



Minnesota Department of Natural Resources

500 Lafayette Road
St. Paul, Minnesota 55155-40

247

OFFICIAL FILE COPY RECEIVED		
APR 20 2007		
REPLY:		YES NO
INFO. COPY TO:		
DATE	INITIAL	TO
CLASSIFICATION		
PROJECT		
CONTROL NO.		
FOLDER I.D.		

April 18, 2007

Mr. Dennis Breitzman
U.S. Bureau of Reclamation
Dakota Areas Office
P.O. Box 1017
Bismarck, North Dakota 58502-1017

RE: Minnesota Department of Natural Resources comments on Supplemental Draft EIS, Red River Valley Water Supply Project

Dear Mr. Breitzman:

Thank you for the opportunity to comment on the Supplemental Draft EIS (SDEIS) for the Red River Valley Water Supply Project (RRVWSP). The Minnesota Department of Natural Resources (DNR) is very interested in long-term water management in the Red River Basin, including participation in many forums including the Red River Basin Commission and informal cross-border technical teams on water quality, fisheries and flood control. This letter provides an overview of our comments, with detailed comments on select SDEIS topics provided in the Attachment. Please consider these comments supplemental to comments submitted by DNR on the DEIS.

The Needs and Options studies resulting from the Dakota Water Resources Act of 2000 (DWRA) have led the USBR and State of North Dakota to identify a Missouri River diversion project as their preferred solution to periodic water shortages in the Upper Red River Basin. It is clear that a Missouri River import provides a reliable water supply for future economic and population growth beyond the 50-year time frame of the DWRA studies. Implementation of an import project would be a joint undertaking by North Dakota and USBR in a relatively straightforward manner, and would begin as soon as was approved by Congress. North Dakota has already created an institutional entity to carry out the project, the Agassiz Water Authority. A key characteristic of this project is that it would begin immediately to incur costs and would be implemented to provide all projected 50-year water needs upon completion of construction.

However, the DWRA also required preparation of an EIS, which required analysis of alternatives beyond the areas identified in the DWRA. This has led to studies of alternative supplies within the basin including the Minnesota portion of the basin. The Red River Basin Alternative, which includes Minnesota, also meets the forecast water needs. If this approach were to be selected, it would be implemented in a manner very much different than the import project option. In-basin drought solutions would be implemented incrementally, there would be no single project, and implementation would institutionally be handled in discussions between North Dakota and Minnesota, working with their Red River communities, and perhaps working with federal agencies and Manitoba. USBR would have less involvement since it would not be a water project designed according to USBR standards and procedures.

These key differences in implementation are not adequately addressed in the SDEIS. Consequently, it is our opinion that the necessity of an import from the Missouri River to the Hudson Bay Drainage Basin, with all the attendant policy implications, is not demonstrated by this document. We regard it as very significant that the construction cost of the Red River Basin alternative is \$285 million less than the selected Missouri River Import alternative, even though both alternatives meet the identified water needs. We also note that the list of disadvantages identified in the SDEIS for the Red River Basin alternative appears to indicate opposition from Minnesota. This is not consistent with the cooperative approach our agency has articulated in the past regarding the search for solutions to water shortages.

DNR Information: 651-296-6157 • 1-888-646-6367 • TTY: 651-296-5484 • 1-800-657-3929



Mr. Dennis Breitzman
April 18, 2007
Page 2

The selection of a Missouri River diversion adds a different type of complexity and uncertainty about solving sporadic water shortages. The diversion becomes a potential conduit for transferring organisms from the Missouri River Basin to the Hudson Bay Basin. Secondly, a major water transfer across a drainage divide of this magnitude raises numerous complex policy issues and engages many more stakeholders, other states, and national organizations in both the U.S. and Canada. Thirdly, a Missouri River source means that a large commitment of both state and federal dollars needs to be made up-front. In effect the entire system must be built immediately. This is a greater immediate capital outlay compared to a potential "pay-as-you-go" approach involved in the Red River Basin Alternative. Finally, the solutions as described in the SDEIS rely on 50-year forecasts of population, water use, and water conservation that underestimates water conservation potential and that may or may not accurately predict future water needs. An iterative solution would be more flexible to deviations from forecasted population growth than a constructed alternative that is designed before there's an opportunity to assess predicted versus actual growth.

Current drought conditions in the Upper Red River Basin illustrate the difficulty of approaching the study of solutions solely from the perspective of a 50-year forecast. We continue to hope these conditions will reverse, but if the current drought deepens, the search for solutions will become immediate and urgent. All reasonable solutions available will be in-basin alternatives out of necessity. The search for solutions, assisted by the valuable information obtained during studies leading to this EIS, can focus both on immediate short-term solutions and also point to longer-term solutions within the basin. The Missouri River import option is too costly, too complex, and has too long of a lead-time to provide solutions for an immediate extended water shortage.

The State of Minnesota will be involved in working with its communities along the Red River, as well as with the State of North Dakota and its communities, to address water shortages should the current dry conditions continue. We believe our previous comments on the Bureau of Reclamation study have demonstrated that we also stand willing to continue to work together on long-term solutions.

Thank you for the opportunity to comment.

Sincerely,



Mark Holsten
Commissioner

Attachment

c: J. Rohloff, Governor's Office
L. Raudys, Minnesota Pollution Control Agency
J. Stine, Minnesota Department of Health
J. Jaschke, Board of Water and Soil Resources
L. Martinson
L. Kramka
L. Pfannmuller
K. Lokkesmoe
M. Carroll
S. Hirsch
P. Buesseler
S. Colvin
P. Stolen

Larry Svoboda, USEPA Region 8
John Giedt, USEPA Region 8
Jeffrey Towner, USFWS ND Field Office
Tony Sullins, USFWS MN Field Office

Attachment

**DETAILED COMMENTS ON THE SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT STATEMENT
(SDEIS)
for the
RED RIVER VALLEY WATER SUPPLY PROJECT**

Minnesota Department of Natural Resources
April 18, 2007

Overall Comments

Relationship of previous comments to this SDEIS. The comments herein are supplemental to DNR comments dated April 12, 2006 on the Draft EIS. The SDEIS contains no specific guide indicating where text or analysis has changed, making it difficult to cross-reference our comments. We note, however, that at the Cooperating Agency Meeting (CAT) on February 28th, 2007, USBR indicated that it is their intent to answer all comments on the Draft EIS along with any new comments on the SDEIS. Therefore, we have made no attempt to go over the text in detail to determine where all changes have been made.

As noted in our April 12, 2006 letter, we have been submitting extensive comments on this project since the feasibility studies began in 1998, and there has been no response to most of these comments. We remain disappointed that many of our specific comments about need, economics, alternatives analysis and drought contingency measures still have not been addressed. We do appreciate that the SDEIS contains new information responsive to some of our earlier comments, including some changes on major issues. We note these in our specific comments below.

The SDEIS refers to Minnesota DNR participation in Technical Team discussions and implies several times that this participation committed us to all methods, approaches, and decisions that were made. We feel we contributed to the decisions made on these teams, as did others, and that the process and quality of the studies improved considerably because of this team approach. However, we noted during the team meetings that because we were not adequately staffed to fully examine the reports on the schedule established by USBR, we reserved the right to critique methods and results in the EIS. In addition, DNR made important suggestions that *were agreed to* during the Technical Team deliberations that still are not reflected in the SDEIS.

Use of a 1930s-style drought. The DNR accepts that the 1930s style drought is a realistic benchmark to measure proposed alternatives against. This is a drought of record that has flow and use data associated with it. This is also a realistic drought magnitude that can occur in the Red River Basin and most likely will occur again. The SDEIS uses this information, which was described in some detail in the Meridian report, a technical report prepared for the SDEIS. Although a useful planning tool, there is no certainty that the actual recurrence interval of such a drought would be likely or unlikely to occur in the given 50-year planning horizon. The author of the Meridian Report agreed with this conclusion, yet the SDEIS continues to strongly imply that such a drought will occur before 2050 (see for example page 3 of the Executive Summary.) The Executive Summary would more objectively reflect our understanding of droughts by noting that the statistical forecasts cannot be relied on to say one way or another the drought will occur by 2050. However, there will clearly be a need for sustained water supply beyond the 50-year horizon, which makes the 1930s drought more statistically likely. The uncertainty of this should have been more fully discussed in the SDEIS, since it is crucial for determining how to select among alternatives and whether a "mix and match" approach is the best way to solve water shortage problems.

Risks of Invasive Species and Biota Treatment Technologies (SDEIS Chapter 4, pages 4-118 through 4-142)

Please note that we state elsewhere in our comments that the need for importing Missouri River water to the Red River Basin has not, in our opinion, been adequately established by either the Needs and Options Study or the SDEIS. That said, if at some point in the future it is clearly established that there is

no other option than a Missouri River water supply, the Minnesota DNR has concluded that the Manitoba proposal for treatment of imported water outlined in the SDEIS (see page 2-18) may be acceptable, subject to the caveats below.

DNR indicated in informal discussions that we examined the Manitoba proposals referenced above, and that the approach was in our view a logical extension of comments we had submitted on the DEIS regarding biota transfer. This new approach de-emphasizes reliance on the numerical risk assessment used in the DEIS, and uses a "treatability" approach in biota treatment. It emphasizes a treatment-train directed at whole categories of risk vectors; i.e., it treats generic categories of vectors and uses this approach to assist the engineering design. The approach recognizes, for example, the challenge of addressing the complex life cycle of whirling disease, one of the most problematic fish pathogens as far as particle size, life cycle complexity, obscurity of ecological and host relationships, and resistance of spores to treatment.

This approach is therefore not dependent on detailed knowledge about distribution of poorly understood pathogens. The engineering design also should account for the appearance of new vectors because the design is based on preventing the transfer of the full range of known types of pathogens affecting fish and wildlife species. The resulting engineering design also relies on pathogen removal and multiple partial barriers.

This approach is closer to the DNR's "biota containment" recommendations offered during participation in the Technical Team at the beginning of the EIS studies. We recognize that complete containment and zero risk won't necessarily occur, rather, the approach will likely result in reduction of risk to a level similar to that already present from other factors that occur without the project.

1. Details of engineering design, operation and monitoring. The biota containment plant is at this point conceptual, although the outlines are known. It is unclear how the plant is to be operated (including contingency planning), maintained and monitored to assure that specific organisms (and classes of organisms) are identified and properly contained. When, and if, it is designed, there needs to be assurance that it meets the criteria inherent in the treatability approach. The following topics need to be included in the operating plan.

- Immediate detection of biota containment system malfunctions for all classes of risk vectors and immediate shutdown of the diversion until the malfunction is repaired. Facility operating plans would specify that water would not be moved between basins unless the plant and monitoring system are fully operational.
- Monitoring of the Missouri River system for invasives sufficient to detect the spread of new pathogens, as a back up check on whether any new invasive organisms provide additional challenges to the biota containment technology.
- Monitoring plans for McCluskey Canal on either side of the treatment plant to detect whether species such as fish, invasive plants, or invasive invertebrates have become established, making intentional or accidental transfer around the plant easier.
- A mechanism for upgrading the plant based on advances in technical understanding, similar to upgrades to water treatment plants for drinking water, needs to be incorporated into the design.

2. Use of the USGS risk assessment and consequence analysis. We commented extensively on this topic on the DEIS, including the review by Dr. John Drake of the risk assessment. Our comments made the important point that there were technically valid reasons for changing various underlying assumptions that were used in the risk assessment, and that, if such changes were made, the results of the risk assessment would change. Therefore, it is important that the DNR and Dr. Drake's comments be fully addressed in the Final EIS in some detail.

DNR has reviewed the failure analysis risk assessment submitted with the SDEIS. We feel it adds little new information. It appears to be a generic document that applies generally to categories of water treatment plants and water pipelines, rather than this specific project. This is evident from the discussion on page A.5-7, which indicates that the treatment technologies have nearly the same risk reduction, and that increasing pipeline length increases risk. In other words, the failure analysis method chosen essentially can't differentiate between standard water treatment plants and this specific project proposal.

3. EPA review of the biota risk assessment and DEIS. The EPA had extensive involvement in this topic after the first DEIS was published. According to EPA staff present at the Cooperating Agency Meeting on February 28, 2007, these discussions included a detailed review of the USGS risk assessment and identification of its problems. These results do not appear in the SDEIS. We feel it is very important to include the details of these findings and discussion in the EIS.

4. Full disclosure of biota transfer issues. At this point, the text of Chapter 4 is very similar to the text of the DEIS we have already reviewed. Revisions are needed to respond to comments on the USGS risk approach and Consequence Analysis as well as the EPA review. Chapter 2, the description of alternatives, as well as the discussion in the appendix regarding treatment comparisons, is confusing. On one hand it says that the original proposed treatment regime is acceptable, but then it states that the Manitoba proposal is adopted and "Reclamation has gained a better understanding of Manitoba's concerns..." (page 2-20) The "better understanding" needs to be explained in some detail.

The SDEIS relies on assertions that the new proposed treatment regime is acceptable, but provides almost no information as to why it is. The EIS should not rely on a technical description of "2.5 log...4 log" removal, rather it should name specific pathogens and track them through the treatment system, based on the fact that the Preferred Alternative has a capacity of 122 cfs. This is a large bulk water transfer across a major North American watershed divide. Such a large water amount transfer means potentially very large numbers of organisms could be transferred. This information should be fully disclosed along with treatment specifics and methods of detecting failure.

Alternatives

The alternatives analysis is in our view a crucial part of the EIS process. DNR has consistently raised concerns about alternatives analysis in the Needs and Options Study and DEIS. Although we understand that USBR intends to address our previous comments, we reiterate the main points here because we continue to disagree in fundamental areas and because we feel the SDEIS does not reflect our prior comments.

Minnesota has stated on numerous occasions that this EIS should lead to recombining parts of the alternatives as appropriate. It has clearly stated that for NEPA purposes the development of these alternatives was appropriate as a means of bracketing impacts. However, selection of the preferred alternative should not have been limited to one of these alternatives. It is disappointing that the Bureau has selected an alternative that in effect ignores all other positive aspects identified for the other alternatives. The SDEIS should have used the data to develop an alternative that provided for the real immediate need in the Red River Basin and mixed the multiple options identified as beneficial for the long-term.

An example would be to look at ways to utilize Minnesota's resources to provide water to Minnesota communities. This would have reduced the need for Minnesota communities to be "competing" for the same water that North Dakota communities need. The City of Moorhead is an example of a community that is looking at further development of ground water resources to better manage their existing and future water needs. This also reduces some of the policy implications cited in the SDEIS as reasons for not pursuing the In-Basin alternative.

Additionally, these smaller solutions will likely need to be implemented across the basin prior to any large project being built. The need for smaller drought contingencies to meet immediate needs already exists. This would also reduce the "upfront" costs of the larger project and potentially provide more timely

solutions to communities. A more diverse water supply option is also less susceptible to larger catastrophic failure or contamination.

The SDEIS appears to characterize policy issues related to the use of Minnesota water as insurmountable obstacles. We believe that USBR has done an insufficient job at attempting to explore these. Minnesota would not expect projects to be built without assurances that water would be available when needed. We do expect that discussions and agreements would be needed on how, when, and where water would be utilized. These discussions have not taken place, nor has there been any attempt to describe how this might be accomplished. We have previously suggested that this be done.

It is also noted that these policy issues are not listed among the disadvantages for the preferred alternative. Yet the policy implications of delivering water potentially to Minnesota, in the Red River, even if Minnesota communities do not sign on to the project remains. Once delivered to the Red River, water would not remain solely on the North Dakota side of the border. This is a significant policy discussion that needs to occur between the states and yet is not even touched on in the document.

In our view, the USBR has selected a "project" alternative that fits their mission rather than the full range of alternatives foreseen by CEQ regulations. The SDEIS quote below illustrates that the Preferred Alternative is a "Project" narrowly conceived based on how USBR would approach building a solution according to its practices of constructing physical water supply projects. The approach does not appear to fully consider alternatives outside the jurisdiction of DWRA or capability of USBR, as directed by NEPA.

"Reclamation plans, designs, and constructs MR&I projects to meet the estimated water demand. The best available scientific and engineering data were used to model the surface water system, quantify water shortages, and estimate the capacity of supplemental water supply sources..."

Reducing water demands further by including arbitrary reductions for any reason increases the risk that the Project alternatives, as designed, would not meet the comprehensive water needs as defined in DWRA. Further, because the water demand estimates and shortages provide little flexibility to account for unknowns, reducing the water supply by applying drought contingency reductions at this stage of the Project would create an unreasonable risk of Project failure." (Page A.1-2, emphasis added.)

DNR also disagrees with the conclusions regarding a lack of flexibility. The water demand and shortage projections referred to in this statement are not solid numbers; rather they are based on subjective estimates 50 years in the future. An in-basin solution would be iterative and quite flexible, responding to actual future conditions rather than statistical possibilities.

Given that the Red River Basin alternative costs *much less* than the Preferred Missouri River import (\$285 million less for construction, and \$1 million a year less in operating costs), we can foresee reasonable and cost-effective means of implementing the Red River Basin alternative. For instance, Congress could provide funding to develop basin-wide, long-term drought management solutions. Such an approach would be less expensive and would include other benefits such as cooperative agreements on Red River protected flows, flood planning, and aquatic habitat restoration.

Drought Contingency Measures

The SDEIS contains an improved discussion of the use of drought contingency measures in the analysis. However, it is still inadequate and the SDEIS continues to say that these measures will not be built into the project except for droughts *more severe* than a 1930's drought.

The discussion of such measures is a key part of the SDEIS, as is a closely related topic, that of the economic cost of droughts. DNR commented on this topic on pages 7 and 11 of Attachment II to our DEIS comments of April 12, 2006. We noted that the DEIS was flawed because it relied on only two limited studies of drought costs in California. It is our opinion that these studies over-estimated the costs of droughts. The citation for one study (Goddard and Fiske 2005) is to a web site for "Private Property Rights Advocates for Lot Owners in Cambria California". We have been unable to obtain this publication

despite repeated attempts, and based on the type of Web site question whether this is an objective, scientifically rigorous source to be used for such a key analysis.

The relationship of these studies to the key decision not to use drought contingency measures can be seen by the statement on page A.1-4. In referring to the table indicating substantial cost savings from the use of drought contingency measures, the SDEIS says, "*Although construction costs could be saved, there would be adverse economic impacts of imposing drought contingency measures greater than 7.5%...implementation of drought contingency goals above 7.5% could have severe economic costs far outweighing any short-term construction cost savings...*" (Page A.1-4)

As noted in our previous comments, the California Urban Water Users Association web site includes many citations to studies showing the economic benefits to both the public and private sector of investing in drought contingency measures. The SDEIS analysis on the costs of droughts is key to deciding on this measure, and is currently inadequate.

The SDEIS says "*All of the alternatives. . . would meet future water demands without incorporating drought contingency measures in water demand estimates. Because of the uncertainties involved in estimating future water demands and future water supplies, drought contingency measures are not included in the alternatives considered in the SDEIS...*" (Page A.1-4) All of the chosen measures are subject to the same uncertainties regarding future water demands; therefore, this is not an adequate justification for excluding contingency measures from the alternatives.

Water use in the affected area will likely increase at a greater rate if water supply is increased than if it is not. Water availability has always been an economic development tool across the country. In this case water is a limiting factor to many communities as they try to sustain themselves and also while they attempt to grow. The SDEIS does not adequately discuss this dynamic and how this project will, in a sustainable fashion, provide a larger industrial water supply to an area that is currently water limited. As we continue to see similar issues with ethanol and water supply in Minnesota, we must ask the same questions of Minnesota communities or North Dakota communities associated with this project. The question is not one about limiting economic growth. It is a question about limiting high intensity water users in an area subject to known and significant shortages.

Red River Flow Augmentation

The DNR has provided initial comments and recommendations on earlier aspects of the instream flow study; some of these recommendations were incorporated, others were not. The Red River is a border water under joint jurisdiction of both states, yet the SDEIS proposes to set a minimum flow in the Red River by using a source from outside the basin. The preferred alternative would supplement water to the Red River of the North. Minnesota does not support the artificial supplementation/augmentation of surface waters. The Red River of the North has ecologically supported aquatic life regardless of the historic low flows. The preferred alternative presumes that Minnesota and North Dakota have the same values for low flow augmentation. Developing such a flow regime should be eliminated from the preferred alternative, or at a minimum offered only after there have been direct discussions between Minnesota and North Dakota and development of a written, binding agreement. Such a process would be beneficial to both the states and should be part of the discussions about implementing an in-basin solution to the periodic drought.

The following are three main areas of concern related to the flow alternatives and assessment of environmental impacts:

1. Application of Techniques. The graphs and tables throughout the report do little to elucidate what is being proposed. For example, 8 alternatives are shown in Figures 4.11-4.13, over a 70-year period; the scales on both axes make any review of these data entirely superficial. In addition, the impacts of the proposals which would move water from one basin to another (e.g., Missouri River water) do not explicitly examine the impact on the contributing basin, under the same assumptions of drought and forecasted needs as performed on the receiving basin. Do these represent a mirror situation? Is it worse for the contributing basin? What is the cost on the existing and potential communities in the contributing basins

to provide this increased supply to the targeted community (Red River Valley) and does it represent the best value?

The flow regime that was developed and is recommended is counter to the natural flow regime and therefore highly suspect (see Item 3 below). The document on which the flow recommendations was based (*Report on Red River Valley Water Supply, Project Needs and Options, Aquatic Needs Assessment, Final Report, Instream Flows for Aquatic Life and Riparian Maintenance (RRRVWS)*), recognizes the need for protecting hydrologic regimes (Page 19, paragraph 1) and then promptly steps past them (Page 19, paragraph 2). Figures 3 and 4 in this report (RRRVWS) show the flow regime developed from the Aquatic Needs assessment; with the exception of one study site (the Norman study site on the Sheyenne River) out of six, the Aquatic Needs regime does not mirror the shape of the hydrograph and most often falls closely along the 90% exceedence values.

2. Derivation of Flows. The optimization technique (Bovee 1982) that was used to develop seasonal instream flow regimes is inappropriate, particularly in light of the document's apparent recognition of the importance of bankfull flows, riparian maintenance flows, and valley forming flows. Warmwater streams have complex aquatic communities maintained by the variability of flows the rivers receive from their watersheds. Because of this, the DNR recommended, as a way to derive appropriate flows for the fish community, a habitat guild approach. The study adopted this approach. However, we also recommend a different optimization approach (Leonard and Orth 1988), one that recognizes the important distinctions between high flow driver fish species and low flow drivers. Conclusions from the study (RRRVWS) (e.g., Page 19, paragraphs 4 and 5) defend habitat-derived values ½ that of median flows and contend that these lower flows actually are beneficial because they protect the invertebrate and forage fish food supply, which would be harmed by the higher median flows. Such arguments show little appreciation for the biology and evolutionary adaptations of stream organisms and the inter-related nature of habitat, geomorphology, hydrology, and biology.

Further, flows for fish species are only one part of the equation and fishery goals are not the only useful indicator of desirable flow regimes. Bankfull flows, for example, form and maintain the habitat that underpins fish community diversity, at flow levels that are typically considered "unsuitable" for fish. Floodplain and riparian maintenance rely on out-of-bank flows, which do benefit some fish but are largely regarded as detrimental. The timing of these higher flows is critical – seed germination, fish spawning and other inter-related biological phenomena coincide with normal or natural high flows. In addition, water quality, connectivity, geomorphology, and hydrologic changes should all be examined for impacts from transbasin diversion(s) in the receiving and contributing watersheds, the results for each component tabulated and the tradeoffs explicitly shown and discussed.

3. Potential Alteration of Hydrology. Alteration of flow regime is the most serious contemporary threat to the ecological sustainability of rivers and their associated floodplains (Naiman et al. 2002, Nilsson and Svedmark 2002). Riparian and riverine plants and animals are variously adapted, often uniquely so, to exploit the dynamic nature of river systems (Junk et al. 1989, Decamps 1996, Naiman and Decamps 1997, Naiman and Bilby 1998). Hydrologic processes strongly influence riparian habitats as the transport medium for sediments, but the presence or absence of water by itself is also an important control on riparian form and function (Naiman et al. 2005). River ecosystem health deteriorates when natural flows of water, sediments and organic materials through a river system are substantially disrupted or modified by human activities (Poff et al. 1997, Richter et al. 2003). Given these ecological realities, the analysis seems inadequate in both approach and execution to address the long-term consequences of flow alteration in the Red River Valley and the contributing basin(s). The report is written not as an exposé of the alternatives but under the assumption that the water needs of the people and industries in the Red River Valley through the year 2050 are a given, regardless of the consequences on the contributing basins or full exploration of possible conservation alternatives.

Threatened and endangered species and Fish and Wildlife Coordination Act Report

Minnesota DNR previously reviewed a draft Fish and Wildlife Coordination Act Report (FWCAR), which was included in the draft EIS. We submitted extensive comments directly to the U.S. Fish and Wildlife Service (USFWS) noting the lack of discussion on potential project impacts, including to fisheries and

wildlife habitats in Minnesota. The USFWS submitted another draft report to us on March 14, 2007. We have not yet completely reviewed the new report; however, our initial review indicates that the report has not satisfactorily addressed our prior comments, nor does it adequately address new issues regarding impacts to federally-listed species in the Missouri River basin.

Since the beginning of our involvement in this project, we have indicated that augmentation of flows in the Red River Basin with Missouri River water for purposes of recreation or enhancement of fish and wildlife habitat had to be balanced with detailed analysis of adverse effects on fisheries and wildlife habitat in the Missouri River. Such an issue is exemplified by endangered species potentially affected in the Missouri River.

The SDEIS indicates that the Preferred Alternative may have adverse effects on two federally listed Threatened Species, the piping plover and interior least tern based on the Corps model of Missouri River flows. Identified impacts include a predicted 42% reduction in riverine habitat for piping plover and interior least tern during a 1930s-type drought and a 12% reduction in riverine habitat for these species over the period of record for modeling.

During the Cooperating Agency Meeting of February 28, 2007, USBR indicated that a finding of no impact will be made for piping plover and interior least tern. This issue must be carefully analyzed in order to justify overturning the findings of the Corps model. It is unclear to us what U.S. Fish and Wildlife Service analysis has gone into a determination that there will be no impact to piping plover or interior least tern.

Minnesota DNR is concerned about this issue because there is a small population of piping plover in Minnesota, where this species is listed as State Endangered. Even though there is no evidence of exchange between these two populations, when species are very rare, all populations are important. Furthermore, no federally or state listed bird species depend on the Sheyenne or Red Rivers. Therefore, this project may remove water important for rare bird species to enhance habitat for common species. We would consider a finding of no impact a major error because ecological understanding is not precise enough to detect impacts. A finding of "minor impact" for rare species habitat on a large river would also be erroneous in our view since cumulative impacts are occurring and small effects can have a large risk to poorly understood rare species.

Project purposes beyond 50 years and cumulative impacts

The SDEIS alludes to the fact that the Preferred Alternative establishes a permanent water supply to operate beyond 50 years, but does not adequately describe this in the project purpose or in the SDEIS in general. In fact, the SDEIS uses this issue in its alternative selection: Both in-basin alternatives list "*Does not allow for growth past 2050 with local water supplies*" as disadvantages. Implicit in the analysis is that the Preferred Alternative does allow this growth. The SDEIS should be straightforward in describing one of the project purposes as being establishing a long-term permanent water supply to Eastern North Dakota from the Missouri River.

Other Issues

Many items listed as advantages/disadvantages in the sections of the SDEIS comparing Alternatives are policy and legal issues rather than technical issues. This is especially true regarding the Red River Basin alternative, where various forms of policy-based opposition from Minnesota are cited as disadvantages. (We do not agree with this characterization. Previously we have indicated that the DNR's (and we believe, Minnesota's) response to a severe drought in the U.S. portion of the Red River Basin will be cooperative in solving water shortage problems, not oppositional.)

This amount of policy content is unusual in an EIS. The problem with the SDEIS, however, is that it is selective of policies and incomplete because it does not include others of major importance, or does not follow up on implications. Therefore, our review of the SDEIS and the key lists of advantages/disadvantages of different alternatives can't occur without clarifying what policies are really at issue. We therefore provide a partial list of the major issues that this proposal generates and that should be described more objectively.

1. Effects of perceived adverse Minnesota government actions. Several items listed on page 25 of the Executive Summary, such as "requiring a permit" and "approval from the Minnesota Legislature," are inaccurate reflections of how the Red River alternative would be implemented. Rather, it would be developed by binding agreement between the states, and with likely assistance from Congress. Rather than listing these and the other items as obstacles, once there is agreement to pursue the overall in-basin solution, means are found to work out differences and solve real problems. The agreement would include contingencies and resolution of differences, and would be binding.

2. Interbasin bulk water transfers and biota treatment. Congress must approve the diversion of Missouri River Water to the Red River basin. Such large out of basin transfers, although done in the past, will be subject to scrutiny. We believe there should be a "high bar" set for providing economic and need justification, as is occurring with biota transfer. Minnesota was the first state to ratify the proposed Compact regarding water transfers from the Great Lakes (*Great Lakes--St. Lawrence River Basin Water Resources Compact*), and the criteria in this document should be applied to the Missouri River import proposal as well. We do not believe this standard has been met.

Since DNR became involved in 1998, we have consistently taken the position that movement of invasive species including fish pathogens should be prevented. We strongly feel this position fits with Minnesota laws and is supported by the growing body of ecological and economic knowledge regarding costs of not setting such a policy. We believe the treatment approach described in the SDEIS, if fully implemented, can limit possible movement of invasive biota into the Red River Basin. However, a flow of 122 cfs remains a major aquatic connection of concern between the basins and will require permanent commitment to monitoring, maintenance and technology.

3. Fundamentally different water law and policy between the two states. Under their existing laws, implementation by both Minnesota and North Dakota of chosen solutions can operate at cross-purposes unless deliberate action is taken. It is reasonable for North Dakota to try to prove a water right from the Missouri River for Eastern North Dakota because of state law and policy. But when it takes action by Congress and involves Canada, another choice is to try to integrate the policies of the two states rather than continue in conflicting directions. It is our opinion that the Red River Alternative fundamentally is a joint alternative and must have joint action in order to be implemented. To us, this will be evident to Congress when it debates a proposal to move Missouri River Water out of the basin.

4. Interbasin river flow manipulation for enhancing recreation and aquatic environments. The DWRA authorized projects and called for studies of water needs, including water needs for recreation and aquatic environments. The Minnesota DNR is of the opinion that this federal law did not include or imply a statement that it is federal policy to augment stream flow in one major basin for purposes of recreation and aquatic environment by taking water from another major basin. Instead, it is our opinion that the USBR and North Dakota, by justifying their Preferred Alternative in the manner detailed in the SDEIS, have extended the DWRA into a policy area that needs to be fully examined by Congress. In addition, because the biota treatment plant would be a federally funded facility and because a portion of the water is for recreation, federal funds will be expended partially for a local recreational use for the life of the project.

Chapter 4 discusses social and economic impacts and addresses economic impacts from a regional approach. Recreation impacts are stated as being generally limited to impacts at Lake Ashtabula. The analysis presented assumes that loss of use occurs due to lowering water levels. This greatly simplifies the use of recreational facilities to an almost linear analysis. In fact, regional use of the area may increase with significant drought. Local citizens "going to the lake" on a hot dry day would likely increase as the severity of the drought continues. There also does not appear to be any supplemental report for the IMPLAN model. It is impossible to comment on the results if there is no detailed description of the model and its use in this project.

5. Economic impacts to Minnesota communities. We believe that the economic impact analysis should have also looked at the impacts to Minnesota communities in the valley related to the project providing

concentrated economic development within the service area of the project. Minnesota communities throughout the valley may find it harder to attract business or business expansions if water is less limiting in neighboring communities that are provided water by this project. There is insufficient analysis to describe what economic impacts may occur from a partially subsidized water supply on other communities in the Red River Valley.

Literature Cited

- Bovee, K.D. 1982. A guide to stream habitat analysis using the instream flow incremental methodology. Instream Flow Information Paper No. 12. U.S. Fish and Wildlife Service, FWS/OBS-82/26, Washington, D.C.
- Junk, W.J., P.B. Bayley, and R.E. Sparks. 1989. The flood pulse concept in river floodplain systems. Pp. 110-127 in: Dodge, D.P. (Ed.) Proceedings of the International Large Rivers Symposium. Can. Special Publ. Fish. Aquatic Sciences 106.
- Leonard, P.M., and D.J. Orth. 1988. Use of habitat guilds to determine instream flow requirements. North American Journal of Fisheries Management 8 (4): 399-409.
- Naiman, R.J. and R.E. Bilby. 1998. River ecology and management in the Pacific Coastal Ecoregion. Pages 1-10 in R.J. Naiman and R.E. Bilby, Eds. River ecology and management: lessons from the Pacific Coastal Ecoregion. Springer-Verlag: New York, New York, USA.
- Naiman, R.J., P.A. Bisson, R.G. Lee, and M.G. Turner. 2002. Legitimizing fluvial systems as users of water. An overview. Environmental Management 30:455-467.
- Naiman, R.J. and H. Decamps. 1997. The ecology of interfaces: riparian zones. Annual Review of Ecology and Systematics 28:621-658.
- Naiman, R.J., H. Decamps, and M.E. McClain. 2005. Riparia; ecology, conservation, and management of streamside communities. Elsevier Academic Press, San Diego, CA, USA.
- Nilsson, C. and M. Svedmark. 2002. Basic principles and ecological consequences of changing water regime: riparian plant communities. Environmental Management 30:468-480.
- Poff, N.L., J.D. Allan, M.B. Bain, J.R. Karr, K.L. Prestergaard, B. Richter, R. Sparks, and J. Stromberg. 1997. The natural flow regime: a paradigm for river conservation and restoration. Bioscience 47: 769-784.
- Richter, B.D., R. Matthews, D.L. Harrison, and R. Wigington. 2003. Ecologically sustainable water management: managing river flows for ecological integrity. Ecological Applications 13: 206-224.