

Responses to Munk Centre for International Studies

Comments on the Draft Report on the Red River Valley Water Supply Project Needs and Options

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***A Binational Perspective
on the Draft Report on
Red River Valley
Water Needs and Options***
R. I. PENTLAND

SEPTEMBER 25, 2005



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Red River Valley Water Needs and Options***

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SEPTEMBER 25, 2005

Prepared on behalf of the Program on Water Issues

**Munk Centre for International Studies
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Ralph Pentland is President of Raibet Enterprises Inc., where he has been active in consulting on a variety of water and environmental policy issues.

From 1978 to 1991, he was Director of Water Planning and Management in the Canadian Department of the Environment. In that capacity, he was responsible for overseeing numerous Canada-U.S. and Federal-Provincial agreements. He was the prime author of the Federal Water Policy that was tabled in Parliament in 1987. He has served as Canadian Co-Chairman of the International Joint Commission's Diversions and Consumptive Uses Study Board, the IJC's Great Lakes Water Uses Study Team (from 1999 - 2000), and the IJC's International Water Uses Review Task Force (from 2002 - 2003)

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Background

In 1977, the International Joint Commission concluded that the Garrison Diversion project would violate the Boundary Waters Treaty, and that an interbasin water transfer should only proceed if the risk of biota transfer were eliminated, or if that ceased to be a matter of concern. Nevertheless, the Dakota Water Resources Act of 2000 authorized a U.S. Bureau of Reclamation study of water supply needs in the North Dakota portion of the Red River Valley, including the option of importing water from the Missouri River Basin. Comments on a draft Bureau of Reclamation report on this topic have been requested by October 3, 2005.

The options studied include two in-basin solutions, a Lake of the Woods diversion option, and three Missouri River diversion options. The two in-basin options, and the least ambitious of the Missouri diversion options would cost in the order of \$500 million in 2005 U.S. dollars, while the others would cost between about \$900 million and \$2.2 billion. A number of related issues that either are or should be of mutual concern to Canada and the United States are discussed briefly below.

Technical Considerations

1. The study is based on a traditional top-down engineering approach which extrapolates growth in water use, and assumes that the resulting demand less a modest estimate of conservation must be met through structural supply management measures. It is significant that western states water officials recently identified a broader range of alternatives to stretch existing water supplies. The U.S. Western Water Policy Review Advisory Commission (1998) confirmed earlier expert analysis that there are less expensive and less litigious alternatives than transferring water between major river basins. Recent experience in the Great Lakes Region would also suggest that, given an inclusive and transparent process, citizens will generally opt for something very close to a prohibition on interbasin diversions.
2. Top-down large-scale engineering approaches to water issues often result in unintended and undesirable long-term consequences. For example, Klaus Jacob of Columbia University recently concluded that the human tragedy currently being experienced in New Orleans was very much exacerbated by constricting the Mississippi River to defined pathways, and preventing the natural transport of fresh sediments into geologically subsiding areas. In his recent book, Robert Glennon describes numerous similar "water follies". Generally speaking, the lesson that has been learned all over the world over the past few decades is that smaller-scale, bottom-up, in-basin solutions are almost always more sustainable over the long run.
3. The report downplays the role of the agricultural sector in the overall water balance. In fact, about 80% of the consumptive use in the Red River Valley is in that sector. That is important because of the growing trend to reallocate water from lower valued agricultural uses to higher valued municipal and industrial uses. By merely assuming that all demands must be met with new supplies, significant opportunities for voluntary reallocation may be being missed.

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Response to Comment 1

Your comment is noted. The proposed project at the time of the 1977 International Joint Commission report involved a much larger interbasin transfer of untreated water, largely for irrigation. Reclamation believes that an interbasin transfer of treated water for municipal, rural, and industrial use can be designed to comply with the requirements of the Boundary Waters Treaty.

Response to Comment 2

Reclamation believes that the analysis of future water demands is technically sound. Both in-basin and out-of-basin features that could meet all or part of that demand are considered. The Dakota Water Resources Act required Reclamation to consider a transfer of Missouri River water as one of the options to be evaluated. Reclamation has used an open and public process to involve a wide variety of stakeholders in this process.

Response to Comment 3

Your comment is noted. Reclamation believes that all of the options considered would be sustainable over the 2050 planning horizon.

Response to Comment 4

Reallocation of water from irrigation to municipal, rural, and industrial use is considered in the report, and is used in four of the options. The remaining North Dakota aquifers in the Red River Valley either do not have sufficient safe yield, or are too far from major demand centers to make reallocation practicable.

4. The most important water issue in the basin has always been and will continue to be flooding. The report should deal with implications of interbasin diversions on flood potential. There may be a tendency to downplay that issue because the amounts of water to be diverted are small, and because the diversions could theoretically be shut off during high water periods. But, small diversions inevitably become large diversions over time, and experience elsewhere would suggest that our flood forecasting ability is simply not good enough to allow us to turn the taps on and off in a timely manner.
5. The report should deal much more fully with unintended consequences in the donor regions. A diversion from the Lake of the Woods could affect a broad array of interests including hydropower, water-based recreation and the tourism industry, wild rice production, and municipal and industrial uses. A growing diversion from the Missouri Basin combined with other pressures from further south and west could, for example, increase the possibility of a highly destructive increase in the Chicago Diversion out of the Great Lakes.
6. The study should have at least attempted to deal with climate change. Most studies on this topic have concluded that dry areas like the Great Plains are more sensitive than wet areas to climate variations. All regions with snowmelt flow regimes are likely to exhibit a shift in the seasonal pattern of streamflow from early summer to winter, resulting in more low-flow problems during the summer. Of critical importance to the Great Plains region is the potential impact of climate change on the demand for irrigation water, and on the frequency and magnitude of flooding.

Binational Legal Considerations

1. Any diversions from the Lake of the Woods drainage basin would be governed by the 1925 Lake of the Woods Convention and Protocol, which states that no diversion shall be made from the watershed except by authority of the concerned country and with the approval of the International Joint Commission. In the light of potential impacts in the Lake of the Woods and Winnipeg River areas, and the relevant Convention provision, if the Lake of the Woods diversion option is being seriously contemplated, the two countries should be considering an early reference to the International Joint Commission.
2. While the report speaks of environmental flow needs in the U.S., it does not deal with requirements in Manitoba. Article II of the Boundary Waters Treaty gives downstream parties suffering injury caused by upstream use the same legal rights as a resident in the upstream jurisdiction, raising the possibility of potentially lengthy litigation by affected Manitobans in U.S. courts. The two countries have tended to avoid this confrontational approach by negotiating water apportionment arrangements wherever water supplies are limited. Because consumptive use in the U.S. portion of the basin is now approaching 50% of the flow that is available at the boundary 90% of the time, and because in-stream uses are increasingly being viewed as more and more valuable, it would be advisable for the two countries to begin working towards a water apportionment agreement for the Red River.

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Response to Comment 5

Proposed alternatives would generally be operated during low flow conditions. Furthermore, the Project contribution to river flows would be a small fraction of the channel capacity of either the Sheyenne River or the Red River. Therefore, no contribution to flooding is expected.

Response to Comment 6

Potential impacts to source waters, including the Missouri River and Lake of the Woods, are disclosed in the Draft Environmental Impact Statement. None of the options considered propose to increase diversions out of the Great Lakes.

Response to Comment 7

The potential effects of climate change on basin hydrology are difficult to predict. There are a number of different climate models and some can simulate past climate variability, but all do poorly in modeling short-term climate variability and regional climate variability. While it can be anticipated that increases in temperature and changes in precipitation will affect water resources, whether that will result in reduced or increased flows in the Red River Valley is unknown. We will address this issue in the final environmental impact statement using the best available information.

Response to Comment 8

Your comment is noted. An International Joint Commission reference will be sought if the Lake of the Woods option is identified as a preferred alternative in the environmental impact statement.

Response to Comment 9

Your comment is noted, but your statement that consumptive use in the U.S. portion of the basin approaches 50% of the available flow at the border 90% of the time seems very high.

3. The Boundary Waters Treaty includes a provision to prevent injury to health and property. Article IV reads as follows “shall not be polluted on either side to the injury of health or property on the other” by way of cross-border pollution. Considering the IJC conclusion that the Garrison Diversion would have violated the Treaty, and the recent controversy over the Devils Lake diversion, it would be advisable for the two countries to work towards an early understanding on what would and would not constitute pollution “to the injury of health or property on the other” with respect to any diversion proposals that may be being seriously contemplated.

Acknowledgement

The Program on Water Issues at the Munk Centre for International Studies gratefully acknowledges the legal review of this document provided by Professor Owen Saunders.¹

The Program On Water Issues creates opportunities for highly-talented members of the private, public, academic, and not-for-profit sectors to join in collaborative research, dialogue, and education. The Program is dedicated to giving voice to those who would bring transparency and breadth of knowledge to the understanding and protection of this valuable resource. Since 2002, POWI has provided the public with analyses and opinions on issues relating to water in Canada and the United States. Its location within the Munk Centre for International Studies at the University of Toronto provides access to rich analytic resources, state-of-the-art information technology, and international expertise. The program Director is Adèle M. Hurley.

¹ J. Owen Saunders is Executive Director of the Canadian Institute of Resources Law and Adjunct Professor in the Faculty of Law at the University of Calgary, where he teaches public international law. He has a B.A. (1st Class Hon.) in economics from St. Francis Xavier University and holds law an LL.B from Dalhousie University and an LL.M. from the University of London (London School of Economics and Political Science). He is a member of the Canadian Council on International Law, the International Bar Association, the American Bar Association and the American Society of International Law.

His research interests have included water law, international law, environmental law, natural resources law, and constitutional law. He has written numerous articles on the legal aspects of natural resources management, including transboundary resource management generally and water management specifically. He has acted as an advisor to Canadian and foreign governments and international organizations on resource management and environmental issues. Relevant books he has authored or edited in the area of natural resources law and policy include *Interjurisdictional Issues in Canadian Water Management* (1988); *Growing Demands on a Shrinking Heritage: Managing Resource-Use Conflicts* (co-editor with M. Ross, 1992); *The Legal Challenge of Sustainable Development* (ed. 1990); *Natural Resources Management in a Federal State* (ed. 1986); and *Public Disposition of Natural Resources* (co-ed. with N. D. Bankes, 1984). He was also co-author with Steven Kennett of a report for the Northern River Basins Study entitled *Interjurisdictional Institutions for the Northern River Basins: A Review of Options* (1995). Also in the area of water law, he has acted as an advisor to Environment Canada (on interjurisdictional legal issues relating to the Mackenzie River Basin), to the Prairie Provinces Water Board (on issues of interpretation of the Master Agreement on Apportionment), to Indian Affairs and Northern Development Canada (on water issues arising out of the Mackenzie Valley Resource Management Act) and to the Mekong Secretariat (on interjurisdictional legal issues concerning the use of the Lower Mekong River Basin). More recently, he has served on the binational study team advising the International Joint Commission on its 1999-2000 Water Uses Reference, in which capacity he had the lead role in preparing the legal background paper for the Commission. In 2002 he was a member of the four-person task force created by the Commission to prepare a three-year update on the Water Uses Reference.

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Response to Comment 10

We agree that such discussions would be useful. Section 1(h) (1) of the Dakota Water Resources Act states:

“Prior to construction of any water systems authorized under this Act to deliver Missouri River water into the Hudson Bay basin, the Secretary, in consultation with the Secretary of State and the Administrator of the Environmental Protection Agency, must determine that adequate treatment can be provided to meet the requirements of the Treaty between the United States and Great Britain relating to Boundary Waters Between the United States and Canada, signed at Washington, January 11, 1909 (26 Stat. 2448; TS 548) (commonly known as the Boundary Waters Treaty of 1909).”

Water treatment plants to address the import of Missouri River water are described in the Final Needs and Options Report, chapter four, pages 4-6 through 4-9 of the report. Reclamation also produced a study titled *Water Treatment Plant for Biota Removal and Inactivation Preliminary Design & Cost Estimates, Red River Valley Water Supply Project*, which describes these plants in more detail.