere listing of mitigation measures is insufficient to qualify as the reasoned discussion required by NEPA."

(3) Identify Planned Mitigation Measures in Detail

The Bureau should describe, in reasonable detail, how proposed mitigation measures would shape the RRVWSS projects to result in less than significant environmental

impacts and to allow evaluation of the effectiveness of the proposed measures. The EIS should also be consistent with the IJC's 1977 Report conclusion that there is a "necessity that such introduction [of alien species] be prevented at all cost. . . ." (IJC Report, p. 102). The EIS needs to disclose and discuss in detail specific mitigation measures that compensate for possible adverse environmental impacts. Also, mitigation commitments should be legally binding with assurances for performance of the commitments. Environmental compliance and mitigation commitments should not be subject to future state appropriations or bonding authority.

(4) Evaluate All Alternatives

Previous Bureau reports, for all practical purposes, evaluated only two solutions, upgrading existing systems and importing Missouri River water. The EIS should present a full range of options and information to demonstrate the true costs of each alternative for comparison purposes. Comparable information of all costs and potential impacts, both quantitative and qualitative, are critical requirements of any project assessment.

(5) Include Total Costs

The EIS should not externalize those costs that would occur outside the Red River Valley in North Dakota, including costs to neighbouring jurisdictions. Full cost accounting procedures should be used.

(6) Verify Assumptions

Assumptions used in justifying each alternative must be verified, not just by bench testing but also by standard practices. Municipal per capita demand would be an example. Human beings need only a few litres of water to survive but "demand" greater amounts based upon life-style and economics. North Americans have increased per capita water use as homes were equipped with in-door plumbing and modern appliances. The simple approach for predicting future water use by using projected gross per capita water use rates and projected population is very dependent on population growth scenarios and varying assumptions about future changes in per capita use. Observed relationships between water use and causal factors, or determinants, of urban demand for water may result in more defensible estimates of future residential and non-residential use. Similar estimates of future industrial water use should have a base in the economic growth of the region and access to markets.

The EIS should also explain and, perhaps, resolve the differences between the Bureau of Reclamation demand estimates and participant city demand estimates used in the Red River Valley MR&I Water Needs Assessment. A demographically defensible range of most-probable projections, which includes 2000 census information, should be developed. The EIS should analyze and discuss the basis for municipal and rural population projections and the relationships between the two. For example, the Red River Valley MR&I Water Needs Assessment assumed that rural populations will either increase or remain stable while the population of Fargo will continue to grow, but it did

not analyze the extent to which Fargo's recent growth has resulted from a shift of population from rural to urban areas. The EIS should identify the factors responsible for population growth in urban areas such as Fargo (natural increase, in-state rural to urban migration, interstate migration, etc.) and evaluate the probability that this growth will continue. For example, if migration from rural areas in North Dakota to cities like Fargo is a major factor contributing to the growth in municipal populations, the EIS should evaluate how much longer and at what level that shift is likely to continue in the face of declining rural populations.

Caution must be exercised by the Bureau of Reclamation to address the speculative nature of future industrial water needs such as those included in the Red River Valley MR&I Water Needs Assessment. These hypothetical industrial water demands may be used to justify consideration of alternatives for meeting these water demands. The EIS should consider alternatives based on reasonable growth expectations, not those that require large subsidies to occur.

In addition, the EIS should discuss the likelihood that, during periods of prolonged, severe drought, the volume of crops available to agricultural processing plants in the Red River Valley will decline dramatically, resulting in a corresponding decrease in the demand for water for those agricultural processing operations.

(7) Make a Full and Equal Comparison of All Alternatives

Adequate consideration should be given to all options. Concerns are expressed that, because the study has been limited to the North Dakota portion of the Red River Valley, that other options have been eliminated. Also, in previous Bureau reports, minor changes in water allocation by the State were not considered, thus giving an impression of real water shortages rather than administrative shortages. One example would be the alternative of combining adjoining municipal water supply systems.

The various categories of needs (municipal, rural, industrial, recreation, streamflow augmentation, etc.) should be identified and quantified separately and the alternatives to meet those needs identified individually and in various combinations as part of comparing the project alternatives. The EIS should recognize and discuss the difficulty of projecting water needs 50 years into the future and develop alternatives for meeting those needs in shorter intervals (e.g., 10 year) in order to avoid building features or projects now that may not be needed for decades or may never be needed.

A detailed benefit-cost evaluation of all options should provide a more accurate comparison of alternatives. This evaluation would include all costs to society associated with each alternative.

The Red River Valley MR&I Water Needs Assessment shows that, other than in periods of a 1930s-style drought, rural water shortages constitute the primary future shortages in the Red River Valley. Most of these rural water systems currently utilize groundwater sources, and the Red River Valley MR&I Water Needs Assessment points out that

many of those aquifers are considered to be at their limit of supporting current uses. It also shows that irrigation accounts for 82% to 97% of the current permitted uses in many of those aquifers. Therefore, the EIS for the RRVWSS should consider at least one alternative which involves the transfer of groundwater allocations from irrigation to rural water systems to meet rural water shortages.

(8) Characterization of Risk

A fundamental problem with any development is characterizing the benefits and risks. Some projects can cause damages that will be irreversible and non-mitigable. The EIS should carry out a scientifically based risk assessment on all options to demonstrate the degree and significance of that risk and characterize these risks, including probable and possible costs.

(9) Include a Monitoring Plan for All Aspects of the Project

A Monitoring Plan for all aspects of the project should be an integral part of the EIS. The monitoring plan should include, but not be limited to, such things as the parameters and monitoring frequency for monitoring the water quantity and quality, aquatic biota, water supply and water treatment, growth, etc. Since some of the alternatives have a potential to cause irreversible damage, a well designed and implemented Contingency Plan will be critical. The proponent should address the "what if" question for all aspects of the project alternatives and lay out how the monitoring and contingency commitments would be incorporated into the routine, legally binding framework within the state(s) and neighbouring jurisdictions, including responsibilities for compliance monitoring.

(10) Analyze the Potential for Interbasin Transfer of Biota

Both the Plans of Study and previous Bureau and consultant reports mention pre-treatment of the raw water would reduce the risk of interbasin transfer of foreign biota from the Missouri river basin. This assumption was based on a closed system that included full treatment to drinking water standards before release to the environment unlike the open system proposed for the RRVWSS. The Bureau of Reclamation has stated that a precedent was not set therefore the Bureau cannot now assume a pre-treatment proposal is valid. The EIS must analyze the potential for interbasin transfer of biota and define ways to eliminate pathways that would permit biota transfer.

(11) Impacts on Water Quantity

The effects of the projects on the flow rates and volumes should be evaluated, and the impacts of these changes in flows on the aquatic environment, recreation and international obligations should be estimated.

(12) Effects on Streams and Lakes Water Quality

The potential for proposed projects to change flow rates and volumes or change the concentration and content of materials dissolved in the water. These changes in water chemistry will effect the aquatic biota in the streams, the economics of municipalities treating water from the stream to drinking water standards, remove the water from a use and cause the concentrations to exceed those noted in state and federal standards and in international agreements.

(13) Effects on Groundwater

Groundwater has a significant positive and negative effect on the water quantity and quality of the Red River and its tributaries. The potential for proposed projects to change the amount and quality of groundwater released into the streams should be included in the EIS. Changes in water chemistry will effect the aquatic biota in the streams, the economics of treating water from the stream to drinking water standards, remove the water from further use and cause the concentrations to exceed those noted in state and federal standards and in international agreements.

(14) Floodplain Management

Structural changes to floodplains could change the flood levels in adjacent areas and effect groundwater recharge. The EIS should evaluate the long-term effects of structural flood control projects, both now under construction and planned in the near future, on water supply, quality and potential recharge of surficial aquifers.

(15) Wetlands

Changes to the amount, location and quality of wetlands will have an effect on migratory birds' survival*. Changes in wetlands will also effect late season surface water flow volumes, surface water quality and groundwater recharge.

(16) Water Use Impacts

Any changes in the type, timing and volume of water use could change chemical concentration/pollution levels in the streams, changing the type and amount of treatment required by downstream users and effecting the survival of aquatic life. The EIS should estimate these types of impacts for each alternative.

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* Canada-United States Migratory Birds Convention, 1996

(17) Impacts on Aquatic and Riparian Terrestrial Plants and Animals

The EIS should determine and examine the impacts of each alternative on aquatic and terrestrial plants and animals and their habitats, including species that are internationally, federally or state/province listed or proposed as threatened, endangered or of special concern.

(18) Cumulative Environmental Impacts

The EIS should evaluate the potential cumulative environmental impacts to the Red River and its tributaries by the combination of alternatives under study and other projects proposed and under construction. The first contract of the North Dakota state emergency outlet from Devils Lake to the Sheyenne River has been issued, therefore this project must be included in the analyses of all alternatives, especially the effect of reduced water quality and increased summer supply available to downstream users. Other projects under study include the U.S. Army Corps of Engineers study of Devils Lake flood control, which also may have an outlet to the Sheyenne River. The effects of Minnesota proposed environmental projects and the flood control projects under construction along the Red River should also be considered. Also, population growth and changes in water use in the Minnesota part of the valley may also have a long-term effect on water quantity and quality in the Red River and the alternatives studied by the RRVWSS.

(19) Stakeholders

We have some concerns over the term "*identified stakeholders*" in the documents used to develop the EIS. We suggest that all people living in or near the Red River and its tributaries are stakeholders. Reclamation must ensure the processes used in the RRVWSS are as open and transparent as possible, and those individuals, groups and agencies involved or concerned are kept appraised of the activities and progress of the study.

The National Environmental Policy Act (NEPA) requires federal agencies to integrate environmental values into their decision making processes by considering the environmental impacts of their proposed actions and reasonable alternatives to those actions. To meet this requirement, federal agencies prepare a detailed statement known as an Environmental Impact Statement (EIS). The NEPA compliance process should ensure that the American public has opportunities to review and comment on long-term water supply and management alternatives for the Red River Valley Water Supply Project. Public comments should be encouraged regarding both the scope of environmental and socio-economic issues and alternative that should be evaluated in the EIS.

The U. S. Army Corps of Engineers is preparing an EIS on alternatives for addressing flooding at Devils Lake, including an alternative with an outlet from the lake to the Sheyenne River. The State of North Dakota has authorized and initiated construction related to an outlet from West Bay of Devils Lake to the Sheyenne River. Therefore, the EIS for the Red River Valley Water Supply Project should consider these agencies as stakeholders and should discuss the impacts of the operation of an outlet from Devils Lake to the Sheyenne River on the quality and quantity of surface water supplies available for municipal use in the Red River Valley and how the operation of an outlet would affect the various Red River Valley Water Supply Project alternatives. In addition, the State of North Dakota has repeatedly stated its interest in and its intent to pursue an inlet to deliver Missouri River water to Devils Lake to stabilize the lake when precipitation levels decline. Therefore, the EIS should also discuss the cumulative and secondary impacts on the Red River Valley Water Supply Project alternatives involving the use of Garrison Diversion Unit project features associated with their potential use to supply Missouri River water for an inlet to Devils Lake.

From: "rbetting" <rbetting@ictc.com>
To: "Snortland,S rrveis" <rrvwspmail@gp.usbr.gov>
Date: 12/16/02 4:38PM
Subject: scoping comments

To: Red River Valley EIS
Bureau of Reclamation
Bismarck, ND 58502

From: Richard Betting
11630 39 St. SE
Valley City, ND 58072

Re: Red River Valley Water Supply Project

Having read the comments and suggestions made by the National Wildlife Federation, I agree with their conclusions about the need for complete, statistically reliable data on both the water needs in the Red River Valley over the next fifty years and the methods to supply it.
Inflated expectations of future water needs in the face of a falling population and reduced agricultural needs in the eastern part of the state mean that water uses may be overstated. Besides, many other methods ought to be investigated for using water economically.
In terms of water supply all of the sources being used plus those that are more reasonable than the Missouri River should be looked at in depth. The Red River Valley has a significant interest in Lake Ashtabula water and that, along with other sources, should be taken into consideration.
In terms of the Devils Lake outlet, adding Missouri River water to a more degraded Sheyenne River seems highly improbable.
In addition, it seems quite backward to prepare for Missouri River water flowing to the Red River without including Canada and Minnesota in the early planning phases. As the original stages of Garrison construction reveal [the McClusky Canal being a huge monument to waste], waiting until the project is built before gaining the necessary permits, permissions, and agreements will only result in frustration and more wasted taxpayer dollars.

Sincerely,

Richard Betting
(signed)

From: "Andre DeLorme" <Andre_DeLorme@mail.vcsu.nodak.edu>
To: <rrvwspmail@gp.usbr.gov>
Date: 12/3/02 5:03PM
Subject: Comments on EIS

Comments on the Red River Valley Water Supply Project EIS:

Since several of the proposed alternatives for bringing Missouri water to the Red River Valley involve using the Sheyenne river to transport the water, I feel it is very important to document the existing biota of the Sheyenne river and to initiate biomonitoring programs that would indicate changes in water quality in the Sheyenne due to this water project. Since my expertise is in aquatic macroinvertebrates, I will limit these comments to that component of the Sheyenne river biota.

An issue that Canada will surely raise is the importation of foreign species into the Hudson Bay drainage. While having biota treatment plants to prevent such introductions may be viable (I am not an expert in such systems so I do not know their efficacy), it is still very important that you do the groundwork of establishing what biota is actually in the Sheyenne and Missouri River systems. This is especially true of macroinvertebrates in the Sheyenne. While there have been several macroinvertebrate sampling projects on the Sheyenne river, these have all focused on biomonitoring aspects. Biomonitoring protocols are meant to provide enough pertinent data with a minimum of effort. Therefore these studies often only go to the genus level of identification. Getting to a species level of identification requires a different type of sampling approach and techniques. No study has been done that provides a complete species list of Sheyenne river macroinvertebrates. How can you tell if something has been introduced when you do not even know what is there to begin with?

Although biomonitoring protocols may not provide accurate species lists, they are an important tool for documenting changing water quality. Biomonitoring is the cataloging of what organisms live in a particular habitat and then, from knowledge of what conditions those organisms tolerate, determining the condition of that particular habitat. For river systems, the biomonitoring of aquatic invertebrates is recognized as an important tool for determining a rivers health and documenting any changes in that health. To be of use, however, there should be several years of data that establishes the "baseline" for that river. Before any water project is completed that would impact the Sheyenne River, this type of sampling should be initiated and then continued after completion of the project.

Mussels in the Sheyenne River should also be sampled. Mussels are recognized as an important component of aquatic ecosystems. They are also one of the most endangered groups of animals in North America. The last thorough sampling of mussel populations in the Sheyenne was done it 1992 by the North Dakota Game and Fish. This sampling showed an alarming reduction in the number of young mussels for several species. I have had some casual conversations with Game and Fish employees and they seem to agree that repeating the 1992 sampling would be an important project. Consideration of mussel populations should be an important consideration for any EIS.

Dr. Andre DeLorme
Associate Professor of Biology
Valley City State University
701-845-7573

ENVIRONMENTAL IMPACT STATEMENT FOR

Red River Valley Water Supply Project

COMMENT CARD

Date 12 NOV 02

Questions/Comments: 1) what will impacts to fisheries in Lake Sakakawea & Missouri River? 2) what is impact to fisheries in Sheyenne River and Red River with additional water? 3) what will be impact to fish populations in Sheyenne River and Red River from additional water inputs? 4) what water quality measures will occur in areas receiving Missouri River water?

Name (Please Print) [illegible]

Mailing Address 309 Rosland Drive DL ND 58301

*Under Federal Law all questions or comments will be published unless specifically noted otherwise.

North Dakota
Department of Transportation

David A. Sprynczynatyk, P.E.
Director

John Hoeven
Governor

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REPLY:	YES	NO
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11/18	(O.L.)	Nelson
"		
"		
"		
CLASSIFICATION		
PROJECT		
CONTROL NO.		
FOLDER I.D.		

November 15, 2002

Richard D. Nelson
Chief, Resource Management
U.S. Department of Interior
PO Box 1017
Bismarck, ND 58502-1017

RED RIVER VALLEY WATER SUPPLY PROJECT EIS SCOPING, GRAND FORKS, FARGO, VALLEY CITY, & BISMARCK, NORTH DAKOTA

This is in regard to your letter dated October 18, 2002, requesting comments for any impact this project may have on our agency.

The proposed Water Supply Project in the Red River Valley, located in the above districts, will have no adverse effect on the North Dakota Department of Transportation state transportation system

However, if because of this project any work needs to be done on highway right-of-way, appropriate permits and risk management documents will need to be obtained from the following District Engineers:

Grand Forks - Nick Ludowese, 701-787-6500
Fargo - Bob Walton, 701-239-8900
Valley City - John Thompson, 701-845-8800
Bismarck - Kevin Levi, 701-328-6950

FRANCIS G. ZIEGLER, P.E - DIRECTOR, OFFICE OF PROJECT DEVELOPMENT

57:fgz:js
c: Nick Ludowese, Grand Forks District Engineer
Bob Walton, Fargo District Engineer
John Thompson, Valley City District Engineer
Kevin Levi, Bismarck District Engineer

STATE OF MINNESOTA

OFFICE MEMORANDUM

DEPARTMENT: NATURAL RESOURCES

DATE: November 6, 2002

TO: Signe Snortland

FROM: Paul Stolen, Regional Environmental Assessment Ecologist
Ecological Services Division, Bemidji

Paul

PHONE: 218/755-4068
FAX: 218/755-4024

SUBJECT: Approach to handling economic and economic impacts

Hi Signe. Enclosed are excerpts of an EIS I worked on in Montana that attempted to integrate economic impacts and environmental impacts. It also included an attempt to express in monetary terms a traditional non-monetary impact (recreational impacts.) There were three economists on the multi-disciplinary team that prepared this draft EIS. I would also note that several years later, FERC denied a permit for this project, in part on the analysis that was done. (I have to point out they did not rely on the recreational economic value; however, they did prominently cite the EIS in general, and in particular the Alternatives analysis, in the permit denial.)

At any rate, I promised at our Bemidji meeting that I would send you this. If you want more of this EIS, I will have it copied for you.

c: Larry Kramka
Steve Colvin

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REPLY:	YES	NO
INFO. COPY TO:		
DATE	INITIAL	TO
		Signe
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FOLDER I.D.		

Draft
ENVIRONMENTAL IMPACT STATEMENT

on the
Proposed Kootenai River Hydroelectric Project
at
Kootenai Falls

Addendum to the Federal Energy Regulatory Commission
Final Environmental Impact Statement

July, 1982

MONTANA DEPARTMENT OF NATURAL
RESOURCES & CONSERVATION
ENERGY DIVISION
DNRC

CONTENTS

CHAPTER ONE: INTRODUCTION 1
State Action on the Proposed Project 1
Federal Action on the Proposed Project 2
DNRC Approach to EIS Preparation 2
Public Participation 5

CHAPTER TWO: PROJECT SETTING 7
Existing Conditions 7

CHAPTER THREE: THE APPLICANT'S PROPOSAL 1
Facilities 1
Land Acquisition 1
Construction 1
Operation and Maintenance 1
Abandonment 1
Costs 2

CHAPTER FOUR: SOCIAL, ECONOMIC AND ENVIRONMENTAL CONCERNS 2
Geology and Hydrology 2
Existing Environment 2
Impacts 3
Reduction of Impacts 3
Water Quality 3
Existing Environment 3
Impacts 3
Reduction of Impacts 3
Aquatic Life and Habitats 3
Existing Environment 3
Impacts 3
Reduction of Impacts 4
Compensating for Unavoidable Impacts 4
Vegetation and Wildlife 4
Existing Environment 4
Impacts 4
Reduction of Impacts 5
Compensating for Unavoidable Impacts 5
Recreation and Aesthetics 5
Existing Environment 5
Impacts 5
Reduction of Impacts 5
Archaeology and History 5
Existing Environment 5
Impacts 5
Reduction of Impacts 5
Kutenai Indian Religion 5
Existing Environment 5
Impacts 5
Reduction of Impacts 5

CONTENTS (CONTINUED)

Kutenai Indian Subsistence 72
Existing Environment 72
Impacts 72
Reduction of Impacts 72
Water Rights and Use 73
Existing Environment 73
Impacts 73
Reduction of Impacts 74
Air Quality 74
Existing Environment 75
Impacts 75
Reduction of Impacts 75
Safety of Visitors and Workers 76
Existing Environment 76
Impacts 76
Reduction of Impacts 76
Highway Safety and Engineering 77
Existing Environment 77
Impacts 77
Reduction of Impacts 78
Noise 80
Existing Environment 80
Impacts 80
Social and Economic Concerns 80
Existing Environment 80
Impacts 80
Reduction of Impacts 87
Engineering 88
Reduction of Impacts 88
Cumulative Impacts of the Proposed Project 88

CHAPTER FIVE: ALTERNATIVES TO THE PROPOSED PROJECT 93
Introduction 93
DNRC Cost Estimation Method 94
Conventional Alternatives 94
Applicant's Alternatives 94
Environmental Considerations of WMED's Alternatives 98
Geology 98
Fisheries 98
Vegetation and Wildlife 99
Recreation and Aesthetics 101
History and Archaeology 101
Kutenai Indian Religion and Culture 102
Kutenai Indian Subsistence 102
Social and Economic Concerns 102

CONTENTS (CONTINUED)

DNRC's Conventional Alternatives 103
Retrofits of Existing Dams 103
Impacts of Dam Retrofits 104
Coal-Fired Generation 107
Nuclear Generation 108
Wood-Fired Generation 108
Alternative Design and Operation of Kootenai Falls Dam 109
DNRC Energy Conservation Alternatives 110
Residential Conservation 110
Commercial Sector Conservation 112
Industrial Conservation 112
Irrigation Conservation 112
Renewable Energy Alternatives 113
Heat Pumps 113
Solar Domestic Hot Water 113
Active Solar Space Heating Systems 114
Wind 114
Small Hydro 114
Biomass 115
Wood Heating 116
Garbage 116
Geothermal 116

CHAPTER SIX: ECONOMICS OF THE PROPOSED PROJECT 117
Electricity Load Growth and Comparison of Alternatives 117
Forecasting Methods 117
Summary 127
Supply-Demand Integration 127
Supply Options Evaluated 127
Cost Over Life of Option 128
Summary 130
Cost-Benefit Analysis 131
DNRC's Cost-Benefit Analysis for the Proposed Project 133
Summary of Environmental Impacts of Alternate Supply 142

CHAPTER SEVEN: OPTIONS AND DECISIONS 145

APPENDICES

Appendix A Review of FERC Final EIS by the Advisory Council on Historic Preservation 147
Appendix B Water Use Permit Criteria 149

REFERENCES CITED 151

TABLES

1-1 State Permits Required
3-1 Land Ownership in the Project Area
3-2 Estimated Construction Costs ... 12
4-1 Estimates of Sedimentation ... 21
4-2 Wildlife Species, Species Groups, or Habitats of Special Concern in the Kootenai Falls Project Area
4-3 Physical Characteristics of the Sheppard Meadows ... 49
4-4 Land Cover Inundation or Disturbance From the Proposed Project (Acres)
4-5 Estimates of Current Value of Recreation at Kootenai Falls ... 64
4-6 Estimated Reduction in Annual Recreation Value
4-7 Summary of Impacts and Resources in the Kootenai Falls Cultural Resource District
4-8 Estimated Employment Associated with Kootenai River Hydroelectric Project ... 81
4-9 Estimated Population Influx Associated with the Employment on Kootenai River Hydroelectric Project
4-10 Inventory of Waterfalls on Major Rivers in the Pacific Northwest ... 91
5-1 WMED's Alternative Project Characteristics
5-2 Types of Land Cover inundated by dams at Alternative Sites on the Kootenai River
5-3 Wildlife Concerns at Alternative Sites ... 100
5-4 Estimated Tax Revenues of WMED's Alternatives ... 103
5-5 Examples of Power Production and Costs of Dam Retrofits
5-6 Alternative Design and Operation Modes for Kootenai Falls Dam
5-7 Levelized Cost of Energy from the Proposed Project and Alternatives ... 110
5-8 Cost of Energy from New Solar Domestic Hot Water Systems
5-9 Cost of Electricity from Wind Turbines
5-10 Cost of Electricity from Small Hydro ... 115
6-1 WMED's Forecast Load by Customer Class
6-2 WMED's Forecast Number of Customers by Class
6-3 WMED's Forecast Appliance Use Patterns
6-4 DNRC's Forecast for Each Customer Class ... 123
6-5 Variables used in DNRC Residential Forecasts
6-6 Forecast Comparison
6-7 Variables used in DNRC Small Commercial and Irrigation Forecasts ... 126
6-8 Cost of Electricity from Alternate Supply Options
6-9 Retail Power Rates assumed by DNRC for Alternate Supply Options
6-10 DNRC's Projection of Load Growth in WMED Service Area Under Alternate Supply Options ... 130
6-11 Internal Monetary Benefits of the Proposed Project
6-12 Present Value of Internal Monetary Net Benefits to Montana for Each Supply Option ... 135
6-13 Ranking of Supply Options Based on Internal Monetary Net Benefits Using Different Discount Rates
6-14 Estimated Value of Recreational Loss to Montana if the Kootenai Falls Dam Were Built
6-15 Summary of Long-Term Environmental Impacts ... 138
6-16 Possible Methods of Reducing Impacts
6-17 Comparisons of Major Nonmonetary Effects of Alternate Supply Options
6-18 Cost-Benefit Summary ... 144

FIGURES

1-1 Kootenai River Basin xiv
1-2 Western Montana Energy Developers Service Area 3
3-1 Detail of Proposed Dam 10
3-2 Construction Layout 13
3-3 Project Site Plan 14
3-4 Land Ownership in the Project Area 15
3-5 Monthly Average of Mean Daily Discharge 20
4-1 Crest of Kootenai Falls 24
4-2 Partially Dewatered Reach 25
4-3 Fish Sampling Sections in the Kootenai River 37
4-4 Distribution of Vertebrate Species Among Habitats at Three Cross-Sections 43
4-5 Groundwater Levels in the Sheppard Meadows With and Without the Project 51
4-6 Wildlife Use in the Vicinity of Kootenai Falls 47
5-1 WMED's Alternative Dam Sites 95
6-1 Load Estimates 119

PHOTOGRAPHS

Front Cover *(Lance Schelvan)* 6
2-1 Kootenai Falls *(Lance Schelvan)* 2
4-1 Kootenai Falls Area *(Philip Maechling)* 2
4-2 The Falls at Various Flows *(HARZA Engineering)* 5
4-3 The Falls Overlook *(Philip Maechling)* 5
4-4 The Swinging Footbridge *(Philip Maechling)* 5
4-5 Visitors Relaxing by the Falls *(Philip Maechling)* 5

higher loads than the Kootenai Falls option over the forecast period. If the forecast were carried out over a longer period this situation would reverse, because power from the proposed project would be cheaper than Colstrip power after 2001. By that year Kootenai Falls energy would cost 19.43 mills, compared to 20.08 mills for Colstrip.

The Dam/Conservation/Retrofit option relies on Kootenai Falls power along with power provided by residential conservation and dam retrofits. In the medium demand scenario, power from this option is cheaper than any except from Colstrip by the end of the forecast period. In the long run the Dam/Conservation/Retrofit option would show the lowest retail rates and consequent highest loads of the five supply options.

Although the Dam/Conservation/Retrofit option uses the lowest levelized cost resources, it has higher costs initially than either the BPA or Colstrip option.

As shown in table 6-9 the retail prices for electricity from any of the supply options increase at different rates over time. The price of power from each resource is predicted to decrease at some periods during the forecast period, but by different amounts and in different years. This variation makes the prices hard to compare. There are also different load patterns over time associated with each supply option, so DNRC used the concepts of consumers' surplus and net present value to compare the alternatives (see the following section). Furthermore, the levelized costs used in examining the Dam/Conservation/Retrofit option considered only internal costs borne by WMED exclusive of external or environmental benefits and costs, which must be considered in any comprehensive comparison of alternatives. DNRC did this in its cost benefit analysis, in the next section.

COST-BENEFIT ANALYSIS

Definitions

In discussing cost-benefit analysis, it is necessary to use some economic terms that are not in common use with the public. These terms are defined as follows.

Present value is the value today or in any given year of a series of future payments, such as the income produced by sale of power from a generating facility. Future payments are discounted to reflect the idea that society at any given time values a dollar that would be received next year less than one received today. This concept is reflected in the payment of interest on savings accounts.

Discount rate is the factor used to adjust future values to their present value. The discount rate is a measure of how much less payments next year are worth today. The *real discount rate* is the discount rate adjusted for the rate of inflation.

Net benefits of a project are determined by subtracting the project costs from the benefits. If the costs exceed the benefits the difference is called *net cost.*

Internal costs are project costs that must be borne by its owners. If dollar values can be assigned to these costs, then they are added to the price of the output from a project. An example of an internal cost is the turbines in the Kootenai Falls dam, whose costs are part of the cost per kilowatt hour that will be paid by the utility customers.

Internal benefits are benefits received by the owners of a project. An example of an internal benefit of the Kootenai Falls dam is the value of the electricity that would be produced.

External costs are project related costs borne not by the project owners but by others or by the environment. An example of an external cost associated with building the Kootenai Falls dam is the loss of the falls in its present undeveloped state.

External benefits are the counterpart of external costs. An example of an external benefit of the Kootenai Falls dam would be the picnic area improvements proposed by the applicant as part of the project.

Monetary costs are project related costs that can be quantified in dollars. Many costs, such as worker salaries or benefits, or a given amount of electricity, have a market value, and their dollar value is easily estimated. The monetary value of other costs and benefits can be estimated using techniques developed by economists. Both internal and external costs can be monetary. An example of a monetary cost associated with the Kootenai Falls dam is the cost of turbines that would be used in the dam.

Monetary benefits are the counterpart of monetary costs. An example of a monetary benefit is the value of the electricity that would be generated by the project.

Nonmonetary costs are project-related costs that have no market value, and which cannot be expressed in dollars. Both internal and external costs can be nonmonetary. An example of a nonmonetary cost

associated with the Kootenai Falls dam is the aesthetic impact of dewatering the channel downstream from the dam.

Nonmonetary benefits are the counterpart of nonmonetary costs. An example of a nonmonetary benefit would be the increased control the applicant would have over its power supply if the dam were built.

Consumers' surplus is a measure of value that reflects the difference between what consumers are willing to pay for a product and what they actually pay.

Purpose of Cost-Benefit Analysis

Cost-benefit analysis is a method of comparing the costs and benefits of a project, and comparing a proposed project with alternative proposals. It is used to help determine if the economic welfare of society would be increased or decreased as a result of building a project. It is also used in making decisions about whether society would be better off building an alternative rather than the proposed project. Cost-benefit analysis can aid in making public decisions because it views costs and benefits from the perspective of society rather than from that of a project developer, as done by WMED (HARZA 1980, Chen 1982). If a cost benefit analysis is to present a true picture, it must consider all costs and benefits to society. However, it is impossible to assign dollar values to some costs and benefits, so there must be a comparison between monetary values and nonmonetary values.

This cost-benefit analysis provides a framework for making these comparisons in order to show how the costs and benefits of the proposed project compare to the costs and benefits of alternatives to the project. The analysis also identifies the factors that could cause this ranking to change.

The result of a cost-benefit analysis sometimes is expressed as a benefit-cost (B/C) ratio—for example, 1 to 1, meaning the benefits are equal to the costs. But such ratios can be misleading. For example, a project with a B/C ratio of 2 to 1 could have benefits of $200,000, and costs of $100,000, for a net benefit of $100,000, while a larger project with a ratio of 1.5 to 1 could have benefits of $1.5 million and costs of $1 million, for a net benefit of $500,000. Thus, society would be better off selecting the project with the lower B/C ratio because of its greater net benefits. Furthermore, impacts that cannot be expressed in dollars cannot be incorporated into a B/C ratio analysis. Finally, the results of a B/C ratio can change significantly depending on how certain costs and benefits are defined. For example, recreational losses, when expressed in monetary terms, can be treated either as "negative benefits" or as costs, and the B/C ratio of a project will change accordingly. For these reasons, DNRC did not use B/C ratios.

Limitations of Cost-Benefit Analysis

Cost-benefit analyses are based on assumptions about future events and their accuracy depends on the accuracy of those assumptions. These analyses assume that society's preferences in the future will be the same as they are today. However, when calculating the present value of the benefits and costs of a project, it is assumed that the benefits and costs would be worth less in the future than they are in the present, which ignores the value of these impacts on future generations.

Cost-benefit analysis does not address the question of equity. Collectively, society may be better or worse off if a project is built, but the issue of who benefits and who pays is not addressed in the analysis.

The most serious limitation of cost-benefit analysis results from the problem of how to compare benefits and costs that can be measured in dollars with those that cannot. For example, how does the loss of trout fisheries compare with the value of electricity generated from a dam?

Normally, dollar values are used for comparing costs and benefits, but it is difficult to determine the monetary value of certain costs and benefits when there is no market for them. Further, there is great variation in how the costs and benefits are valued by different individuals and groups, increasing the difficulty of making a statement about societal impact. Economists have developed methods to place monetary values on certain impacts, and these methods have some merit in decision making. The magnitude of an impact must be determined before a monetary value can be assigned. Assigning dollar values to impacts, if done cautiously, can help put the value of external costs in perspective so they can be compared to the internal monetary benefits of a project.

The most common misuse of cost-benefit analysis is to consider only monetary benefits and costs and ignore the nonmonetary impacts of a project. Although there is no easy way to integrate monetary and nonmonetary impacts, both must be considered when making a decision concerning society's welfare.

DNRC'S COST-BENEFIT ANALYSIS FOR THE PROPOSED PROJECT

DNRC limited its cost benefit analysis to the effects the proposed project would have in Montana. It is possible that the most beneficial method of providing power to the WMED service area or to Montana in general might not be the most beneficial to the Pacific Northwest or the nation as a whole. Nevertheless, the Board of Natural Resources and Conservation is responsible for ensuring that the facility represents the minimum adverse environmental impacts, considering the state of available technology and the nature and economics of the various alternatives.

Most of the impacts of building the Kootenai Falls dam would occur within Montana. Kootenai Falls is near the border of Montana and has national scenic importance, so some of the costs identified in chapter four would be felt beyond the state border. These costs were scaled back for use in determining the costs to Montana alone. On the other hand, the benefits would be somewhat greater if the analysis were done from a national perspective, because inexpensive power from the dam is more valuable when compared to the relatively higher costs of power elsewhere in the United States.

DNRC analyzed the benefits and costs to Montana of five alternative supply options identified earlier in this chapter.

To determine the relative merit of each supply option, the changes to Montana that would result from each option are measured by comparison with a "business as usual" alternative, referred to as the base-case. For the purposes of this analysis, the BPA supply option is the base case and represents the historical practice of WMED in obtaining all its power from BPA.

This analysis separates the costs and benefits into two major categories, internal and external. These two categories will be further divided into monetary and nonmonetary components.

Internal Benefits and Costs

By definition, the internal benefits and costs of any of the supply options would accrue to the members of WMED. Only the internal benefits and costs in excess of those that would result from the BPA supply option are considered.

Calculation of Internal Monetary Net Benefits

The internal monetary benefit of each supply option is the benefit that the WMED customers would receive if that option would allow them to purchase power more cheaply than it could be purchased under the BPA supply option. Monetary net benefits of an option are calculated by multiplying the price difference between the BPA supply option and the particular option being compared by the average yearly electrical load. The total annual dollar savings are then discounted over the 50-year life of the Kootenai Falls project to determine the present value of the internal monetary net benefits. An example of the calculation is given in table 6-11, and actually measures the change in what economists call "consumers' surplus." Initially, power under the BPA supply option would be less expensive than power from any of the other options considered so there would be an internal monetary net cost to the WMED customers.

The monetary cost of each supply option is included in the price the customer must pay for the electricity. Price and consumption estimates come from the retail rates and load growth forecasts made in the Supply Demand Integration section.

Assumptions used in the internal monetary net benefit calculations are as follows.

1. For each resource option, DNRC's medium demand scenario is used to predict prices and loads up to 1998 and loads are forecast to grow at the 1997-1998 growth rate throughout the remainder of the projected life of the Kootenai Falls dam (Nordell 1982c).
2. All prices for each supply option are a weighted average of the price of power from each individual supply source in that option (i.e., under the Proposed Project supply option, the price would represent the weighted average of 58 average MW from Kootenai Falls and the additional power that would be required from BPA) (see Supply Demand Integration). The price includes the cost of energy, distribution, administration, and payback of the completed portion of the WPPSS plants (Nordell 1982c).

3. The difference between the amount of power available from any option and the projected load is met by purchasing power from the BPA.
4. It is assumed the supply options are independent.
5. Implementation of a particular supply option is the only change from the base case, i.e., real prices of other goods and services, consumer preferences, population, and income distribution are assumed to remain the same.
6. The entire WMED service area is assumed to be in Montana because the only available load projections are for the entire service area. However, between 85 and 90 percent of the WMED load is in Montana.
7. The internal monetary net benefit of each supply option is calculated to the year 2038, corresponding to the assumed 50-year life of the Kootenai Falls dam if it were to become operational in 1988. The Colstrip plants are assumed to become operational in 1986 and have a useful life of 37 years, after which their share of the load would be met by purchase from BPA. All interim power would be purchased from BPA.
8. All values are calculated in 1981 dollars.
9. A real discount rate of 4.31 percent is used (see DNRC Cost Estimation Method in chapter five).

Results

Table 6-12 presents the estimated internal monetary net benefits for each supply option, discounted to 1983, the first year any costs would be incurred for the Kootenai Falls dam. A real discount rate of 4.31 percent is used. Based on internal monetary net benefits only, the Dam/Conservation/Retrofit supply option would have the greatest net benefits, followed by the Proposed Project option, Colstrip, the Conservation/Retrofit option, and the BPA option.

TABLE 6-11. INTERNAL MONETARY BENEFITS OF THE PROPOSED PROJECT

Calculation for 1998

Price of power under the proposed project option	(table 6-9)	49.81 mills/kWh	($.04981)
Price of power under BPA supply option	(table 6-9)	50.98 mills/kWh	($.05098)
Load projected under the proposed project option	(table 6-10)	203.2 Avg. MW	
Load projected under the BPA option	(table 6-10)	202.8 Avg. MW	
Number of kWh per year per Avg. MW		8,760,000	

Computation for 1998:

$$(\$.05098 - \$.04981) \times \left(\frac{203.2 + 202.8}{2}\right) \times 8{,}760{,}000 = \$2{,}080{,}588$$

Discounting to 1983: $\$2{,}080{,}588 \times \frac{1}{1.0431^{16}} = \$1{,}059{,}183$

TABLE 6-12. PRESENT VALUE OF INTERNAL MONETARY NET BENEFITS TO MONTANA FOR EACH SUPPLY OPTION (1981 dollars)

Supply Option	Internal Monetary Net Benefits Millions of Dollars
Dam/Conservation/Retrofit*	$83.7
Proposed Project*	46.7
Colstrip	37.8
Conservation/Retrofit	27.9
BPA**	-0-

* *The internal monetary net benefits of the proposed project and the Dam/Conservation/Retrofit options may be overstated because the possible Canadian diversion in 2024 (see Water Rights section, chapter four) is not included, some of the benefits may accrue to non-Montanans, and sedimentation may stop operation in less than 50 years.*

** *The analysis measures deviations from the base case (the BPA supply option), so this value is zero.*

Sensitivity

The internal net monetary benefits from each option are sensitive to two major factors. The first is the uncertainty about future prices of BPA power. The price of BPA power would affect the ranking in two ways. First, BPA power would be purchased under any of the supply options, because no single option can meet all projected needs. Second, each supply option is compared to the BPA supply option when calculating net benefits.

The second factor affecting sensitivity is the use of different discount rates to calculate the net present value of internal monetary net benefits. A higher discount rate places a lower value on future benefits and a higher value on benefits that occur in the near rather than distant future, whereas a lower discount rate places a relatively higher value on benefits in the distant rather than near future. The results of using different discount rates are shown in table 6-13. DNRC regards the 4.31-percent real discount rate as reasonable (see chapter five for a discussion of how this rate was derived). The other results are shown to illustrate that changing the value placed on the future can change the results of the analysis.

Internal Nonmonetary Benefits

If the Kootenai Falls dam were built, the members of WMED would benefit by reducing their dependence on BPA as a supplier of electricty. This benefit would have two major components. The cooperative members would have more control over their rates and be less susceptible to BPA rate fluctuations over which they have no control. WMED also would be less vulnerable to BPA curtailment policies, should they be invoked. Conservation and the dam retrofits would provide these benefits, but to a much lesser extent. Purchasing a share of Colstrip would give WMED some control over its share of the output, but the degree of control would be less than that of Kootenai Falls because other parties own a larger share of the Colstrip plants.

External Benefits and Costs

The WMED decision to apply to build the Kootenai Falls dam is based on the internal costs and benefits that would accrue to it. External costs and benefits—impacts and advantages that accrue to others or to the environment—would not necessarily enter into the WMED decision. However, these costs

TABLE 6-13. RANKING OF SUPPLY OPTIONS BASED ON INTERNAL MONETARY NET BENEFITS USING DIFFERENT DISCOUNT RATES

Discount Rate (Percent)	3	4.31	6	8	10	12
Ranking:*						
1	Dam/Conservation /Retrofit	Dam/Conservation /Retrofit	Dam/Conservation /Retrofit	Dam/Conservation /Retrofit	Conservation/Retrofit	Conservation/Retrofit
2	Proposed Project	Proposed Project	Colstrip	Conservation/ Retrofit	Colstrip	BPA
3	Colstrip	Colstrip	Conservation/ Retrofit	Colstrip	BPA	Colstrip
4	Conservation/Retrofit	Conservation/Retrofit	Proposed Project	BPA	Dam/Conservation/ Retrofit	Dam/Conservation/ Retrofit
5	BPA	BPA	BPA	Proposed Project	Proposed Project	Proposed Project

** 1 = highest internal monetary net benefits; 5 = lowest.*

and benefits, both monetary and nonmonetary, must be considered by DNRC under MFSA. As with the internal benefits and costs, only the external benefits and costs in excess of the BPA supply option are considered.

External Benefits

DNRC estimated the external benefits of taxes and labor, which, from the perspective of society, are adjustments to the costs of the project.

Labor. From the perspective of society, the cost of building a project is reduced if laborers that would otherwise be unemployed are used to construct the project. Wages paid for such workers are costs to the owner, but not to society. Lincoln County has high levels of unemployment and a number of experienced dam workers that were employed on Libby Dam. To assess the effects the Kootenai Falls project would have on these workers, DNRC calculated the probability that unemployed workers in the county or elsewhere in Montana would be hired (Davis, A. 1982) using methods developed by Haveman and Utilla (1968). The percentage of unemployed Montana workers hired on the dam was estimated to be 13.7 percent of the work force. This figure was applied to the total yearly work force and multiplied by the average wage rate to determine the amount of the benefit (Davis, A. 1982). Employment value was calculated for each of the five years it would take to complete the dam and discounted using a real discount rate of 4.31 percent. The resulting value is $1.9 million which should be added to the monetary net benefits of the Proposed Project supply option and the Dam/Conservation/Retrofit option. No data were available to make these same computations for the Colstrip and Conservation/Retrofit supply options, but patterns of unemployment among properly trained workers in counties where these projects are or would be are not the same as for potential dam workers in Lincoln County.

Taxes. From the perspective of society, the power cost estimate used in calculating internal monetary net benefits overstated the cost of the dam to Montana because it included the taxes paid on the dam. For the purpose of cost benefit analysis, taxes are considered transfer payments that have a neutral effect on society since one group incurs the costs while another reaps the benefits. This perspective obviously ignores the equity consequences of taxation. In the case of Kootenai Falls, the Montana customers in the WMED service area pay the cost of

taxes in their electric bills, while the residents of Lincoln County, including those of Libby and Troy, which are not served by WMED, reap most of the tax benefits.

To properly adjust the costs of the dam to a societal perspective, the actual cost used in the price computations for the forecast and net benefits calculations should be reduced by the value of these tax payments. As with the labor adjustment, the value of taxes paid can be added as a monetary net benefit. Assuming a 50-year dam life, a constant real level of payments over the life of the project, and a 4.31-percent real discount rate, the net present value of tax payments for the Kootenai Falls dam is $21.0 million in 1981 dollars (Davis, A. 1982). Using the same assumptions (except assuming a 37-year life) for the Colstrip supply option, the net monetary benefits of taxes paid on the WMED share of Colstrip would be $13.9 million (Davis, A. 1982). The value of the taxes on the dam retrofits using the same assumptions as the Kootenai Falls calculation would be $4.0 million. The $21.0 million should be added to the net present value of the Proposed Project and the Dam/Conservation/Retrofit supply options, and the $13.9 million should be added to the net present value of the Colstrip option. The $4.0 million should be added to the Conservation/Retrofit and the Dam/Conservation/Retrofit options. The total to be added to the Dam/Conservation/Retrofit option is $25.0 million.

External Costs

Although most external costs cannot be valued in monetary terms, DNRC made monetary estimates for one external cost, the value of the recreational resource that would be lost if the Kootenai Falls dam were built. Other external costs that cannot be quantified are described following the Recreation section below.

Recreation Loss. Duffield (1981) estimated the net annual loss to Montana of current recreational uses of the Kootenai Falls area should the Kootenai Falls dam be built. The estimates of net recreational loss were based upon total visitor use of the falls (including non-Montanans) so the value of the net recreational loss was scaled back to address only the use by Montanans.

Several methods were used to calculate the net recreational loss which resulted in a range of estimates. The total impact of these annual values is calculated over the 5-year construction period and the assumed 50-year life of the dam. The annual values are assumed to grow at the same rate as inflation, which means the estimate each year remains constant when valued in 1981 dollars. This understates the future value that would result if use in the future were to increase. The values are discounted using a real discount rate of 4.31 percent to be consistent with the rest of the cost-benefit analysis, and are shown in table 6-14.

TABLE 6-14. ESTIMATED VALUE OF RECREATIONAL LOSS TO MONTANA IF THE KOOTENAI FALLS DAM WERE BUILT (1981 dollars)

(assuming 50-year life and 4.31 percent real discount rate)

Method of Estimation	Millions of Dollars
Compensation	$47.0
Willingness-to-Pay	3.4
Travel Costs	2.1
Daily Entrance Fee	.6

These values are actually estimates of external monetary net costs associated with building the n at Kootenai Falls and should be subtracted n the monetary net benefits (table 6-12) of the Proposed Project supply option and the Dam/Conservation/Retrofit option. There are no recreational adjustments to be made for the Colstrip and Conservation/Retrofit option.

Other External Costs

A cost-benefit analysis is not complete unless it considers all costs and benefits. Table 6-15 shows a general picture of those environmental effects to which no monetary values have been or can be assigned.

Table 6-16 shows ways in which these environmental "costs" could be reduced. The tables summarize the detailed impact discussions from chapter four.

As in the case of the assessment of monetary benefits, there are uncertainties inherent in the summaries contained in tables 6-15 and 6-16 and chapter four.

For example, there are differences in the precision with which the actual magnitude and likelihood of each impact to each resource can be predicted. The type and extent of vegetation that would be inundated by the reservoir is known more or less precisely, but the number of fish that would be killed in passing through the turbines is estimated with less precision.

TABLE 6-15. SUMMARY OF LONG-TERM ENVIRONMENTAL IMPACTS*

Category of Concern	Impact	Magnitude of Effect
Fishery**	Decline in high quality fishery through decreased movement of fish and aquatic invertebrates downstream, reduced water velocity and sedimentation, the prevention of upstream movement of fish, turbine mortality to fish, loss of the falls as a source of oxygen to reduce deficiency caused by Libby Dam, replacement of "blue ribbon" trout stream segment with reservoir fish habitat.	Highly adverse
Wildlife**	Decline of wildlife and and habitat diversity, through loss of riparian vegetation, loss of the harlequin duck population, probable losses to mountain sheep from effects on the Corps replacement habitat.	Highly adverse to adverse, although new reservoir habitat could benefit some aquatic mammals

TABLE 6-15. (CONTINUED)

Recreation and Aesthetics	Loss of recreation and aesthetic resources through inundation of China Rapids, dewatering of falls and canyon, placement of a concrete and steel structure in an otherwise natural scene, decline in fishing, loss of opportunity to view harlequin ducks and possible decrease in opportunities to see mountain sheep.	Highly adverse
History and Archaeology	Cumulative loss through construction, inundation vandalism, and theft (impacts of Libby Dam and the proposed Kootenai Falls and re-regulating dams) of historical and archaeological materials and sites that could be essential to defining the history and prehistory of the Kootenai valley.	Highly adverse
Kutenai Indians	Loss of sacred area, and of sources of food that have cultural or religious significance.	Highly adverse
Water Quality	Loss of water oxygenation provided by the falls causing reduction in the number of stoneflies, an important trout food species, below the falls.	Adverse
Visitor Safety	Safety hazard from wadeability of the partially dewatered reach, combined with the possible malfunction in the powerhouse (predicted to happen once a year) leading to sudden major increases in water level in the dewatered area.	Adverse

* *Long-term is defined as extending past the construction period. Only the most significant impacts are included in the table. As a result, few beneficial environmental impacts are listed because most are minor.*

** *In most instances, these impacts could not be reduced in the sense that the effects on specific resources in certain places could be softened. That is to say, for example, that little or nothing can be done to prevent loss of trout stream habitat in the reservoir, although it might be possible to create or enhance a trout fishery within reach of the people that now fish above the falls, thus somewhat easing the lost opportunities to fish for trout.*

TABLE 6-16. POSSIBLE METHODS OF REDUCING IMPACTS

	Method	Resource Affected	Amout of Impact + Reduction	Cost Effec-tiveness + + +
1	Construction of dam at Kootenai Falls with a res-ervoir elevation of 1,990 ft, rather than 2,000 ft	Wildlife, fishery recreation and aesthetics, history and archaeology	Low to moderate	Low*
2	Maintenance of min-inum flow of 4,000 cfs over the falls, except during emergencies when flow may be reduced to 2,000 (this would be consistent with the agreement on releases from Libby Dam)	Wildlife, fishery recreation and aesthetics, history and archaeology	Low to moderate	Low*
3	Combination of the two above	Same as above	Moderate	Low*
4	Allow the entire river flow over the falls at night during the two month down-stream migration season, preferably in combination with (3) above	Fishery	Moderate	Low*
5	Improve spawning conditions in tributaries down-stream from the dam	Fishery	Moderate**	Possibly high
6	Build and operate an artificial spawning channel downstream from the dam	Fishery	Unknown**	Unknown
7	Plant trout from suitable brood stock	Fishery	Low	Unknown

TABLE 6-16. (CONTINUED)

8	Improvement of fisherman access downstream from the dam	Fishery/ recreation	Low to moderate**	Possibly high
9	Purchase of trout water elsewhere with permanent protection from development	Fishery	Moderate**	Unknown
10	Procurement of flow reservations in Kootenai River tributaries	Fishery	Unknown**	Unknown
11	Design turbines to improve fish survival	Fishery	Unknown	Unknown
12	Purchase and improve land elsewhere to replace lost habitat	Wildlife	High**	Unknown
13	Post bond to ensure proper reclamation	Wildlife	Moderate	High
14	Same as above	Wildlife (waterfowl)	High	High
15	Excavation of some affected prehistoric campsites + +	Archaeology	Low	Unknown

\+ *Pertains to long-term impacts only.*

* *Costs from these measures would result primarily from lost generating capacity and/or shortened lifespan of the project.*

** *These measures would reduce the impacts to a given resource in a given area, for example by improving fishery quality elsewhere in the Kootenai, but would have no effect on the impacts that would result from the dam.*

\+ + *Excavation of prehistoric sites would not reduce the impact to the Kutenai Indians who do not want the sites disturbed.*

\+ + + *A cost effectiveness rating of "low" means that relatively little would be gained for the money spent.*

SUMMARY OF ENVIRONMENTAL IMPACTS OF ALTERNATE SUPPLY OPTIONS

onservation/Retrofits

Weatherization restricts air movement in and out houses, which can contribute to indoor air pollu- on. This problem can be alleviated by taking steps to maintain adequate air interchange when eatherizing.

The dam retrofits would entail placement of tur- bines in existing dams. There will be some en- vironmental impacts, largely downstream sedimen- tion, during construction, and fish mortality caus- d by the turbines. The long-term impacts should be small if normal river flow patterns were not affected. ne archaeological site, a prehistoric campsite, ould be inundated when the retrofit resulted in a 1.6 ft increase in the Broadwater Dam reservoir.

PA

The environmental impacts associated with the PA supply option are the impacts to Montana that ould occur if BPA were to contract for new addi- ti generation facilities to meet that portion of D load that would otherwise have been met by e proposed facility. DNRC believes other existing or planned sources could meet these future loads and that there would not be any additional en- ironmental impacts to Montana associated with his supply option.

Dam/Conservation/Retrofit

The environmental impacts associated with the Dam/Conservation/Retrofit option are the sum of all he individual impacts associated with the proposed project, the dam retrofits, and conservation, as discussed individually above.

Colstrip

The environmental impacts of the Colstrip supply option are difficult to determine. The impacts associated with building and operating Colstrip Units 3 and 4 will occur whether the members of WMED purchase a share or not. It can be argued that, as with the BPA supply option, the environmental impacts associated with the Colstrip option are the ones that would occur in Montana if WMED's purchase of a 7 percent share (73.5 MW) were to require the members of the Colstrip consortium to build or purchase a share of new facilities. In other words, other customers will demand another 73.5 MW from the consortium members. Seventy percent of the Colstrip output is owned by utilities operating outside of Montana, so 70 percent of the 73.5 MW share would be met by new facilities outside Montana, and would cause no environmental impact in Montana. Thus, the environmental impacts that might result in Montana from the Colstrip supply option would be those impacts associated with the 30 percent (22 MW) of the 73.5 MW that would belong to Montana Power.

The next major facilities scheduled for construction by Montana Power are a dam at Carter's Ferry on the Missouri River and a coal-fired plant near Great Falls. If the schedule of these proposed facilities were to be accelerated as a result of Montana Power needing the 22 MW or if selling 22 MW to WMED were to force Montana Power to build these facilities, then the environmental impacts from the new facilities would result in part from WMED's purchase of the Colstrip power. If the 22 MW is met by conservation, on the other hand, there would be almost no environmental impacts in Montana as a result of the purchase.

Differential Comparison of Nonmonetary Costs and Benefits of Supply Options

The major nonmonetary costs and benefits to Montana of the five supply options are compared in table 6-17. Each option is compared to the BPA option.

TABLE 6-17. COMPARISONS OF MAJOR NONMONETARY EFFECTS OF ALTERNATE SUPPLY OPTIONS

Nonmonetary Costs*	Proposed Project	Dam/Conservation/Retrofit	Conservation/Retrofit	Colstrip
Fisheries	Substantially Worse	Substantially Worse	Neutral	Neutral
Bighorn Sheep Habitat	Substantially Worse	Substantially Worse	Neutral	Neutral
Aesthetics	Substantially Worse	Substantially Worse	Neutral	Neutral
Archaeological and Historical Sites	Substantially Worse	Substantially Worse	Worse	Neutral
Religious freedom of Kutenai Indians	Substantially Worse	Substantially Worse	Neutral	Neutral

* *The effects of each option are stated in comparison to the effects of the BPA option*

Conclusions

As stated in the introduction to the cost-benefit analysis, this analysis only provides a framework method for comparing a proposed project with alternatives to that project. The decision on which alternative is the best is not easy to make.

Table 6-18 summarizes the cost-benefit section. The table is a balance sheet. The benefits of each supply option listed on one side can be compared to the adverse effects on the other side. Although all impacts must be considered when evaluating the project, only the major nonmonetary impacts are listed in the table. DNRC defines impacts as major if they are sufficient to alter the relative ranking of the supply options.

Table 6-18 compares nonmonetary benefits and costs of the alternative supply options. The supply option in which the benefits surpass the costs by the greatest amount is the best option. Implementation of a supply option with higher costs than benefits would reduce Montana's welfare.

There are no major nonmonetary benefits associated with any option in table 6-18, so any option that has a net monetary cost is dropped from further consideration.

The most difficult portion of this analysis is the comparison of monetary benefits and nonmonetary adverse effects. In order to make this comparison, the relative importance of the nonmonetary impacts must be estimated. DNRC has already done preliminary weighting by identifying the impacts of major importance. However, such weighting is not possible in some cases. For example, the impacts to the Kutenai Indians appear to be to their civil rights and religious freedom, which cannot be assigned a relative value.

As with the comparison of monetary costs and benefits, only the options with higher benefits than costs should be compared in the final analysis. This final analysis is the determination of which of the remaining alternatives has the greatest benefit to Montana. If no option yields greater benefits than the BPA option, then BPA is the best choice. It is the role of the Board to assign the weights to the nonmonetary impacts, and to decide which is the best supply option for Montana, primarily on the basis of information contained in this document.

TABLE 6-18. COST-BENEFIT SUMMARY
(millions of 1981 dollars)

Benefits	Costs
PROPOSED PROJECT	
Monetary - $69.6*	Monetary - $0.6 -$47.0** Nonmonetary - Major Adverse Impacts to: Fisheries Bighorn Sheep Habitat Aesthetics Archaeological and Historical Sites Religious Freedom of Kutenai Indians
DAM/CONSERVATION/RETROFIT	
Monetary -$110.6	Monetary -$ 0.6 -$ 47.0 Nonmonetary -same as proposed project
CONSERVATION/RETROFIT Monetary - $31.9	No Major Impacts
COLSTRIP	
Monetary - $51.7	No Major Impacts

* *Monetary benefits include price benefits to the consumer and adjustments to taxes and labor costs.*

** *The range in dollar figures shows the present value at Kootenai Falls as estimated by various methods.*

State
Historical
Society of
North Dakota

Since 1895

November 8, 2002

Richard D. Nelson
Chief, Resource Management
U.S. Bureau of Reclamation
Dakotas Area Office
P.O. Box 1017
Bismarck, ND 58502

NDSHPO REF.: 03-0033, Red River Valley Water Supply Project EIS Scoping.

Dear Mr. Nelson:

We have reviewed: *Notice of Intent: Alternatives for Meeting Water Needs in the Red River Valley, North Dakota* by the U.S. Bureau of Reclamation, and have no questions or comments on the project at this time.

Please include the ND SHPO Reference number listed above in any further correspondence for this specific project. If you have any questions please contact Duane Klinner at (701) 328-3576.

Sincerely,

Merlan E. Paaverud, Jr.
State Historic Preservation Officer
(North Dakota)

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RECEIVED
NOV 12 2002

REPLY:	YES	NO
INFO. COPY TO:		
DATE	INITIAL	TO
11/13	COPIED	Nelson
		Tim
		Diane
		Darin
CLASSIFICATION		
PROJECT		
CONTROL NO.		
FOLDER I.D.		

Danny

North Dakota Heritage Center • 612 East Boulevard Avenue, Bismarck, ND 58505-0830 • Phone: 701-328-2666 • Fax: 701-328-3710
Email: histsoc@state.nd.us • Web site: http://www.state.nd.us/hist • TTY: 1-800-366-6888

Mona/Jenny

Our image took a hit according to Mac.

Subject: **FW: Red River Valley Water Supply Needs Assessment Meeting**

From: **"Dale Frink" <dfrink@swc.state.nd.us>**

Date: **Mon, November 11, 2002 12:21 pm**

To: **"Dave Koland" <davek@ndrw.org>, (more)**

-----Original Message-----
From: Dale Frink [mailto:dfrink@swc.state.nd.us]
Sent: Monday, November 11, 2002 12:20 PM
To: chalcrow@webtv.net
Subject: RE: Red River Valley Water Supply Needs Assessment Meeting

Mac...This is has always been a problem. Alot of cities and rural areas don't make their needs known until we are ready for construction. Some farmers don't get excited until they can see construction out their kitchen window. If you know of cities or areas that have needs, feel free to contact them or let me know and we can give them a call. Dale

-----Original Message-----
From: chalcrow@webtv.net [mailto:chalcrow@webtv.net]
Sent: Saturday, November 09, 2002 11:28 AM
To: dfrink@water.swc.state.nd.us
Subject: Red River Valley Water Supply Needs Assessment Meeting

This week I went to the aforementioned meeting in Pembina conducted jointly by the Bureau of Reclamation and the "C" District. What concerns me about these meetings is who doesn't show up. As an example, there was not one town in Pembina, Cavalier, Towner, or Walsh Counties officially represented.

The rural water systems in Pembina and Walsh were represented. When the moderators stated making laundry lists of needs/wishes one of the first things to be brought up by the bureaucrat from North Valley Water was why he should take over Pembina's water supply. Naturally Pembina wasn't there to speak for themselves. This fellow went on to say he was ready to take on a much bigger area than he currently services and that the water quality of the Red River is bad. These comments were all recorded by the moderators.

My problem with this type of collection activities are:
a. When the needs assessments are eventually turned into an EIS many are going to be left behind.
b. The power hungry are going to "win".
c. Decent discussion will not occur because not all the players knew what was going on. One example is the Minnesota Rural Water people weren't there. In some cases, I would guess it would make more sense for them to supply ND border towns than Rural ND providers much further way?
d. The approach they are currently using will not only exclude people, it will ultimately cost the tax payer a bundle of money!!!
e. Etc.

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02-99-1500
11/20

Copied 11/12 / Denny Rick Tim Sigel Dean Sam

October 31, 2002

Red River Valley EIS
U.S. Bureau of Reclamation
P. O. Box 1017
Bismarck, ND 58502-1017

RE: City of Moorhead's Comments to the Red River Valley EIS

Dear Sir or Madam:

It recently was brought to the Moorhead Public Service Commission's attention that, in December 2000, Congress passed the Dakota Water Resources Act of 2000. The Act is now being interpreted to exclude the Minnesota communities in the Red River Valley that have participated in the studies since 1994 and have been intended to be included in future water supply projects.

The Moorhead Public Service Commission and Moorhead Public Service staff were represented at the Red River Valley Environmental Impact Statement Scoping meeting held on Monday, October 28, 2002, at the Fargo Civic Auditorium.

The Moorhead Public Service Commission has been very active in water supply and water protection issues in our region. Moorhead Public Service continues to fight for protection of our water supply resources including the Red River of the North and the Buffalo Aquifer. Moorhead Public Service provided comments during the process of locating large industrial plants upstream from our city and is currently in the process of developing a plan to protect the sensitive Buffalo Aquifer. Moorhead Public Service has been very involved in all water supply issues, including the Garrison Diversion project. Cliff McLain, Moorhead Public Service's water division manager, has been active with the previous studies including Phase II of the Red River Valley Water Needs Assessment study.

Moorhead Public Service is very concerned that the Minnesota cities that were previously included in studies are now being removed from future studies and possibly the Red River Valley Water Supply Project. On Tuesday, October 29, 2002, the Moorhead Public Service Commission approved the attached resolution formally requesting the Bureau of Reclamation to once again include the Minnesota cities of the Red River Valley in the water supply project. With this letter I

am requesting a response from the U.S. Bureau of Reclamation to the Moorhead Public Service Commission's request.

If you need to contact me in the future concerning this effort, please do not hesitate to call me. My telephone number is 218.233.2495.

Sincerely,

Kenneth J. Norman
President
Moorhead Public Service Commission

BS:KN/cag
enclosure

RESOLUTION

WHEREAS, the development of a reliable water supply for the Red River Valley has been a subject of great interest to Red River Valley residents of both eastern North Dakota and western Minnesota, government agencies, and entities concerned with water management and development; and

WHEREAS, although rivers in the Red River Valley are prone to flooding and excessive runoff, there are also periods of low flow and drought conditions; and

WHEREAS, Moorhead and other Minnesota communities in the Red River Valley are vital to the success of the region and provide resources for the regional economy; and

WHEREAS, in 1994, the U.S. Bureau of Reclamation began a planning study called the Red River Valley Water Needs Assessment to investigate and evaluate existing and future municipal, rural, and industrial water use in the Red River Valley communities; and

WHEREAS, from 1994 to 2000, Moorhead, East Grand Forks, and Breckenridge were included in the study; and

WHEREAS, Phase II of the Red River Valley Water Needs Assessment included water needs and several alternatives to meet the needs of both eastern North Dakota and western Minnesota communities in the Red River Valley; and

WHEREAS, the Dakota Water Resources Act of 2000 (DWRA) was signed into law on December 21, 2000, which authorizes the Red River Valley Water Supply Project; and

WHEREAS, Section 8 (b)(1) of Public Law 106 554 states "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* (emphasis added) and possible options for meeting those needs"; and

WHEREAS, a 2002 Memorandum of Understanding was developed between the U.S. Bureau of Reclamation and the State of North Dakota for implementation of the DWRA; and

WHEREAS, Minnesota cities in the Red River Valley were removed from the Red River Valley Water Supply Project in both the DWRA and in the 2002 Memorandum of Understanding; and

WHEREAS, Moorhead and other communities have been asked to provide comments at the public scoping meeting in Fargo, North Dakota, on October 28, 2002, to discuss the Red River Valley Water Supply Project Environmental Impact Statement; and

WHEREAS, Moorhead shares the Red River as a water supply resource with other Minnesota and North Dakota communities; and

WHEREAS, the City of Moorhead is very concerned about water resources for the existing and future municipal and industrial water use in the city; and

WHEREAS, the City of Moorhead believes it and other Minnesota Red River Valley communities should be included in the Red River Valley Water Supply Project, and

WHEREAS, the Eastern Dakota Water Users Group has similar concerns regarding Minnesota being removed from the Red River Valley Water Supply Project.

NOW, THEREFORE, BE IT RESOLVED that the Moorhead Public Service Commission of the City of Moorhead requests the U.S. Bureau of Reclamation to, once again, include the Minnesota communities in the Red River Valley Water Supply Project.

PASSED by the Moorhead Public Service Commission of the City of Moorhead this 29th day of October 2002.

NOV 5 2002

REPLY DATE		
INFO. COPY TO:		
DATE	INITIAL	TO
11/5	Gopal	Denny
		Rick
		Tim
		Signe
CLASSIFICATION		Dan
PROJECT		
CONTROL NO.		

GARY L. PEARSON, D.V.M.
1305 Business Loop East
Jamestown, North Dakota 58401
Telephone (701) 252-6036
Facsimile (701) 251-6160
E-mail: gpearson@daktel.com

*ACTION REQUIRED

OCT 23 02

REPLY DATE		
INFO. COPY TO:		
DATE	INITIAL	TO
		1000
		1150*
CLASSIFICATION		
PROJECT		
CONTROL NO.		
PROJECT I.D.		

October 23, 2002

Dr. Maryanne Bach
Regional Director
Great Plains Region
U. S. Bureau of Reclamation
P. O. Box 36900
Billings, Montana 59107-6900

Dear Dr. Bach:

Thank you for providing me with a copy of your October 18, 2002, letter to Mr. Bob Harms in North Dakota Governor John Hoven's office regarding the Governor's designation of the Garrison Diversion Conservancy District to represent the interests of the State of North Dakota in the preparation of the environmental impact statement (EIS) for the Red River Valley Water Supply Project authorized under the Dakota Water Resources Act of 2000 (DWRA).

I concur with your statement to Mr. Harms that you "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." However, although the Bureau may not have the authority or responsibility to determine **which** entity represents the State in the preparation of the EIS, I would submit that, as the Federal agency entrusted by the Congress with implementation the DWRA, the Bureau does have a fiduciary responsibility to verify that **whatever** entity is designated to represent the State does, in fact, have the necessary legal authority to represent the State's interests in jointly preparing the EIS for the Red River Valley Water Supply Project as specified under Section 8(c)(2)(A) of the Act.

Consequently, although I am looking forward to seeing Mr. Harms' response to your October 18th letter, I also believe that it is both appropriate and necessary for the Bureau to respond to my October 7, 2002, letter to Deputy Regional Director Karl Wirkus reviewing the apparent lack of constitutional or statutory authority for the Governor to designate the Garrison Diversion Conservancy District to represent the interests of the State in the preparation of the EIS for the Red River Valley Water Supply Project.

Sincerely,

Gary L. Pearson

Gary L. Pearson, D.V.M.

From: "Andre DeLorme" <Andre_DeLorme@mail.vcsu.nodak.edu>
To: <SSNORTLAND@gp.usbr.gov>
Date: 11/5/02 4:36PM
Subject: Macroinvertebrate sampling on the Sheyenne

Dear Ms Snortland: I attended your public scoping meeting in Valley City for the Red River Valley Water Supply Project on Tuesday, Oct. 29th. Since several of your proposals would directly affect the Sheyenne River, I would hope that you are planning on doing some type of mavroinvertebrate sampling on the Sheyenne for both species documentation and biomonitoring purposes. As I proposed last spring, my lab would be very interested in carrying out such studies. To be done properly these types of studies should contain several years worth of data. Since your target date for the completion of the EIS is Fall of 2005, work should begin this next summer. Please feel free to contact me to discuss any thoughts you may have on this.

Andre DeLorme
Associate Professor of Biology
Valley City State University
Valley City, ND 58072
701-845-7573

MOORHEAD
MINNESOTA
500 Center Avenue, Box 779 • Moorhead, MN 56561
(218) 299-5301 • TDD: (218) 299-5370
www.ci.moorhead.mn.us

October 31, 2002

Red River Valley EIS
U.S. Bureau of Reclamation
P. O. Box 1017
Bismarck, ND 58502-1017

RE: City of Moorhead's Comments to the Red River Valley EIS

Dear Sir or Madam:

Attached is a copy of the presentation that I gave at the Red River Valley Environmental Impact Statement Scoping Meeting on Monday, October 28, 2002, at the Fargo Civic Auditorium.

As I requested, we would appreciate these comments and the resolution from the Moorhead City Council of the City of Moorhead be included in the record and taken under consideration for the Red River Valley Water Supply Project. Moorhead hopes that these suggestions from the governing body of the City of Moorhead would be strongly taken into consideration.

If you need any addition information, please do not hesitate to call me.

Sincerely,

Mark Voxland
Mayor

BS:MV/bal
enclosure

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REPLY:	YES	NO
INFO. COPY TO:		
DATE	INITIAL	TO
		Signe
		Lenny
		Rick
		Tim
CLASSIFICATION		
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CONTROL NO.		
FOLDER I.D.		

PRESENTATION FOR THE
RED RIVER VALLEY WATER SUPPLY PROJECT ENVIRONMENT IMPACT STATEMENT SCOPING MEETING
October 28, 2002

To participants of the U.S. Bureau of Reclamation's Red River Valley Water Supply Project. My name is Mayor Mark Voxland. I am the Mayor of Moorhead, Minnesota. I would like to thank you for the opportunity to speak to you this evening on an issue that is very important to the city of Moorhead. We would like to have the comments and the resolution that I will provide submitted for your consideration as you work on this Environmental Impact Statement of the Red River Valley Water Supply Project.

I read on the front cover of the Red River Valley Water Needs Assessment, Phase II, the mission of the U.S. Bureau of Reclamation. That mission is to, "manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public." It disturbs me when I read through the Volume1, Issue 1, *Red River Valley Water Supply Project Environmental Impact Statement Newsletter*, November 2002, and find that any reference to the previously included communities in Minnesota are absent.

It is my understanding that Minnesota communities of Moorhead, Breckenridge, and East Grand Forks were included in the U.S. Bureau of Reclamation, *Red River Valley Water Needs Assessment, Phase II, Appraisal of Alternatives to Meet Project Shortages* report. On Page 2-10, in Table 2.6, "Shortages for Cities, Industries and Rural Systems in the Red River Valley," included Moorhead with the reference to a 1934 shortage and a cumulative 54-year shortage during the study period of 24,870 acre-feet.

Moorhead is working very hard to supply water for its economy well into the future. In 1995, Moorhead completed a new water treatment facility that strategically shifted its resources away from taking water from our Buffalo Aquifer in order to reserve that water for periods of long-term drought. Therefore, Moorhead takes approximately 80 percent of its water from the Red River of the North. Moorhead has worked extremely hard to develop measures to protect the sensitive Buffalo Aquifer. Moorhead, like the U.S. Bureau of Reclamation, is looking 50 years into the future when Moorhead has grown and there is more demand for its water supply resources.

The Phase II report shows significant shortages under either the U.S. Bureau of Reclamation's, or Moorhead's and other participants' year-2050 projections. This is the concern of Moorhead.

The significant concern of Moorhead, at this time, is the fact that Moorhead and other Minnesota communities could be eliminated from further studies of the Garrison Diversion Project. Moorhead believes that it would be very unfortunate when the Missouri River project is finally completed and Moorhead may not be able to receive water from that project for future economic growth of all Red River Valley communities on both sides of the Red River.

As I mentioned previously, at the present time Moorhead has enough water for normal growth, even in a drought situation because of the strategic efforts that will continue into the future. Moorhead, however, does believe that future economic development efforts to attract business and industry into our community will require water supplies that are greater than what we currently have. The Missouri River water is a water supply necessity for Moorhead.

Finally, Moorhead shares the Red River of the North as a water supply resource with other Minnesota and North Dakota communities. The city of Moorhead is very concerned about water resources for the existing and future municipal and industrial water uses. We have plans in place to use water in the most efficient manner. Moorhead is part of the Red River Valley. Moorhead believes that it, and other Minnesota Red River Valley communities, should be included in the Red River Valley Water Supply Project and other studies subsequent to studies that are being proposed.

Therefore, as the Mayor of Moorhead and along with the Moorhead City Council, we request that the U.S. Bureau of Reclamation, once again, include the Minnesota communities in the Red River Valley Water Supply Project. I have a resolution from the Moorhead City Council and me, which I would like to submit to you.

Once again, thank you for the opportunity to speak to you about this issue. We ask that you will take our comments very seriously. If there are any questions or concerns, I encourage you to please contact me.

RESOLUTION

WHEREAS, the development of a reliable water supply for the Red River Valley has been a subject of great interest to Red River Valley residents of both eastern North Dakota and western Minnesota, government agencies, and entities concerned with water management and development; and

WHEREAS, although rivers in the Red River Valley are prone to flooding and excessive runoff, there are also periods of low flow and drought conditions; and

WHEREAS, Moorhead and other Minnesota communities in the Red River Valley are vital to the success of the region and provide resources for the regional economy; and

WHEREAS, in 1994, the U.S. Bureau of Reclamation began a planning study called the Red River Valley Water Needs Assessment to investigate and evaluate existing and future municipal, rural, and industrial water use in the Red River Valley communities; and

WHEREAS, from 1994 to 2000, Moorhead, East Grand Forks, and Breckenridge were included in the study; and

WHEREAS, Phase II of the Red River Valley Water Needs Assessment included water needs and several alternatives to meet the needs of both eastern North Dakota and western Minnesota communities in the Red River Valley; and

WHEREAS, the Dakota Water Resources Act of 2000 (DWRA) was signed into law on December 21, 2000, which authorizes the Red River Valley Water Supply Project; and

WHEREAS, Section 8 (b)(1) of Public Law 106 554 states "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* (emphasis added) and possible options for meeting those needs"; and

WHEREAS, a 2002 Memorandum of Understanding was developed between the U.S. Bureau of Reclamation and the State of North Dakota for implementation of the DWRA; and

WHEREAS, Minnesota cities in the Red River Valley were removed from the Red River Valley Water Supply Project in both the DWRA and in the 2002 Memorandum of Understanding; and

WHEREAS, Moorhead and other communities have been asked to provide comments at the Public Scoping meeting in Fargo, North Dakota, on October 28, 2002, to discuss the Red River Valley Water Supply Project Environmental Impact Statement; and

WHEREAS, Moorhead shares the Red River as a water supply resource with other Minnesota and North Dakota communities; and

WHEREAS, the City of Moorhead is very concerned about water resources for the existing and future municipal and industrial water use in the city; and

WHEREAS, the City of Moorhead believes it and other Minnesota Red River Valley communities should be included in the Red River Valley Water Supply Project, and

WHEREAS, the Eastern Dakota Water Users Group has similar concerns regarding Minnesota being removed from the Red River Valley Water Supply Project.

NOW, THEREFORE, BE IT RESOLVED that the Mayor and City Council of the City of Moorhead request the U.S. Bureau of Reclamation to, once again, include the Minnesota communities in the Red River Valley Water Supply Project.

PASSED by the City Council of the City of Moorhead this 21st day of October, 2002.

APPROVED BY:

/s/ Mark Voxland
MARK VOXLAND, Mayor

ATTEST:

/s/ Kaye E. Buchholz
KAYE E. BUCHHOLZ, City Clerk

(SEAL)

STATE OF MINNESOTA
COUNTY OF CLAY } SS
CITY OF MOORHEAD

I do hereby certify that the foregoing document is a true and correct copy of said document presented to and passed by the City Council of the City of Moorhead, Minnesota at a duly authorized meeting thereof held on the ____ day of _____, 20____. I further certify that this document has not been rescinded or modified and is still in force and effect.

Dated this ____ day of _____, 20____.

_____
City Clerk

#2002-1059

TRIBAL HISTORIC PRESERVATION OFFICE
STANDING ROCK SIOUX TRIBE
Tribal Planning Office
P.O. Box D
Fort Yates, N.D. 5853
Tel: (701) 854-212
(701) 854-719
(701) 854-726
Fax: (701) 854-213

COPIED 11/4 / RICK TIM

October 30, 2002

TO: Bureau of Reclamation
Dakotas Area Office
P.O. Box 1017
Bismarck, ND 58502

SUBJECT: Red River Valley Water Supply Project EIS Scoping

This is a letter to let you know that we have received the Notice of Intent regarding the Red River Valley Water Supply Project. We need to be involved in this project and plan to attend the November 8th scoping meeting in Bismarck.
We are also requesting that you continue to send us all documents pertaining to this project so that we can stay up to date with the EIS process.

If you need to contact me the number here is 701-854-2120

Sincerely,

Mary Wilson

Mary Wilson
NEPA Coordinator

United States Department of Agriculture
Forest Service
Dakota Prairie Grasslands
Sheyenne Ranger District
701 Main St.
P.O. Box 946
Lisbon, ND 58054

File Code: 1950/2700
Date: October 28, 2002

Signe Snortland
Bureau of Reclamation
P.O. Box 1017
Bismarck, ND 58502

Dear Ms. Snortland:

This letter is in response to your Notice Of Intent to prepare an Environmental Impact Statement to evaluate alternatives for meeting future water needs of the Red River Valley Water in North Dakota. The scale of the maps provided makes it impossible to determine whether or not the proposed pipeline alternatives will cross the Sheyenne National Grassland.

We are requesting a set of alternative maps depicting the proposed pipeline routes at a scale where we can determine whether they may cross the National Grassland. Once we can make that determination, we will better be able to provide comment on this important project. If the project were to cross the Grassland, of immediate concern are the following issues:

- Western Prairie Fringed Orchid – this is listed as "threatened" species by the USFWS (September 28, 1989).
- Sensitive Plant Species – there are 36 sensitive plant species on the grassland.
- Sensitive Wildlife Species – there are 12 sensitive wildlife species on the grassland – of highest concern would be the Northern Leopard Frog and the Powesheik Skipper.
- Impacts to ground water and the aquifer, which would impact habitat for the orchid and many of the sensitive species as well as livestock water developments.
- Cultural/Heritage impacts
- Noxious weeds – especially leafy spurge

We look forward to cooperating with you on this project. If you have any questions, please contact Colleen Rufsvold, of my staff, at 701-683-4342 or Charlene Bucha Gentry in our Bismarck office at 701-250-4443.

Sincerely,

BRYAN R. STOTTS
District Ranger

Cc: Charlene Bucha Gentry, SO
Dave Pieper, Grasslands Supervisor

ENVIRONMENTAL IMPACT STATEMENT FOR

Red River Valley Water Supply Project

Date 11-1-02

COMMENT CA

Questions/Comments: Series of low head dams on the Red River to hold back and regulate - forming reservoirs for future consumption

Name (Please Print) Michael Polovitz

Mailing Address 2529 9th Ave S, G.F. ND 58201

*Under Federal Law all questions or comments will be published unless specifically noted otherwise.

ENVIRONMENTAL IMPACT STATEMENT FOR

Red River Valley Water Supply Project

Date 10/29/02

COMMENT CA

Questions/Comments: I would appreciate receiving your regular mailings and also copies of the maps that you have passed out at previous meetings. It is very important that the questions, concerns, issues that are raised at the various meetings are compiled and shared with those who attended the mtgs and the other stakeholders in the process

Name (Please Print) Larry J. Robinson

Mailing Address 3584 Cheyenne Circle, Valley City, N.D. 58072

*Under Federal Law all questions or comments will be published unless specifically noted otherwise.

Send newsletter to Barnes Co. [illegible]

ENVIRONMENTAL IMPACT STATEMENT FOR

Red River Valley Water Supply Project

Date 10-29-02

COMMENT C

Questions/Comments: YOU'RE MEETING WAS WELL ATTENDED & OFFERED INDIVIDUAL INPUT THRU YOUR SMALL GROUPS BREAKOUT.

PROMOTE WATER APPRECIATION & CONVERSATION METHODS —

Name (*Please Print*) PHIL LALINA

Mailing Address 3317 GRANSILY PLAZA, VALLEY CI ND 58078

*Under Federal Law all questions or comments will be published unless specifically noted otherwise.

Written Comments

Please send your written comments to:
Red River Valley EIS, Bureau of Reclamation,
P.O. Box 1017, Bismarck, ND 58502-1017
Email: rrvwspmail@gp.usbr.gov

GREAT PROJECT !!!

I would like:

- [x] Home delivery of the EIS Newsletter *or*
- [x] Email of the EIS Newsletter
- [x] Draft EIS *(please check one below)*
  - [ ] Online
  - [ ] CD
  - [x] Paper

Name LYNN C. LARSEN

Address RICHLAND COUNTY COMMISSIONER
5539-171 AVE SE
~~Home~~ CHRISTINE ND 58015

Email LCLARS@WTC-MAIL.NET

PHONE 701-469-2315

Written Comments

Please send your written comments to:
Red River Valley EIS, Bureau of Reclamation,
P.O. Box 1017, Bismarck, ND 58502-1017
Email: rrvwspmail@gp.usbr.gov

GREAT RESOURCE, GOOD PROJECT TO CONNECT THESE 2 NATURAL RESOURCES. GOOD FOR ECONOMIC DEVELO[illegible] FOR ENTIRE REGION.

I would like:

- [x] Home delivery of the EIS Newsletter *or*
- [x] Email of the EIS Newsletter
- [x] Draft EIS *(please check one below)*
  - [ ] Online
  - [x] CD
  - ~~[x] Paper~~

Name RED GEURTS

Address 5539 171 AVE SE
CHRISTINE, ND 58015

~~Home~~

Email RED620@WTC-MAIL.NE[illegible]

PHONE 701-469-2310

From: "Ramona Klein" <ramonak@daktel.com>
To: <efelchle@gp.usbr.gov>
Date: 10/20/02 11:49PM
Subject: Attention: Dean Karsky

Dear Mr. Karsky:

On a recent visit to Valley City, you discussed "projected shortages" in our future water supplies. You are working on ways to take care of this, I understand.

An ethanol plant is being considered for Valley City. It is to use up to 1 million gallons of water a day from, they say, the City. The City has several wells and the Sheyenne from which they plan to draw all of this extra water.

Many of us are very concerned about the possiblility of our rural wells going dry. We are also concerned about how the area can possibly furnish all of this water to a plant. According to the maps, there is no major aquifer below us.

Do you have any advice for us? Any help will be greatly appreciated.

Thank you.

Yours truly,

Ramona Klein
3340 123rd. Ave. S. E.
Oriska, North Dakota 58063
701-845-3149

From: "David Martin" <David@fmchamber.com>
To: <larry@boulgerfuneralhome.com>, <davedcp@cableone.net>, <bruce.messelt@ci.moorhead.mn.us>, <vijay.sethi@co.clay.mn.us>, <mrichman@coldwellfargo.com>, <dilworthcityhall@corpcomm.net>, <shawn@fargoairport.com>, <rgress@fargoparks.com>, <bright@fmmetrocog.org>, <ralph@fsw-co.com>, <steve.swiontek@gatecitybank.com>, <kgoodno@gunhuslaw.com>, <steve@heartlandtrust.com>, <pamelaschaefer@meritcare.com>, <barden@mnstate.edu>, <lauriws@moorhead.k12.mn.us>, <clnelson@nationalhospitality.biz>, <mike.hamerlik@noridian.com>, <chelmstetter@paces-lodging.com>, <jkasper@state.nd.us>, <kgorder@state.nd.us>, <rdisrud@state.nd.us>, <mikehulett@worldnet.att.net>, <mark.nisbet@xcelenergy.com>
Date: 10/18/02 11:44AM
Subject: For your information

October 18, 2002

Dear CCFM Public Affairs Committee members:

A Red River Valley Environmental Impact Statement Scoping Meeting will be held at the Fargo Civic Auditorium on Monday, October 28th at 7 p.m., with display viewing beginning at 5 p.m. One of the primary reasons for this series of meetings in our region is to identify and consider issues and options relating to meeting future water needs in the Red River Valley, including our bi-state, metropolitan community.

Our Chamber and community input will be helpful to the U.S. Bureau of Reclamation and Garrison Diversion Conservancy District in identifying issues and alternatives to meet both water quantity and quality needs in the Red River Basin. I regret that I will be out of town the week of October 28th and thus unable to represent our Chamber at this meeting. I do hope some of you will attend the meeting to help represent our Chamber and community interests at the meeting.

Please contact me for additional information. Meanwhile, thanks for your consideration.

Warm regards always,

David

CC: <roger@cbfplus.com>, <bwfurness@ci.fargo.nd.us>, <mark.voxland@ci.moorhead.mn.us>, <r2b2@corpcomm.net>, <swenson.bradley@dorseylaw.com>, <hframpton@eventide.org>, <margie@fargotheatre.org>, <smclister@forumcomm.com>, <linbrown@gloria.cord.edu>, <rrvwspmail@gp.usbr.gov>, <konrad@konradolson.com>, <shandy@kwh.com>, <DeborahSoliah@meritcare.com>, <bschwandt@mpsutility.com>, <jdick@romanmealmilling.com>, <dagather@statebanks.net>

Red River Valley Water Supply Project

COMMENT CARD

Date 10-7-02

Questions/Comments: After leaving the Grafton Meeting I thought of the old proposal to build a dam on the South Branch of the Park River East of Adams. This would impound a lot of Water. I suggest we start Talking about this again. Either one big dam or several smaller Dams.

Name (*Please Print*) **Senator Harvey Tallackson**

Mailing Address 53 W. 5th
Grafton, ~~ND 58237~~

*Under Federal Law all questions or comments will be published unless specifically noted otherwise.

10/8/02
Original given to Kerry
copy to Signe

From: "Gary Pearson" <gpearson@daktel.com>
To: "J. Signe Snortland" <ssnortland@gp.usbr.gov>
Date: 4/20/01 11:01AM
Subject: RRVWSS features/alternatives

Signe--

When I got back yesterday and opened my e-mail last night, I had a message that these had not been delivered. I'll try again.

Gary

GARY L. PEARSON, D.V.M.
1305 Business Loop East
Jamestown, North Dakota 58401
Telephone (701) 252-6036
Facsimile (701) 251-6160
E-mail: gpearson@daktel.com

April 18, 2001

VIA E-MAIL

J. Signe Snortland
Senior Environmental Specialist
Dakotas Area Office
U. S. Bureau of Reclamation
P.O. Box 1017
Bismarck, North Dakota 58502

Dear Ms. Snortland:

Following are additional water supply features/alternatives which the National Wildlife Federation and the National Audubon Society would like to propose for evaluation in the Red River Valley Water Supply Study.

Although some features considered in the January 2000 Red River Valley Water Needs Assessment Phase II Appraisal of Alternatives to Meet Projected Shortages Draft Report incorporate similar basic concepts, these proposed features/alternatives supplement or expand upon those features and suggest several new ones.

Sincerely,

Gary L. Pearson, D.V.M.
National Wildlife Federation Representative
Red River Valley Water Supply Study
Study Review Team

ADDITIONAL RED RIVER VALLEY WATER SUPPLY FEATURES/ALTERNATIVES RECOMMENDED FOR EVALUATION IN THE RED RIVER VALLEY WATER SUPPLY STUDY

Submitted by
National Audubon Society/National Wildlife Federation
April 18, 2001

1. Water Conservation

According to the Red River Valley Water Needs Assessment Phase II Appraisal of Alternatives to Meet Shortages report, under "Alternative 1 – No Action ("Future Without"):

> "Without a project, it is likely that municipalities will increase water conservation by the year 2050, which is estimated to reduce projected future demand by about 15 percent as described in the Feature 12 section of chapter 5. It is also expected that emergency drought plans, as described in Feature 13, will be implemented and that a minimum pool in Lake Ashtabula storing 28,000 acre-feet will be dedicated to emergency drought response."

Conservation measures listed in Feature 12 include

Supply management programs

- Metering all customers, meter testing and replacement programs
- Controlling and reducing, were possible the maximum pressure in water delivery systems, and regulating pressure to new subdivisions
- Active water audit and leak detection, repair and replacement programs
- Water reuse

Demand management programs

- Active public education, outreach and demonstration programs

- Education about and enforcement of existing plumbing codes or development of additional codes
- Encouraging or requiring low-water-use landscaping, efficient irrigation, and irrigation designs for new developments
- Retrofitting kits and/or programs to lower interior water use in existing homes, or rebates for the installation of new water conservation fixtures
- Conservation-oriented rate structures (both supply and wastewater) to provide incentives for efficient water use.

There are additional conservation measures that could be implemented to increase that 15% reduction, particularly during periods of shortage, to reduce water use and enhance water supplies. For example, a technique used in Southern California involves water billings which are based on the requirements of each domestic and business user and the weather on a real time basis. The city actually does an audit of each household and knows everything from landscaping to occupancy. The utility department takes this information and factors in the actual weather conditions in the particular service month, so that the bill, when it arrives, is based on reasonable household needs plus the calculated transpiration needs of the lawn and landscaping for that particular yard in that particular month. If the usage is higher than the city's calculation of reasonable need, they are charged at a significantly higher rate. Each homeowner was given a soil moisture tester and various other conservation tools and reminders and the utility has a very active "county agent" type of service where they send knowledgeable people out to advise residents on improving their water use efficiency. We will take the time to find the name of the city and come up with more Specific information. We believe that those types of measures are not unusual in Southern CA, as they have to trim back on their withdrawals from the Colorado River.

We strongly encourage that the "No Action" alternative with conservation built in be used as the "Baseline" condition for applying the other water supply alternatives.

2. Water Reuse

The worst-year (1934) shortage at Fargo under Reclamation's year 2050 projection is 24,960 acre-feet (Phase II report, Table S.4, p. S-8), based on the current configuration of the City of Fargo municipal water intake on the Red River located upstream from the city's wastewater discharge. However,

the worst-year net shortage at Fargo is 4,892 acre-feet (Phase I Part A MR&I Appraisal Report, Table 41, p. 123). This suggests that increasing reuse of water at Fargo, at least during times of drought, could substantially reduce if not eliminate the projected shortages. Dual distribution systems in larger towns could re-use treated sewage for industrial users and urban irrigation.

3. Irrigation Water Use Efficiency

Improving irrigation efficiency in the Red River Valley should be evaluated as a means of obtaining "new water" for meeting MR&I needs. Under this concept, the RRV project would to invest in system efficiency improvements such as; automated irrigation scheduling systems, improved water measurement, improved on-farm water application methods, etc. The saved water would be leased for MR&I use as an incentive for the farm operator's participation. Some irrigation projects for which BOR had done efficiency studies have showed as much as 30% to 40% water savings possible. Considering the volumes of water required for irrigation, that could flush a lot of toilets.

4. Conversion of Water Uses.

An example of this feature is buying out agricultural water, and perhaps the water it serves. Priority could be placed on lands that will eventually serve as urban growth areas. Cities such as Tucson have done so when water became tight. If conversions were done in selective locations, it the water (and perhaps idled land) could be leased back to the farmers with the understanding that the MR&I system can call the water in dry years.

5. **Water Banking.**

The BOR has some experience with "water banking", primarily in Idaho. This method of water management requires some surface storage facility or aquifer suitable for storing water to carry over from wet to dry years. Thus, "banking the water". This requires changing the traditional notion that water rights pertain to only one year's supply. BOR should investigate and employ all of the innovative techniques that have been used for water management and re-use around the West.

6. Artificial Groundwater Recharge.

Recharging groundwater in the vicinity of the demand centers could reduce losses from that of surface storage and provide valuable carryover from water abundant to dry years. The BOR spent about $5 million on the

Groundwater Recharge Demonstration Program in the late 80's for the purpose of improving and spreading recharge technology. Part of Denver's present water supply if from one of those projects. BOR should put the lessons from that program to use.

7. Independent Community and Rural System Solutions.
Rather than just assume that the smaller communities and rural systems need long term service from a centrally supplied system, each of those small users should be evaluated in terms of measures that can make them self-sufficient through increased efficiency, conservation and perhaps local groundwater augmentation. Lyman-Jones/Mni Wiconi in South Dakota is an example of that being done. There, they didn't just assume that the entire project had to be served from the Missouri River diversion, but rather served many rural systems and small communities from local sources.

8. Improved management of existing water storage.
An example would be optimizing use of the increased storage in Lake Ashtabula. BOR should be performing a re-operation study of that reservoir as a component of the total water supply. Piping MR&I water from this reservoir there rather than running it all down the Sheyenne River would save evaporation and seepage loss.

9. Water Supply Sources Available in Minnesota
Although the Red River Valley MR&I Water Needs Assessment considers shortages in the Minnesota cities of Moorhead and Grand Forks, it does not consider water supply alternatives involving sources in Minnesota. Alternative water supplies in Minnesota should be identified and evaluated, including both surface and groundwater. The Minnesota Tech. Team members may have some ideas in this regard.

10. Demand Reduction - Alternative Locations for New Industries

The Red River Valley Water Needs Assessment Phase II Appraisal of Alternatives to Meet Projected Shortages report (Table 2.4, p, S-8) shows that 16,480 acre-feet of the total 61,286 acre-feet 1934 "worst-year" water shortage under Reclamation year 2050 projections would be the result of four new hypothetical high volume water-use industries locating in the Red River Valley. One obvious alternative for reducing future shortages, therefore, is to encourage the location of new high water use industries in

areas where future water supplies are projected to be adequate, such as over the Spiritwood Aquifer, near the Missouri River or in Minnesota.

11. Streamflow Augmentation

Under the Dakota Water Resources Act of 2000, streamflow augmentation is included as one of the needs to be met by a Red River Valley Water Supply Project. The alternative of reducing withdrawals from streams for purposes such as irrigation during periods of low flows should be evaluated. Montana water law, for example, has a provision for leasing of water for maintaining minimum flows during water short periods.

12. Groundwater Recharge

Under the Dakota Water Resources Act of 2000, groundwater recharge is included as one of the needs to be met by a Red River Valley Water Supply Project. The Red River Valley Water Needs Assessment Phase I Part A MR&I Appraisal report states (p. 55) that, "Because of existing development of ground water resources, many aquifers are considered to be at their limit of supporting current users," and it shows that permits have been issued for the withdrawal of at least 46,549 acre-feet of water for irrigation from aquifers in the Red River Valley. The alternative of reducing withdrawals for purposes such as irrigation in order to allow for natural recharge of groundwater resources should be evaluated.

CITY OF Fargo

Mayor Bruce W. Furness
200 3rd Street North
Fargo, North Dakota 58102
Phone: (701) 241-1310
Fax: (701) 241-1526

January 14, 2003

Ms. Signe Snortland
Senior Environmental Specialist
Bureau of Reclamation
P.O. Box 1017
304 East Broadway
Bismarck, ND 58502

Re: Fargo EIS Public Scoping Meeting Comments
Red River Valley Water Supply Project

Dear Ms. Snortland:

I appreciated the opportunity to represent the City of Fargo and the surrounding region by providing public comments regarding the Red River Valley Water Supply (RRVWS) project at the Environmental Impact Study (EIS) Scoping meeting held on Monday, October 28, 2002. The timely completion of the RRVWS project is of the greatest importance as the City of Fargo and the surrounding region continues to grow. We are fully aware of the social and economic ramifications should we experience an inadequate supply of water. To stress the importance of the RRVWS project to the City of Fargo, I would like to take this opportunity to submit my formal comments to the Bureau of Reclamation in written form. As support documentation, enclosed is a summary of technical comments pertaining to the work to be completed under the Specific Plans of Study for the RRVWS project.

Water is a top priority for the City of Fargo, second only to public safety. The entire region has experienced significant growth in the recent past, and our projections indicate that this growth will continue into the foreseeable future. As our region grows, the City of Fargo will be required to meet increasing residential, commercial, institutional and industrial water demands and to support economic growth. We recognize the value of our current water supply and diligently practice water conservation measures, as necessary. However, we remain concerned that existing water supplies will be insufficient to meet our future water demands during drought conditions.

The "No-Action" alternative of the RRVWS project is absolutely unacceptable. In considering the water demands of the area in conjunction with historical low-flow data for the Red River, it is evident that drought conditions would have devastating social and economic effects on the livelihood of the region. In-basin alternatives could be evaluated for limited support, but the City of Fargo believes that alternatives importing Missouri River water to the Red River Valley provide the most benefit and reliable assurance of a sustainable future water source. The Red River Valley has been promised 100 cubic feet per second of water from the Missouri River in an effort to meet future water demands and the City of Fargo desires to see that commitment fulfilled.

The possibilities for drought conditions that would cripple our economy and quality of life continually increase. As a result, there is a growing sense of urgency to provide for the demands that will be placed on existing and future water supply sources. The City of Fargo desires that the RRVWS project progress in a more timely fashion than currently proposed, not only to complete the required study efforts, but also to implement a solution that provides a sustainable water source to the Red River Valley.

The City of Fargo will continue its active participation on the Technical Team and Study Review Team and to monitor the progression of the RRVWS project. It is imperative that the Bureau of Reclamation promotes timely completion of the project in an effort to meet the water needs of the entire Red River Valley. If you have any questions or comments regarding this letter or the attached technical document, please contact me at (701) 241-1310 or Fargo City Administrator Pat Zavoral at (701) 241-1553.

Sincerely,

Bruce W. Furness
Mayor

BWF:sf
Enclosure
cc: Pat Zavoral, City Administrator
Mark Bittner, P.E., City Engineer
Bruce Grubb, P.E., Enterprise Director
Steve Burian, P.E., Advanced Engineering & Environmental Services, Inc.
ffssd

TECHNICAL COMMENTS
CITY OF FARGO
RED RIVER VALLEY WATER SUPPLY PROJECT
December 16, 2002

ANTICIPATED REGIONAL GROWTH

The City of Fargo has experienced approximately a 2-percent growth rate per year for the last 20 years, and projections indicate that the City can be expected to sustain a similar annual growth rate for the foreseeable future. It should be noted that the growth rate for the City of Fargo has exceeded all recent estimates by the Bureau of Reclamation. It is critical that continued work on the Red River Valley Water Supply (RRVWS) project not be based on population projections that continue to underestimate the growth potential for the City of Fargo and the surrounding region. In addition to population growth, increased water use associated with future institutional, commercial, and industrial growth should be considered as well. The growth rate established in the RRVWS project study effort could be the basis for future water supply projects. Failure to adequately provide for future demands could have ramifications that result in ultimate failure of a proposed RRVWS project. Undersized infrastructure or inadequate water allocation could result in the inability to meet the demands of growing communities throughout the region.

EVALUATION OF EXISTING LOW-FLOW CONDITIONS

The data analysis included in the Red River Valley Water Needs Assessment, Phase 1 Part A is based on annual and monthly flow conditions in the Red River from 1931 to 1984. The City of Fargo cannot rely on average river flows based on monthly and/or annual data, due to a lack of natural (in-channel) raw water storage. If the river flow falls below adequate levels on a short-term basis, the City of Fargo would be unable to meet its daily water demands. Historical United States Geological Survey (USGS) daily flow data from 1902 to 2002 indicates that multiple individual days, and even 7-day periods, would yield "no flow" in the Red River. Certainly, the use of this data would better represent the actual shortfall that could be experienced by the City of Fargo, surrounding communities, and industries of the Red River Valley that rely on surface water. Therefore, the City of Fargo strongly urges that future hydrology work be based on no more than 7-day, preferably 1-day, low-flow data.

Furthermore, it is prudent to assume that data collected in the 1930's does not represent the worst-case drought conditions for the Red River Valley. This assumption is supported by personal accounts of Red River flow conditions, photographs from the early 1900's, academic research, and paleoclimatic information (tree ring data, lake and dune sediments, archaeological remains, etc.) presented on websites such as that administered by staff of the National Oceanic and Atmospheric Administration (NOAA) Paleontology Program. According to the NOAA Paleontology Program website, the paleoclimatic record indicates that 20th century droughts do not represent the possible range of drought variability and duration that have occurred in parts of North America as recently as 500 years ago, which suggests that Red River flows were potentially lower than that measured and recorded during the 1930s. Although it may not be reasonable to plan for a 500-year drought, this information suggests that no compromises can be made when planning for a drought similar to the 1930s.

When considering low flow conditions in the Red River, it is important that the RRVWS project impose peak day demand projections onto these conditions to estimate water supply shortages. Since peak day demands typically coincide with dry conditions, this would serve as the most appropriate set of circumstances with which to develop and evaluate alternatives proposed to

meet the water supply needs of the Red River Valley. The City of Fargo understands that the Bureau of Reclamation intends to utilize peak day demand projections under the RRVWS project in lieu of average day demand projections, as utilized in previous study work.

LIMITATIONS OF IN-BASIN FEATURES

The City of Fargo is concerned that in-basin alternatives could provide marginal benefit and would be insufficient to meet the comprehensive water quantity and quality needs of the Red River Valley. Various entities throughout the region have been involved in alternative water supply studies in recent years. These studies have considered similar concepts presently included in the in-basin alternatives. Based on the conclusions of these studies, the in-basin features and associated alternatives will likely have limitations as to their ability to meet future demands. A summary of these limitations is provided below.

Construction of Kindred Reservoir or Enlarging Lake Ashtabula

The construction of a new Kindred Reservoir or enlarging Lake Ashtabula could prove to be the most politically challenging features being considered in the RRVWS project. It could be expected that a significant number of stakeholders may have reservations or outright objection to the environmental and/or personal implications of constructing new reservoirs or raising the levels of existing regional reservoirs. It is the City's understanding that the Kindred Reservoir was not constructed in the past due to its limited benefits and the significant amount of public resistance presented by various stakeholders. Given the significant amount of existing and ongoing development in the Lake Ashtabula area, it would seem plausible that a similar level of public resistance could be put forth to stop the implementation of raising Lake Ashtabula based on the limited amount of benefit when compared to the anticipated exorbitant costs associated with this feature as well.

Ring-Dike Reservoirs

The ring-dike reservoir feature is burdened with multiple factors that have the potential to significantly limit their environmental, operational, and technical feasibility. The construction of ring-dike reservoirs would necessitate the acquisition of thousands of acres of premium agricultural property. Public resistance to the acquisition of agricultural and/or recreational property could become a major obstacle towards the successful implementation of this feature.

More importantly, there are a host of operational issues that should be considered when evaluating the technical feasibility of ring-dike reservoirs. The ultimate success of the ring-dike reservoirs would require that excessive spring runoff be retained for gradual use during ensuing water supply shortage periods. It is quite possible that a drought season would not be proceeded by the required amount of excessive runoff to adequately fill the ring-dike reservoirs. In addition, runoff is typically very turbid; therefore, the build-up of organic and inorganic solids in the base of the retention structures could also be expected to occur during the extended period of time over which the water is stored. The organic material would likely undergo anaerobic conditions and require aeration to control potential odor problems. Unless controlled, algal blooms could also cause undesirable taste and odor problems that would require advanced water treatment processes and/or increased chemical dosage rates. Periodic dredging

of the inorganic solids would also be required to maintain the design capacity intended of the reservoirs. Overall water loss from the ring-dike reservoirs, as a result of evaporation and seepage, also has the potential to limit the ability of ring-dike structures to meet project objectives. Given these operational challenges, the ring-dike reservoir feature should be carefully evaluated for its technical feasibility.

Groundwater Supplies and Water Rights

The availability of groundwater resources are limited and are likely to become more limited as a result of both drought conditions and increasing interest in groundwater for its various uses. The awareness of limited groundwater resources has prompted a more conservative approach by the North Dakota State Water Commission (NDSWC) when considering the approval of groundwater permit applications. The level of shortages that could potentially be identified for the City of Fargo coupled with the NDSWC's conservative approach could ultimately require a series of wells spread over numerous sections of land. The number of wells and land requirements could be further exacerbated if the mandated well spacing necessitates the construction of wells in areas of aquifers with relatively low production rates. Conveyance via existing river channels could be complicated due to in-stream water quality limitations, evaporation, and channel losses. Furthermore, the water quality could ultimately require the construction of technologically advanced treatment processes to remove constituents that existing treatment processes are presently unable to remove. These issues could significantly limit the practicality of features related to the use of regional groundwater resources.

Artificial Aquifer Recharge

The City of Fargo is interested in studying the technical feasibility of artificial aquifer recharge. The identification of all groundwater resources as candidates for aquifer recharge and their respective amounts of available hydraulic storage capacity will be critical factors in the evaluation of this feature. For instance, how much aquifer storage is available for recharge in the West Fargo Aquifer that can be appropriated for use during a drought? Are there specific physical properties of aquifers (i.e. transmissivity, permeability, porosity, specific yield, etc.) that make them ideal candidates for recharge? If so, do the aquifers being considered meet or exceed these ideal parameters? The study should also consider the potential implications associated with introducing treated surface water to a groundwater source. Will the natural groundwater and the treated surface water be compatible with one another? Will additional treatment be required to make the waters compatible? Recognizing there may be others, these are a few of the obvious technical questions that will need to be addressed during the feasibility evaluation associated with this feature.

Reverse Osmosis to Treat Groundwater from the Dakota Aquifer

Water quality data has indicated that the Dakota Aquifer and other groundwater sources would be difficult to treat with existing conventional facilities due to water quality issues, thereby requiring desalination treatment. Physical aquifer characteristics, including porosity, permeability, transmissivity, and specific yield, remain to be investigated in great detail. These factors would ultimately determine well production rates, well spacing requirements, and costs associated with supplying water to the desalination facilities. It is likely that the desalination facilities would have the ability to treat regional groundwater sources to a quality within required standards; however, reverse osmosis

membranes are not necessarily a silver bullet treatment process. Naturally occurring water quality constituents can limit the applicability of membrane technology due to excessive scale formation potential and compounds that cause irreversible fouling of the membrane material.

If technically feasible, the desalination of groundwater would result in the generation of a substantial volume of waste concentrate (brine solution) that would require an environmentally acceptable disposal strategy. It is anticipated that direct discharge of the concentrate would be prohibited by the controlling environmental agencies, especially given the low-flow conditions in regional waterways during drought conditions that would be unable to dilute regulated parameters to acceptable levels on a mass balance basis. The concentrate disposal issue was not considered at the appraisal level of effort expended during the previous study.

Based on the potential limitations of the in-basin alternatives with respect to their ability to meet future water demands, the City of Fargo strongly urges the Bureau of Reclamation to consider eliminating the currently identified in-basin alternatives from further consideration. It would be difficult for the City of Fargo to justify significant financial support for the RRVWS project should it ultimately be based on alternatives displaying potentially limited ability to meet the long-term water quantity and quality demands of the City of Fargo and surrounding region. Unless a much more reliable in-basin alternative is identified compared to those identified to date, the City of Fargo could better justify support for an alternative based on the technical feasibility and relative assurance of sustainability offered by the inter-basin import alternatives.

ADVANTAGES OF INTER-BASIN IMPORT ALTERNATIVES

The City of Fargo strongly encourages the Bureau of Reclamation to concentrate future efforts on the inter-basin import alternatives. The Missouri River offers a reliable water source of improved water quality when compared to the surface waters of the Red River Basin. The Red River Valley has been promised 100 cubic-feet-per-second (cfs) of Missouri River water to provide for future water needs. However, there is concern as to whether the additional 100 cfs of imported water will be sufficient to meet the future needs of the City of Fargo and surrounding region, as alluded to in previous topics discussed in this document. With respect to water quality, Black and Veatch Corporation, a national engineering consulting firm, has worked with the City of Fargo to complete a study on the relative cost of treating Missouri River water as compared to Red River water. The report concluded that the Missouri River water could be treated for approximately 50 percent less than the current water source. Benefits such as these would prompt the City of Fargo to support a long-term investment in an appropriate share of a recommended RRVWS project alternative.

BIOTA TRANSFER

Although the City of Fargo understands the biota transfer issue, the City does not feel that the issue should be a limiting factor for the consideration of the inter-basin import alternatives. Biota treatment facilities implementing multiple barrier technology could be utilized to mitigate potential environmental impacts of inter-basin water transfer. It is anticipated that cost-effective alternatives are available to address reasonable environmental concerns of inter-basin biota transfer.

It should also be noted that the order of magnitude of risk associated with inter-basin biota transfer could be considered much lower with an engineered system than by other human related or natural transfer methods. The risk of inter-basin biota transfer to occur in association with recreational boating, "bait-bucket" transfer, or migratory waterfowl should be assessed and compared against the risk of biota to circumvent a multiple barrier treatment facility.

NEEDS OF NEIGHBORING MINNESOTA WATER SYSTEMS

Continuing the RRVWS project study effort without considering the water needs of neighboring Minnesota cities and existing/potential major water users could ultimately result in failure of the RRVWS project to meet its intended objectives. On average, the tributaries in Minnesota contribute approximately 75 percent of flow in the Red River. Therefore, future municipal and/or industrial development in Minnesota could potentially decrease available Red River flows by increasing demands on major contributing tributaries. Regardless of whether the DWRA specifically includes Minnesota water demands, communities such as Moorhead and East Grand Forks concurrently use water supply sources with Fargo and Grand Forks, respectively. As a result, there could be a potential legal conflict pertaining to differing water laws between North Dakota (Western Water law) and Minnesota (Riparian Water Law).

The Moorhead City Council has passed a resolution officially requesting that the City be included in the RRVWS project. The Mayor of Moorhead further noted that the future needs and potential shortages of the City of Moorhead have been included in previous studies by the Bureau of Reclamation. Via the inclusion of Minnesota water needs, the study effort would more accurately show supply availability, would more prudently estimate water demands, and could ultimately be better received by various agencies and/or individuals presently serving on the Technical Team and Study Review Team. It would also broaden the population base upon which to spread the costs of the RRVWS project, thereby improving the proposed project's level of feasibility.

ALLEN R. GRASSER, P.E.
CITY ENGINEER

City of Grand Forks

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December 31, 2002

Ms. J. Signe Snortland
Senior Environmental Specialist
Bureau of Reclamation
P.O. Box 1017
304 East Broadway
Bismarck, ND 58502

Re: Grand Forks EIS Public Scoping Meeting Comments
Red River Valley Water Supply Project

Dear Ms. Snortland:

Thank you for the opportunity to present oral comments at the Red River Valley Water Supply (RRVWS) project Environmental Impact Study (EIS) Scoping meeting held on Wednesday, October 30, 2002. In an effort to summarize my previous comments and reinforce to the Bureau of Reclamation the significance of the RRVWS project, please accept this document as my formal comments on behalf of the City of Grand Forks.

For your benefit, I have organized my comments according to the following categories:

Water Quantity

The City of Grand Forks is uniquely challenged with water quantity issues on both ends of the spectrum. In the midst of a "wet cycle" and having recently experienced record flooding, it seems odd to express such concern over the possibility of an extended drought occurring in the near future. Although the City of Grand Forks is in the process of preparing itself for future flooding, the City has very limited options with respect to the occurrence of an extended period of severe drought. Unfortunately, the limited size and quality of area groundwater sources and the relatively flat terrain of the Red River Valley are not conducive to the feasible implementation of a readily available alternate source or infrastructure intended for storing large volumes of water for the City of Grand Forks.

The economic livelihood of our community and surrounding region depends heavily on having a reliable, long-term water supply. As a stakeholder of the RRVWS project, the City of Grand Forks wants to be assured that water quantity provisions are included in the alternatives to meet 50-year planning period projections for residential, institutional, commercial, and industrial growth in Grand Forks and the surrounding region, including applicable existing and future water needs for communities and industrial water users in Minnesota. In addition to mainstream Red River users such as Moorhead and East Grand Forks, it is imperative that the Bureau of

Reclamation also considers existing and future water needs on Minnesota tributaries of the Red River and their potential reduction in overall water supply to the Red River.

The City of Grand Forks is concerned that the 50-year planning period, as defined through the year 2050, will not coincide with the 40-year repayment strategy defined in the Financial Specific Plan of Study. The 40-year repayment period should be defined to commence from the point in time that construction of the proposed project could be substantially completed and placed on-line. Based on a planning horizon of 2050, the project would need to on-line by the year 2010. Due to the anticipated magnitude of the project and potential fiscal funding limitations, a prudent implementation timeline would include provisions for a series of phased projects, much like that for the Southwest Pipeline and Northwest Area Water Supply projects. Based on an estimated completion date of late 2005 for the draft Environmental Impact Statement and draft Needs and Options Report, it would seem inevitable that the remaining period of time through 2010 is inadequate for project implementation based on the City's recent experience with relatively large water system and flood control projects. Without accounting for reasonable project implementation timeline requirements, the debt service period would likely extend past the planning period horizon, which is an undesirable set of circumstances from a prudent capital improvements planning perspective.

Water Quality

In addition to water quantity, water quality is a major concern for the City of Grand Forks. Water quality objectives and microbial contamination concerns have prompted the City to consider the implementation of advanced treatment technologies. When coupled with the aging condition and limited expandability of our existing treatment facilities, these factors have prompted the City to plan for the construction of a new water treatment facility within the ensuing decade. As part of the RRVWS project, the City of Grand Forks wants to be assured that water quality provisions are included in the alternatives that meet current, proposed, and anticipated Safe Drinking Water Act regulations. Aesthetic water quality concerns such as hardness, taste, odor, color, and water quality parameters subject to secondary maximum contaminant level standards should be addressed as well.

Previous Study Effort Assumptions, Methods, and Conclusions

The assumptions and methods used in previous study efforts completed by the Bureau of Reclamation led to the conclusion that the City of Grand Forks would not experience a water supply shortfall during drought conditions. The City of Grand Forks is concerned that these assumptions and methods may have led to an underestimation of shortages and ultimately an erroneous conclusion. Given the detailed scope of the current study effort, the City requests the following:

1. An evaluation of worst-case drought events should be completed to verify the appropriateness of the 1930s drought as a baseline. There is the possibility that a more severe drought event could occur, and the study should address that possibility.

2. Low flow conditions should be based on no more than a 7-day period, preferably a 1-day period, in lieu of a 30-day period. The Red River provides limited in-channel storage; therefore, the availability of water on a daily basis is critical. The use of 30-day low flow data would incorrectly skew the water quantity and water quality analyses to be completed under the Hydrology Specific Plan of Study.
3. Due to the likely coincidence of peak day demands during drought conditions, peak day demands should be utilized to determine estimated water supply shortages with respect to low-flow/limited water supply conditions and practical water conservation measures.

4. Major tributaries of the Red River should be included in the detailed hydrology model analyses. Previous studies assumed that the Red Lake River would meet a major portion of the City's water needs during a drought. The ensuing study effort should reconsider and determine the validity of this assumption. In addition, the Pembina River, the Park River, and the Goose River systems, at a minimum, should be included in the hydrology model analyses for the benefit of other communities of the region.

"Do Nothing" Alternative

The "do nothing" alternative is not an acceptable alternative for the region. Without a RRVWS project, a significant amount of water quantity and quality needs fail to be addressed. As a result, the "do nothing" alternative does not exist because communities would be forced to address challenges independently with very costly ramifications. The RRVWS project serves as a mechanism for the Red River Valley to address its water supply challenges as a united entity, which likely provides the most advantageous approach from an economy of scale perspective.

Feasibility of Individual Water Supply Features

Previous studies identified several "in-basin" alternatives comprised of a series of water supply features. Although the combination of several water supply features may meet the demands of the Red River Valley during drought conditions on paper, the City of Grand Forks questions the feasibility of many of these features.

1. Enlargement of Lake Ashtabula and Construction of Kindred Reservoir: Modifications to and/or the new construction of reservoirs has become an extremely challenging endeavor due to the socioeconomic and environmental issues that must be resolved in order for implementation. Since the creation of Lake Ashtabula via the construction of Baldhill Dam, a significant amount of permanent and seasonal residential and recreational development has occurred, and new areas continue to become prime targets for additional development. The United States Army Corps of Engineers (USACE) has recently completed a project to increase the maximum pool level of Lake Ashtabula by 5 feet for flood protection purposes only. If the reservoir were allowed to reach this level, some of these development areas would become inundated, which is reportedly requiring the procurement of flowage easements from adjacent property owners.

Increasing the permanent level of Lake Ashtabula by 10 feet (another 5-foot increment over and above the intermittently utilized 5-foot raise by the USACE) would ultimately require the buyout and/or relocation of numerous properties, shoreline stabilization measures to protect the relatively steep hillsides indicative of the Sheyenne River Valley, highway crossing raises and associated bridge replacements, and another phase of construction work on Baldhill Dam, if technically feasible. It would seem reasonable to assume that the costs associated with these features could be quite extensive when compared to the relatively small amount of benefit received.

The City of Grand Forks is presently going through a very complicated, and at times adversarial, property relocation/buyout process for its flood protection system. It would seem logical that the Lake Ashtabula and Kindred Reservoir features would receive similar opposition from area property owners. Anecdotally, preliminary discussions regarding the possible construction of a Maple River dam received so much opposition that the project entered into the legal arena.

2. Ring-Dike Reservoirs: In order for ring-dikes to be technically feasible, adequate spring flows would be needed to fill the reservoir. If spring flows are abhormally low, which is certainly possible during a drought, this feature could fail to meet its water supply objectives. It is anticipated that the ring-dikes could cover numerous sections of some of the most agriculturally productive land in the nation. This could receive a fair amount of negative public comment. The reservoirs will likely require periodic dredging since spring run-off water is typically very turbid and contains high concentrations of suspended solids. Finally, water quality degradation is likely via algal growth and decomposition of organic matter. These water quality issues could significantly increase operational costs by requiring the addition of copper sulfate, the implementation of advanced treatment technologies, and/or increased dosages of certain water treatment chemicals to minimize undesirable tastes and odors. Aeration of the ring-dike reservoirs would likely be required to address other operational challenges arising from seasonal turnover and anaerobic biological activity.

3. Purchasing and/or Securing Groundwater Appropriations: During drought conditions, regional agricultural producers would likely utilize their irrigation rights more aggressively to address the lack of precipitation. Under these circumstances, municipalities and rural water systems would be in direct competition for water with irrigators that are unwilling to sell their appropriations. This could ultimately result in mismanagement of the groundwater sources and deplete their short-term production ability.

   Groundwater resources are limited with respect to location, the quantity of water available, and pumping/production rates. In general, the use of groundwater resources to meet projected shortages of large proportions would require an extensive network of wells to generate meaningful volumes of water. Due to production rate limitations, the practicality of relying upon groundwater resources could be questionable, especially considering that the water quality may not be suitable for in-stream transport and/or compatible with existing treatment processes.

4. Aquifer Recharge: The City of Grand Forks encourages a thorough evaluation of this feature. The physical characteristics of the aquifers proposed for recharge should be evaluated to gain reasonable estimates of the volume of water that can be stored and the rate at which it can be withdrawn for future use. In addition, chemical characteristics should also be considered to predict the potential implications of introducing treated surface water to a groundwater source.

5. Dakota Aquifer Desalination Plants: Although there may be a significant amount of water available from the Dakota Aquifer, there is some concern regarding the production rates and well spacing requirements associated with developing the aquifer for sustained periods of use. A desktop study to determine the estimated yield and well spacing requirements from the aquifer should be completed prior to considering treatment of water from the aquifer. Certainly desalination via reverse osmosis would be a wise consideration from a conceptual perspective; however, the applicability of reverse osmosis has technical limitations related to the presence and concentration of certain elements in the source water that cause excessive scaling and/or irreversible fouling of the membrane elements.

   Even if desalination facilities could treat water from the Dakota Aquifer to acceptable standards, there would be a significant volume of concentrate (brine) water that would require disposal and/or containment. It is anticipated that the discharge of concentrate to a regulated waterway would likely be prohibited, thereby requiring the construction of an extensive containment pond system. The issue of concentrate disposal was not adequately addressed in previous study efforts.

6. Water Conservation Measures: The City of Grand Forks regularly practices water conservation measures and has also developed a detailed protocol to follow during times of water shortages and/or during peak use that approaches and threatens to exceed that of existing treatment capacity. Although the City supports the concept of reducing consumption via water conservation measures, per capita water demand information indicates that most Grand Forks residents tend to use less water when compared to the national average. As a result, more aggressive water conservation measures may need to be considered in order to obtain the same amount of success as experienced in other areas of the United States. At any rate, the Bureau of Reclamation should recognize potential limitations associated with the implementation of various water conservation measures for the City of Grand Forks.

Grand Forks Desires

Realizing the level of financial burden associated with the alternatives being considered under the RRVWS project, the City of Grand Forks will need to justify its investment in the project with the identified benefits. Based on the technical concerns of in-basin features listed above, the City of Grand Forks strongly supports the implementation of an alternative utilizing imported water from the Missouri River. The most desirable alternative would deliver high quality treated

water directly to the City. If treated water cannot be delivered directly to the City of Grand Forks under the RRVWS project, the City is interested in being considered for a regional water treatment facility at the site of its proposed new water treatment facility. The City of Grand Forks believes alternatives including these concepts would provide the most benefit to its residents and the surrounding region.

Without an adequate backup water supply, the City of Grand Forks continues to play the odds against the inevitable occurrence of an extended drought event. The City is also facing a crossroads regarding water treatment somewhere in the timeframe from 2010 to 2015. Therefore, the City of Grand Forks stresses that a timely (i.e. accelerated) completion schedule of the study for the RRVWS project would greatly assist in maintaining our timeline for planning and making important decisions about the future of our water supply and treatment systems.

Representatives of the City of Grand Forks look forward to participating on the Technical Team and Study Review Team and monitoring the progression of the RRVWS project. If you have any questions or require additional information, please do not hesitate to contact me.

Sincerely,

Allen R. Grasser, P.E.
City Engineer

c: Todd Feland, Public Works Director
Hazel Fetters-Sletten, Grand Forks Water Treatment Plant Superintendent
Steve Burian, P.E., Advanced Engineering and Environmental Services, Inc.

Red River Valley Water Supply Project

Consolidated Flipchart Notes

From the First Round of Public Scoping Meetings

From October 28th to November 8th, 2002

Topic	Comment
NEPA Process	Would like a compilation of all comments received during the EIS public scoping meetings.
NEPA Process	Concern about how the public can access the EIS public scoping meeting comments.
NEPA Process	Communicate study progress and include all constituents.
NEPA Process	Suggestion that study Newsletters be send to organizations as well as individuals.
NEPA Process	Would like to see comments from Fargo public scoping meeting as well as all public scoping meetings.
NEPA Process	Length of time vs. permitting process (analysis) – groundwater investigations take a long time.
NEPA Process	Ensure that the right parties are included in the project (like tribes) from the beginning to keep the project on schedule.
NEPA Process	Canadian concerns – can they delay or stop the project?
NEPA Process	Will final alternative be weighed against "No Action?"
NEPA Process	Can "Preferred Alternative" be a combination of other alternatives?
NEPA Process	Need better scale maps.
NEPA Process	Is the draft of the report out? The final is out.
NEPA Process	What screening criteria will be set for selection of alternatives
NEPA Process	Need to coordinate with cities to aid capital planning and avoid duplication of facilities
NEPA Process	Scale of maps is inadequate for analysis.

NEPA Process	How could needed groundwater investigations be completed under the EIS timeline?
Schedule	Concerned about timeframe. Find a solution before a drought.
Schedule	There should be timely delivery of the Environmental Impact Statement (EIS) and development of the project.
Schedule	With a minor delay, the December 2005 completion date for the EIS is essentially 2006.
Schedule	Concern for meeting schedules.
Purpose and Need	Agricultural needs, like stock watering, should be included. Highlight areas that could benefit from additional water.
Purpose and Need	Categorize the types of water needs – Alternatives should address specific water needs individually, as well as in various combinations.
M & R	Wants supporting data on MTBE.
M & R	What is future water demand?
M & R	Sensitivity analysis of all needs
M & R	Projecting future water needs will be difficult – Look at estimating water needs in 10-year increments, as well as, developing options to meet those water needs in 10-year increments.
M & R	Needs assessments in Phase I and II could be underestimates, especially considering a 50 year time horizon.
M & R	What is the planning horizon (50 years or the year 2050)?
M & R	Provide adequate water supply to municipalities.
M & R	The valley needs good quantity and quality water supply for the future
M & R	Would it be more cost effective to bring the people to the water?
Industrial	Concerns about how the future industrial water needs will be projected.
Industrial	Beet plants need a guaranteed source of water. Need reliable source.

Population	Concern about the adequacy of population projections for Fargo.
Population	Population of ND is declining so is water use increasing? Larger cities are growing and smaller towns are losing population.
Population	Concern that the two different levels of population projections presented in the Phase II report be resolved in this phase of the study.
Population	Population projections – will you contact cities to get their data?
Population	Need progressive outlook for projections of future needs – Population and associated MR&I water needs should include capacity for Ag processing
Population	Take a realistic look at future rural water needs; specifically, population projections – revisit the assumptions made in the Phase IA and II reports
Recreation	Is recreation being considered?
Recreation	Consider recreational aspects and water quality of river greenways
Water Conservation Measures	How much water could really be saved with additional conservation?
Water Conservation Measures	Water conservation should minimize the amount of water used for irrigation, golf courses, and all aspects of water use, not just household use.
Water Conservation Measures	Conservation of water should be implemented now – need a practical plan
Water Conservation Measures	How much water conservation would be necessary to provide water for one industrial water-hog plant?
Water Conservation Measures	Can we have incentives for industrial re-use of water?
Water Conservation Measures	American culture is anti-conservation and very wasteful
Water Conservation Measures	Educate children about water conservation
Water Conservation Measures	Consider re-treatment/re-use of water
Water Conservation Measures	Study water conservation further.
Water Conservation Measures	Water conservation plan and standard measures are important.

Water Conservation Measures	How and when will water conservation measures be incorporated?
Water Conservation Measures	Do you have to use drinking water to water lawns?
Water Conservation Measures	Concern to look at waste water reuse.
Water Quality	Quality of the supply is of great concern
Water Quality	Concern about maintaining water quality in proposed water storage features, such as ring dikes.
Water Quality	Ring dikes have water quality problems, particularly taste and odor
Water Quality	Water quality of Red River is of concern. Wants more information on Biota treatment plants.
Water Quality	Concern about affect human domestic runoff (washing cars) has on streams, wetlands, groundwater, etc.
Water Quality	MTBE – octane additive in gasoline should test for it in groundwater.
Water Quality	Concern over disposal of waste by-products and the cost to the end water users.
Water Quality	Concern over desalination waste products.
Geographic Scope	Examine water needs of MN
Geographic Scope	How will this impact our relationship with Canada?
Geographic Scope	Will we ask Canada if they want/need a portion of water from this project?
Geographic Scope	Need to consider the needs of the Minnesota cities along the Red River in the Needs and Options Report
Geographic Scope	Look at supplying water to MN side of the river
Geographic Scope	The project should include Minnesota communities on the Red River.
Geographic Scope	Include Minnesota communities in the Red River Valley Water Supply Project.
Geographic Scope	Has the opportunity already passed for Minnesota communities to benefit from the project?
Geographic Scope	Moorhead, Breckenridge, and East Grand Forks want to be considered for supply by the project.

Geographic Scope	Concern about the exclusion of the cities of Moorhead, East Grand Forks, and Breckenridge, Minnesota from the Needs and Options Report.
Geographic Scope	What authority does Reclamation to conduct studies outside of the 17 western United States (specifically in Minnesota).
Geographic Scope	??????Does ?DWRA ?Restrict needs to ND but not options (couldn't read this sentence)
Geographic Scope	Are we considering comprehensive studies on statewide water needs?
Geographic Scope	Consider MN's resources from a supply and needs standpoint
Geographic Scope	Fox Island area on the Missouri River needs dredging.
Water Supply (Hydrology)	If we use the Sheyenne River to transport water, what is the impact to instream water quantity and quality?
Water Supply (Hydrology)	Did we adequately estimate the water supply – Were the small tributaries adequately modeled?
Water Supply (Hydrology)	Are there different flow rates for different alternatives?
Water Supply (Hydrology)	Will water system have to use project water or can it use its water or a mixture?
Water Supply (Hydrology)	Need to get agreement with Corps of Engineers regarding operation of the Red Lake Dam
Daily Stepmodel	Should we use a 1-day low-flow rather than a 30-day for hydrologic modeling?
Daily Stepmodel	Need better modeling of major tributaries such as the Red Lake River
Daily Stepmodel	Extend the Hydrology Modeling up the major tribes Pembina, Red Lake River, Goose, Park River
Daily Stepmodel	Hydrology study – reduce intervals of low flow from 30 day to 1 day
Daily Stepmodel	Should time-step for hydrology modeling be shortened from 30 days to 1 day?
Daily Stepmodel	Concern that the 30 day increment for modeling surface water does not adequately address short-term low flow events in the rivers – Consider using a daily flow increment in modeling.

Drought	What is the impact of drought in western North Dakota?
Drought	Study reliability of water sources during droughts
Drought	How do we handle getting water now if there is a drought?
Drought	Is the 1930's drought the appropriate drought to design for?
Drought	The 1930's drought situation would affect the Missouri River – how would there be enough water?
Drought	How are we going to handle the uncertainty of the magnitude of future droughts in the Red River Valley – We may want to look at a potential drought event that is less than the severity of the 1930's drought.
Drought	Is 1930's drought an appropriate baseline?
Drought	Whether designs based on 1930's drought are adequate – Could the valley experience a more severe drought than was experienced in the 1930's?
Drought	Are we considering climactic changes?
Drought	All of the stakeholders are aware that water supply problem exists – There will be another severe drought
Drought	Would there be enough runoff during a drought to fill ring dikes and reservoirs?
Drought	How much water is available from the Missouri River during drought?
Alternatives	Are pipelines gravity-flow, or would pumping be required?
Alternatives	When you transport water use a pipeline instead of the Sheyenne River. Why release treated water into the river when evaporation will result in water loss?
Alternatives	Use a pipeline to avoid contamination and water loss but questions the importation of water.
No Action	What is the impact or outcome of No Action; what is the need?

No Action	Under No Action, would each system have to fend for itself, and would the 200 million authorized for the Red River Valley Water Supply Project be made available to individual systems if No Action is selected?
No Action	Opposed to "No-Action" alternative.
No Action	No-Action is not an acceptable alternative
General Alternatives	Prefers Missouri River water because it is easier to treat, more reliable, and part of ND's claim to the water.
General Alternatives	Recognition that during drought the Red River Valley is arid – look east, not west.
General Alternatives	Will political factors filter alternatives?
General Alternatives	Make sure alternatives included in EIS don't have any fatal flaws and are not just an academic exercise
General Alternatives	Could features of several alternatives be combined in the end? Yes, we can do that and invite your comments on which features you would like to see.
General Alternatives	Concern that there are too many alternatives under consideration.
General Alternatives	Concern about the adequacy (available water supply) of in-basin solutions.
General Alternatives	Terrorism could threaten a single water source.
General Alternatives	Conditions in the Missouri River Valley are currently drier than in the Red River Valley. Is there a way to have water go both ways in a pipeline?
General Alternatives	If water was brought in from outside basin – this could free-up in-basin water for other purposes.
General Alternatives	Make sure alternatives included in EIS don't have any fatal flaws and are not just an academic exercise
General Alternatives	Big solution needs to include a lot of little solutions – impoundments, local alternatives, and regional alternatives.
General Alternatives	Consider the benefits of combining flood control with a water storage component.
General Alternatives	Import Garrison water to fulfill industrial, etc. needs

General Alternatives	New reservoirs would be extremely difficult to develop and might require another EIS.
General Alternatives	Concerned about feasibility of Missouri River transfers
General Alternatives	Consider costs in determining which alternatives are feasible.
General Alternatives	It is more cost effective to use existing GDU supply works rather than pipeline alternatives from Missouri River
General Alternatives	Consider Devils Lake for water supply, although the water is of poor quality.
Specific Features	Who would control releases from Baldhill Dam?
Specific Features	Consider building the Lonetree Dam in lieu of the inner-connecting pipeline; acreage has already been purchased; increased recreation benefits of reservoir.
Specific Features	Regional treatment facilities to serve rural water needs.
Specific Features	Manitoba cities have an interest in Rembiliar? Dams. Consider these dams in the study. Originally Manitoba opposed the dams but now are interested in it.
Specific Features	Question in reference to Alt 6. Is Lisbon still getting served or just using their own system? Answer – we didn't look in that level of detail.
Specific Features	Alternative 8 seems to have least environmental impact.
Specific Features	Phase I by Horace may be interested in artificial recharge.
Specific Features	Alternatives 5 & 6 – consider service to cities and systems along the pipeline west of the RRV
Specific Features	Prefers alternative 8 because less O&M and fewer W.T.P.P.
Specific Features	Why are there water towers on 6 but not 5
Specific Features	Consider James River and Devils Lake as water supply.
Specific Features	Alternative 7D and 8 are of interest to Grand Forks – These alternative provide treated water
Specific Features	City of Grand Forks interested in becoming regional water treatment plant

Specific Features	Red Lake River water could be piped to Fargo from Grand Forks – Also from Lake of the Woods
Specific Features	Consider artificial re-charge
Specific Features	Will all the rural water systems be connected?
Specific Features	In Alternative #3, will Baldhill Dam be raised higher than the present embankment elevation (the Corps of Engineers recently completed a project to raise the dam five feet)?
Specific Features	Can we use the extra capacity in Valley City water treatment plant?
Specific Features	Regional treatment hubs could be used for rural systems.
Specific Features	Pipeline conveyance is preferable to using open conveyance features (i.e. canals or rivers).
Specific Features	Alternative 6 should not be considered. Move the pipeline further north on the Red River.
Specific Features	Prefers alternative 8 because less O&M and fewer W.T.P.P.
Specific Features	Question in reference to Alt 6. Is Lisbon still getting served or just using their own system? Answer – we didn't look in that level of detail.
Specific Features	Pembina by 2004 will have water treatment issues – prefers alternative 8 but if North Valley system serving Pembina would be better. Might be a short term fix.
Specific Features	Maple Lake Dam should be a multi-purpose dam to retain water with Ring Dikes near Kindred Dam location.
Specific Features	Rural Walsh and Grafton depend upon a reservoir behind Drayton Dam in poor condition needs upgrade.
Specific Features	The Red River needs additional dams in order to be a reliable water supply.
Specific Features	North Valley (Langdon) just acquired a federal pipeline 12" that could be a connecting link in a Red River system.
Specific Features	Construct water treatment plant at New Rockford (treat to drinking water standards.)

Specific Features	Short term alternatives while working on long-term solutions
Specific Features	Look at small tributary storage benefits.
Specific Features	Conjunctive use of water – consider all supply sources
Specific Features	Study a Wildrice River diversion from the Sheyenne River as a water storage option.
Specific Features	Favor alternative 8 – replace biota plant with water treatment plant at the end of New Rockford
Specific Features	Does the authorized purpose of reservoir determine which agency has jurisdiction (i.e., flood control vs. water supply)?
Specific Features	Soils are poor in the vicinity of the proposed Kindred Dam location. The dam would wash out if constructed.
Specific Features	Would strategically placed ring dikes offer relief in times of drought?
Specific Features	How about using the "waffle" (EERC) for groundwater recharge?
Specific Features	How about dry dams?
Specific Features	Surface water plants located on the Red River (to serve future rural water system needs) could be cost prohibitive – Have to pump treated water up-hill
Specific Features	Any wetland restoration features to recharge aquifers? Could this help to be another source of water?
Specific Features	Re-charging all closed aquifers in the Red River Valley
Specific Features	May be pressure to use water supply reservoirs for flood control
Minnesota Source	Look for MN water source for Wahpeton and Breckenridge. It is better quality.
Minnesota Source	What is the political reality of getting water from Minnesota?
Minnesota Source	Concern about the political likelihood of getting water from Minnesota.
Minnesota Source	Look at Minnesota water source alternatives – These alternatives could be more cost effective than Missouri River alternatives.
Minnesota Source	Drayton and other towns have similar concerns look east to MN systems.

Minnesota Source	Concern about the "real" availability of water source in MN.
Minnesota Source	Are Minnesota sources of water being considered?
Kindred Dam	Kindred already studied and rejected.
Lake Ashtabula	Is additional congressional authorization needed for Alternative 3 (Lake Ashtabula)?
Lake Ashtabula	Why build another dam when Ashtabula is already impacted?
Ring Dikes	How are Ring Dikes handled when there is not sufficient water to fill them?
Ring Dikes	Ring Dikes – need more information investigate the effect thoroughly.
Ring Dikes	Are ring dikes a viable option?
Ring Dikes	Concern about impacts of ring dikes on agriculture.
Ring Dikes	Ring dikes could have sedimentation problems
Ring Dikes	Illustrate key features like Ring Dikes so that everyone can understand these.
Environmental Consequences	General concern about raising Baldhill Dam and the many impacts related to the raising of the dam.
Environmental Consequences	Similar concerns about the proposed Kindred Dam as was raised for Baldhill Dam.
Biota Transfer	Is there something the public should be concerned about with regard to Biota transfer? - If there is, please tell us.
Biota Transfer	What are you considering for biota treatment. (what type)
Biota Transfer	How will you address return flows with biota treatment disinfection will it affect the biota in the receiving stream?
Biota Transfer	What process will be used to control biota?
Biota Transfer	What is the Minnesota Department of Natural Resources position on interstate transfer of drinking water?
Biota Transfer	Concerned about biota transfer between basins.
Biota Transfer	Biota transfer should consider all pathways including natural ones.
Biota Transfer	Identify natural biota transfer risks, such as Lake Traverse.

Biota Transfer	Resolve Canadian objections to biota transfer.
Biota Transfer	Is Reclamation aware of the Dr. Jay Leitch's report on biota transfer?
Biota Transfer	Is Biota Transfer limited to this project or does it come up elsewhere?
Biota Transfer	What is the standard for an acceptable limit of biota transfer risk?
Biota Transfer	How is the above standard going to be established? Qualitative or quantitative
Biota Transfer	Do we have the technology to treat biota to the satisfaction of Canada and Minnesota?
Biota Transfer	What are the advantages and disadvantages of different locations for biota treatment?
Biota Transfer	Biota treatment plants are not failsafe
Biota Transfer	Biota treatment plant failure is low risk
Biota Transfer	Pipeline (Alternative 8) would help minimize biota transfer concerns. Seems silly.
Biota Transfer	Alternative 8 provides additional safeguards against biota transfer.
Socio Economic	How does eminent domain play a part in easement procurement?
Socio Economic	Study economic development that is less water consumptive – because ND Red River Valley can be very arid.
Socio Economic	How do you purchase existing water rights?
Socio Economic	Purchasing existing water rights (irrigators) will be controversial and will drive folks to look outside of the basin.
Socio Economic	Concern that supplying water for urban development will impact agricultural uses.
Socio Economic	Purchase of irrigators water rights is poor idea
Socio Economic	Ring dikes would inundate valuable farm land and could have water quality problems.
Socio Economic	Is it practical to put treated water back into a river?
Socio Economic	Alternatives 5 & 6 – biota treatment before dumping water into surface water (Sheyenne) doesn't look economically feasible.
Socio Economic	Consider economic effects of purchase of irrigation water rights

Socio Economic	Will their be a cost analysis of each alternative? Phase II – costs were estimated; they're on the website.
Socio Economic	Want a cost analysis of each alternative considered in the studies.
Socio Economic	Concern about how the project costs would be spread or allocated among water users.
Socio Economic	Concerns about the economic impact to Barnes Rural Water Association if there is a project – How will a potential project change of cost of water of a Barnes Rural Water Association water user member?
Socio Economic	Those communities that have the ability to pay get the cheap water.
Socio Economic	Ability to pay – Federal/local share – how will it be determined
Socio Economic	Consider the economic impacts of the project.
Socio Economic	Concern about the economic impacts of purchasing additional water permits.
Socio Economic	Concerned about the ability of water users to repay cost of project.
Socio Economic	Would state MR&I funding be available for short term fixes?
Socio Economic	Concern that the end users understand that there are costs to be re-paid for the proposed project.
Socio Economic	Need to provide water to the "heart" of the rural water systems (accurately location the main distribution point for each of the RWS) – Important for cost analysis
Socio Economic	Concern that the procurement of project easements be done in consistent and fair manner
Socio Economic	Need to provide water to the "heart" of the rural water systems (accurately location the main distribution point for each of the RWS) – Important for cost analysis
Socio Economic	Cost of water will be a consideration for Grand Forks
Socio Economic	Cost of impounding water and releasing later is very high
Socio Economic	Water rights permitting, purchasing – concerned about economic impacts

Socio Economic	Economic feasibility of water supply to small communities and rural water systems
Socio Economic	Why would we purchase existing groundwater rights? Concerns about the economic impacts of the purchase of groundwater.
Socio Economic	Concerns about the purchase/sale of water rights.
Socio Economic	Is purchase of existing water rights a Pandora's Box?
Socio Economic	How would you legally purchase those rights? Does the state have imminent domain to procure rights?
Financial	Are operational costs of existing GDU facilities being considered in the study? Are we not paying those costs anyway?
Financial	Is 200 million enough money to build this project?
Financial	How are project costs distributed, particularly for small communities (how much will be paid by Federal, local, etc.)
Financial	Comments about Alternative #4 – Concern about the treatment costs and capital costs of desalinization of Dakota aquifer water
T & E Species	What impacts would there be to the Sheyenne National Grassland? Also concerned about pipeline and groundwater impacts to the grasslands. Have 1 T and E species, 46 sensitive plant species and 12 sensitive fauna.
T & E Species	Expressed concern O-B-T will indirectly affect endangered species on Missouri River because it will affect lower-basin in their opposition to the master manual.
Aquatic/Riparian Habitat	Concern over water banking up into smaller tributaries and the impact to riparian, marsh, wetlands, etc.
Aquatic/Riparian Habitat	Will benefits of instream flow be credited to offset (mitigation) other project impacts?
Aquatic/Riparian Habitat	How would the Sheyenne River be impacted by alternatives that use the river for conveyance?
Aquatic/Riparian Habitat	Concern over impact to Sheyenne River!

Ground Water	Will there be enough aquifer capacity to meet future rural and municipal needs?
Ground Water	What would happen to aquifers if we started depleting them?
Ground Water	How much unappropriated groundwater is really available?
Ground Water	Digging a well for the Ethanol Plant may affect other wells in the area
Ground Water	Are aquifers showing a drop in water levels?
Ground Water	Concern about meeting the capacity of rural water systems and the depletion of their present aquifer water sources.
Ground Water	Concern that quantity and quality of water are considered- surface or groundwater.
Ground Water	Injection from oil fields into the Dakota Aquifer is of concern. Also concerned about treatment costs.
Ground Water	What is the name of the aquifer under Valley City?
Ground Water	Concerned about the proposed ethanol plant in the Valley City area both in terms of water need and return flows. Valley City is currently short of water so how can the city supply one million gallons of water per day to this plant?
Ground Water	How much can you draw down aquifers? (recharge vs. mining)
Ground Water	Cass Rural water Phase III Galesburg Aquifer is nearly fully appropriated.
Ground Water	What are the potential impacts to springs from construction of Kindred Reservoir?
Ground Water	Enlarging Lake Ashtabula is very controversial. Groundwater contamination is of concern
Ground Water	What would be the environmental impacts on aquifers and habitats without introduction of Missouri River water?
Ground Water	Look at the whole ecosystem including impacts from aquifer drawdown
Ground Water	Concern about impacts to aquifers if recharged.
Conversion	How do you quantify the amount of water available for purchase from existing groundwater permit holders?

Conversion	Purchasing irrigation water rights is a double-edge sword – loss of economic potential from irrigated crops – loss 50% of allocated acre-feet moving to higher priority
Conversion	Buying out irrigation permits – that can be very expensive. The farmer needs to expand or leave. What is the compensation for eliminating a livelihood. It is a way of life.
Desalination	How would we store and dispose of brine from desalination plants?
Desalination	Need to take a hard look at all of the features included in Phase II in-basin alternatives – Is desalination practical?
Desalination	Desalination of the Dakota aquifer is the least viable alternative.
Recharge	Entities should get credit for recharge in their ground water allocation.
Recharge	Include artificial recharge of Moorhead Aquifer.
Cultural Resource	Impacts to CR by Alternatives 5 & 6.
Cultural Resource	What is cultural/environmental impact of the alternatives?
Cumulative Effects	Standing Rock Sioux Tribe is concerned about water rights on Missouri River, concerned about Maple River Dam.
Cumulative Effects	Diluting Devils Lake water with Garrison water
Cumulative Effects	Downstream states are concerned about navigation. Consider other sources as a back up plan.
Cumulative Effects	Water required for this project from the Missouri River is a very small proportion of its total flow
Cumulative Effects	How large is the surface water permit that Garrison Diversion Unit has for Missouri River?
Cumulative Effects	How much water would be taken from Missouri River and what will be the impact?
Cumulative Effects	How would that withdrawal impact the master manual operational considerations on the Missouri?

Cumulative Effects	What are cumulative effects of withdrawals on the Missouri River.
Cumulative Effects	Will it affect current users?
Cumulative Effects	How are we accounting for the Devils Lake Outlet in the Red River Valley Water Supply Project studies?
Cumulative Effects	It makes sense to tie in Devils Lake in the project.
Indirect Effects	How will additional water impact urban sprawl or unplanned development?
Indirect Effects	Concern over bank development along Red River with additional water.
Indirect Effects	Would this project increase erosion on the Missouri?