



Water Stewardship

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May 5, 2006

Ms. Alicia Waters  
Northwest Area Water Supply Project Environmental Impact Statement  
Bureau of Reclamation  
P.O. Box 1017  
Bismarck ND 58502 - 1017

## **Northwest Area Water Supply Project/EIS Scoping Comments**

Dear Ms. Waters:

In accordance with the Notice of Intent published in the *Federal Register* on March 6, 2006 (71 *Fed. Reg.* 11226), we are writing to comment upon the scope of the proposed environmental impact statement (“EIS”) for the Northwest Area Water Supply Project (“NAWS” or the “Project”). We are pleased to provide these comments which we hope you find helpful and constructive as the scope of the draft EIS is identified.

The NAWS Project is the first-ever Federal project to artificially connect the Missouri River Basin, which drains south to the Gulf of Mexico, to the Hudson Bay Basin, which drains north to Hudson Bay and in which Manitoba is located. The Missouri River and Hudson Bay watersheds are individually unique and ecologically distinct and are notable for their different species compositions, including pathogenic species such as bacteria, viruses, protozoa, fungi and other microscopic plant and animal parasites. As proposed in 2001, the Project would move about 3.6 billion gallons of water a year from one watershed to the other. In so doing, it would threaten to introduce non-native and potentially destructive organisms into the Hudson Bay watershed and thus, into the Manitoba environment. In these circumstances, as set forth below, the Bureau must undertake the most searching review under NEPA to ensure that it acts with a full understanding of the risks and consequences of, and alternatives to, the Project.

For almost a decade, Manitoba has participated in public processes related to compliance by the Bureau of Reclamation (“BOR” or the “Bureau”) with its obligations under the National Environmental Policy Act, 42 U.S.C. § 4321, *et seq.* (“NEPA”), in connection with the NAWS Project. Among other things, Manitoba submitted written comments on BOR’s 1997 Draft Environmental Assessment for the Project; participated in an administrative appeal of the Bureau’s 2001 decision not to prepare an EIS for the Project; and subsequently challenged that decision in litigation in Federal District Court (*Government of the Province of Manitoba v. Norton*, Case No. 1:02CV02057-RMC (D.D.C.)). The current scoping process is the direct result of Judge Rosemary Collyer’s February 3, 2005 merits decision in this litigation (2005 U.S. Dist. LEXIS 5142 (D.D.C. Feb. 3, 2005)).



Manitoba has long-standing concerns about inter-basin diversions of water because of the costly, unpredictable, and irreversible economic and environmental damage that may occur. Manitoba has consistently raised such concerns regarding any parts of the Garrison Diversion project, including NAWS, which involve inter-basin transfer of water. Moreover, Manitoba strongly believes that the design of the Project as proposed in 2001 was outdated and, more particularly, insufficient to protect against the risk that the Project would transfer alien and invasive species into the Hudson Bay Basin and that such species would survive and propagate in their new environment, with potentially devastating consequences for Manitoba and its aquatic resources. Indeed, it is precisely the potential for this kind of “catastrophic” harm that was highlighted in Judge Collyer’s February 3, 2005 decision (*see* 2005 U.S. Dist. LEXIS 5142, at \*64). Manitoba has the strongest interest in ensuring that the design of the Project is adequate to meet the Province’s environmental concerns. Thus, Manitoba strongly believes that the issues of biota transfer and Project alternatives, including alternative approaches to water treatment south of the basin divide, need to be comprehensively assessed in order to ensure that the potential for irreversible harm to Canadian waters and ecosystems is fully understood and reduced to a degree acceptable to Manitoba.

Manitoba has a number of comments regarding the scope of the NAWS EIS:

- (1). **Project Purpose and Need.** Under the regulations of the Council on Environmental Quality (the “CEQ regulations”) and the internal NEPA procedures of the Department of the Interior (the “Department”), the first issue to be addressed in an EIS is the “underlying purpose and need” for the project (40 C.F.R. § 1502.13; 516 DM 4.9). The Bureau’s Notice of Intent states that “[t]he purpose of the proposed action is to deliver treated water to affected communities from the Missouri River using methods and measures to minimize the risk of non-native biota transfer” (71 *Fed. Reg.* at 11227). This statement has two significant problems.

First, in limiting the purpose to the delivery of Missouri River water, BOR has defined the scope of the EIS in an unduly narrow manner. In fact, BOR’s statement is notably narrower than the purpose of the Project as stated in the Bureau’s Final Environmental Assessment, dated April 2001 (the “Final EA”). The Final EA states (at 1) that the purpose of the Project is “to provide a reliable source of high quality water to northwestern North Dakota for municipal, rural and industrial uses.” Similarly, in the Draft EIS for the Red River Valley Water Supply Project, dated December 30, 2005 (the “RRVWSP Draft EIS”), BOR stated that the purpose of that project was “to meet the ‘comprehensive water quality and quantity needs of the Red River Valley’ . . . through year 2050” (RRVWSP Draft EIS, Executive Summary at 3). Such broader statements of purpose are much more consistent with NEPA’s requirements than the approach taken by the Bureau in its Notice of Intent. There is no *a priori* reason to conclude that water sources north of the divide are necessarily inadequate to achieve the Project’s purposes. Manitoba submits that the goal of Project must not be articulated in terms of providing water from any particular source. When Project purpose is so defined, the analysis would inevitably be skewed, since it would avoid the need to give serious consideration to in-basin alternatives. Rather, the



Project's purpose and need should be framed in terms of providing water of sufficient quality and quantity to meet to user needs from whatever appropriate sources may be available.

Second, in the Notice of Intent, the stated goal of the Project is only to "minimize" risk. However, the International Joint Commission (the "IJC") stated in 1977 that construction of elements of the Garrison project should not take place until the U.S. and Canadian governments "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* 121 (the "1977 IJC Report")).<sup>1</sup> Manitoba is not suggesting that the Project's goals must be formulated in such a way that the Project would be presumed to carry "zero risk." Nonetheless, "minimization" is far too vague a standard. Manitoba believes that the goal of the Project should be formulated, as the IJC recommended, as reducing risks to the point that they are no longer a matter of concern to the potentially affected parties. Further, no matter how the substantive goal is formulated, it must be made clear that, consistent with the IJC's 1977 recommendations, Project risks should be acceptable to both the United States and Canada before a final decision is made.

(2). **The Project's Legal Setting.** An EIS must consider the legal setting in which a project takes place. At least two elements of the legal setting of the NAWS Project are important:

a. **The DWRA and the BWT.** The Dakota Water Resources Act, Pub. L. No. 106-554, App. D, Title VI, §§ 601-611 (the "DWRA"), provides that the Secretary of the Interior (the "Secretary") "must determine that adequate treatment can be provided to meet the requirements of the [Boundary Waters Treaty of 1909]" (DWRA, sec.1(h)(1)). For its part, the Boundary Waters Treaty of 1909, T.S. 548, 26 Stat. 2448 (the "BWT"), imposes an independent obligation on the Executive Branch to ensure consistency of any project with the United States' obligations under BWT, especially the requirement in Article IV 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.*" The BWT comes into play because water from the Project, once it crosses the basin divide, would drain into rivers and streams flowing north into Manitoba, including the Souris River, which are subject to the United States' obligations under the BWT. Even though Secretary Babbitt made the DWRA-required determination in January 2001 for the action then proposed, the EIS still must assess, among other matters, whether *all* project alternatives are consistent with the BWT, including whether they meet any applicable water quality/biota transfer

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<sup>1</sup> Subsequently, the Garrison Diversion Unit Commission, in its December 20, 1984, final report, reached similar conclusions, underscoring that municipal, rural and industrial ("MR&I") systems, like NAWS, should provide treatment "to avoid biota transfer to Canada", and stating that any "Missouri River waters conveyed into the Hudson Bay drainage . . . shall be treated in a manner determined acceptable pursuant to United States-Canadian consultations."



objectives established by the IJC and/or its subsidiary bodies. In particular, the International Joint Commission made the following key recommendation as a result of its 1975 review of the original Garrison Diversion Project:

*“That, if and when 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, then the construction of that portion of the Garrison Diversion Unit which would affect waters flowing into Canada may be undertaken provided the following conditions are met:*

- (a) *Any agreed modifications or other measures required to resolve the interbasin transfer issue are incorporated into the project.”*

Even though the Garrison Diversion Project has evolved over the years, the IJC’s recommendation is just as appropriate and meaningful now in 2006 as it was in 1977. Manitoba believes that this recommendation must be considered when evaluating alternatives in the EIS.

- b. **The Invasive Species Executive Order.** The Final EA did not examine closely invasive species issues in accordance with Executive Order 13112, 64 *Fed. Reg.* 6183 (Feb. 8, 1999), issued by President Clinton in February 1999, let alone make a formal invasive species determination as recommended by the U.S. Environmental Protection Agency (“EPA”) at the time. Executive Order 13112 requires that Federal agencies “not authorize, fund, or carry out actions that [they] believe[] are likely to cause the introduction of invasive species in the United States or elsewhere,” unless they determine that “the benefits of such actions clearly outweigh the potential harm caused by invasive species; and all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the action” (Executive Order 13112, Sec. 2(a)(3)). At a minimum, the implications of Executive Order 13112 for the NAWS Project need to be assessed under NEPA, and the EIS would provide an appropriate vehicle for assessing the costs and benefits of agency action as specified in the Executive Order.

- (3). **Consideration of Alternatives.** Under the CEQ regulations, the consideration of alternatives is the “heart” of an EIS (40 C.F.R. § 1502.14). There are a number of elements of the alternatives analysis that BOR must undertake:

- a. **Exploring the Full Range of Reasonable Alternatives.** The CEQ regulations require the “rigorous” exploration of “all reasonable alternatives” (40 C.F.R. § 1502.14(a); *see also* 516 DM 4.10A.(1)(2)). Three alternatives, in particular, deserve careful consideration: (a) development of new and enhanced in-basin sources of water supply; (b) comprehensive biota pre-treatment to meet treated water goals



outlined below, such as Dissolved Air Flotation (“DAF”<sup>2</sup>) followed by filtration and ultraviolet (“UV”) disinfection; and (c) “full treatment” consistent with the requirements of the Safe Drinking Water Act, 42 U.S.C. § 300f., *et seq.* (the “SDWA”), south of the basin divide.

With respect to new and enhanced in-basin sources of water supply, BOR needs to proceed with the understanding that there is no *a priori* reason to conclude that water sources north of the divide are necessarily inadequate to achieve the Project’s purposes. It thus, must fairly and objectively explore ways in which various “in-basin” options might meet the water needs of North Dakota communities such as, for example, development of new and existing in-basin ground and surface water supplies.

With respect to out-of-basin options and the treatment technologies which might be utilized, there should be several elements in the Bureau’s analysis.

First, Manitoba believes that the greatest concern arises with respect to microbiological components (viruses, bacteria, protozoa, myxozoa, etc.) rather than macro flora and fauna (like plants, fish, invertebrates, etc.). Thus, it is necessary to identify the microbiological components of greatest concern. The following are some of the potential biota of concern that have been identified and that we believe should be discussed in the EIS:

- Bacteria -- Bacterial Kidney Disease (*Renibacterium salmoninarum*), Furunculosis (*Aeromonas salmonicida*), Streptococcal fish infections (*Streptococcus faecalis*), Myxobacterial infections (*Flexibacter* spp.), *Pseudomonas* spp., *Vibrio* infections (*Vibrio* spp.), *Edwardsiella* spp., Mycobacterial fish infections (*Mycobacterium* spp.), Enteric Redmouth Disease (*Yersinia ruckeri*).
- Viruses -- Infectious Pancreatic Necrosis Virus (*Aquabirnavirus* spp.), Infectious Hematopoietic Septic Viral Necrosis (*Rhabdoviridae*), Viral Haemorrhagic Septicemia (*Novirhabdovirus* spp.), Channel Catfish Virus, Spring Viremia of Carp (*Rhabdovirus carpio*).
- Parasitic Protozoa -- Flagellates (Phylum *Mastigophora*), Amoebae (Phylum *Rhizopoda*), Coccidia (Phylum *Apicomplexa*), Myxosporidia (Phylum *Myxozoa*, including *Myxobolus cerebralis*), Ciliates (Phylum *Ciliophora*).

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<sup>2</sup> Dissolved Air Flotation (DAF) involves a process whereby the removal of suspended solids is achieved by the introduction of minute air bubbles which adhere to the suspended particles and float them to the surface, forming a layer which can be easily removed.



- Fungi -- Branchiomycosis (*Branchiomyces sanguinis*, *Branchiomyces demigrans*), Oomycetosis (*Achlya spp.*, *Saprolegnia spp.*), Ichthyophonosis (*Ichthyophonus hoferi*), *Exophiala spp.*, Coelomycetosis (*Phoma herbarum*).

Second, because the process of identifying invasive species is a dynamic one, and because modification of water quality and characteristics in the Missouri River Basin is likely to occur over time as a result of human activity, no one species of biota should be considered to be a surrogate for all potential threats. Rather, the soundest way to proceed is to incorporate the treatability of all *classes* of aquatic pathogens into the analysis of any treatment system's performance.

Third, it is necessary to consider treatment system design based upon known classes of organisms of concern presently in the Missouri River Basin and their related treatment characteristics. Adopting this approach will provide safeguards against future unknown organisms that may be discovered that have similar characteristics as these broad classes. Designs should be developed that provide for achievement of a suitable level of treatment within the Missouri River Basin and for disposal of waste residuals from such a treatment process within that Basin. Treated water goals are outlined below that should be applied in developing and assessing the comprehensive biota pre-treatment alternative:

<u>Parameter</u>	<u>Proposed Treated Water Goals Prior to Inter-Basin Transfer for the Comprehensive Biota Pre-Treatment Alternative</u>	<u>Comments</u>
Turbidity	<0.3 NTU	This is necessary to ensure effectiveness of disinfection agents such as chlorine against viruses.
Disinfection-resistant Protozoa such as <i>Myxobolus cerebralis</i>	3 log (99.9%) removal	This should be achieved in a minimum of two separate barriers prior to transfer across the continental divide from the Missouri River Basin to the Hudson Bay Basin.
Other Protozoa with similar characteristics as <i>Giardia</i> and <i>Cryptosporidium</i>	4 log (99.99%) total removal/inactivation with a minimum of 3 log by removal	This should be achieved in three separate barriers prior to transfer across the continental divide from the Missouri River Basin to the Hudson Bay Basin.
Organic carbon	50% reduction	This is necessary to ensure effectiveness of disinfection agents such as UV, to minimize disinfectant decay, and to minimize disinfection by products.



<u>Parameter</u>	<u>Proposed Treated Water Goals Prior to Inter-Basin Transfer for the Comprehensive Biota Pre-Treatment Alternative</u>	<u>Comments</u>
Viruses	4 log (99.99%) inactivation	This can be achieved through disinfection.
Transmissivity	90-95%	This is necessary to ensure effectiveness of UV disinfection against <i>Giardia</i> and <i>Cryptosporidium</i>

Because turbidity levels may significantly impact the effectiveness of disinfection systems, especially those that rely upon chlorine and UV treatment, turbidity goals should be established that provide sufficient assurance that disinfection-resistant organisms will not be released into the Hudson Bay Basin ecosystem, either through the transmission system or the waste removal system.

Fourth, in designing the system, it is going to be essential to take into account the different treatment resistance of different biota. While some newer treatment technologies, for example, UV, may be effective against some pathogens, such as *Cryptosporidium*, they may at the same time be relatively ineffective against a number of other organisms, including *Myxobolus cerebralis* (“whirling disease”). Further, inactivation may not provide as complete a defense against potential invaders as actual removal.<sup>3</sup> In these circumstances, particular consideration should be given to a multi-barrier approach as offering the most promise of success. For example, filtration systems, which are of proven effectiveness against both *Cryptosporidium* and *Myxobolus cerebralis*, are more consistently reliable in removing biota of concern from the water stream, similar to the reliability that is provided in drinking water systems. The most promising of these appears to be DAF combined with filtration in a single tank followed by UV disinfection -- a system that offers cost and spatial savings with little impact on process flexibility or reliability. Such a system would provide a number of benefits, including improved removal of pathogens, colour, organic flocculants, and algae, reduced volume of higher concentrated waste, and lower capital cost and life cycle cost.

Fifth, preliminary work done by Manitoba suggests that DAF/filtration followed by UV disinfection would be cost effective and would meet the goals proposed above for the comprehensive biota pre-treatment alternative. According to the Final EA, the

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<sup>3</sup> The EIS should consider, for example, whether, even though UV may inactivate pathogens, the pathogens may not necessarily be killed and may be able to repair themselves after UV irradiation and propagate in the new environment.



treatment plant proposed for the NAWS Project in 2001 was estimated to cost approximately \$15.9 million (U.S.). A DAF-filtration process contained within a single tank followed by UV disinfection to form a multiple barrier could be constructed for \$20.6 million (U.S.). This represents a relatively small proportion of the \$145 million (U.S.) cost estimated for the entire Project in 2001. Further, there would be savings in reduced pumping costs and elimination of certain sludge removal operations at the Minot plant.

Sixth, whatever the treatment option, it will be necessary to develop protocols regarding subsequent monitoring, actions to be taken in the event of system failure, and performance reviews. At the same time, the decision should be flexible enough to allow installation in the future of alternative technologies that can achieve even greater removal efficiency at still lower capital and life cycle costs.

- b. **The “No Action” Alternative.** An essential element of the alternatives analysis involves full, fair and unbiased consideration of the “no action” alternative (40 C.F.R. § 1502.14(d); for example, *Bob Marshall Alliance v. Hodel*, 852 F.2d 1223 (9<sup>th</sup> Cir. 1988); *Van Abbema v. Fornell*, 807 F.2d 633 (7<sup>th</sup> Cir. 1986)). The Department’s NEPA policies identify two interpretations of the no action alternative: “‘no change’ from a current management direction” and “‘no project’ in cases where a new project is proposed for construction” (516 DM 4.10A.(6)). Despite the fact that some construction for the Project has been undertaken, Manitoba believes that the latter interpretation is most appropriate in this case. Otherwise, the Department would be treating the Project based on Missouri River supply as essentially a *fait accompli*.

In the broadest sense, if the Project goal simply is better/higher quality water to users north of the basin divide, as Manitoba has suggested above, then “no action” here must mean no new project for water supply, whether it relies on in-basin options or the Missouri River option. In fact, this is precisely how BOR defined the “no action” alternative in the Final EA. In the Final EA (at 24), BOR stated that the “no action” alternative would simply “require the ten-county regional area to rely on existing water supplies as well as treatment facilities.” Judge Collyer, in her February 3, 2005 opinion, held that the Final EA was inadequate to support the Bureau’s decision to proceed with the Project in 2001 (2005 U.S. Dist. Lexis 5142, at \*64). Necessarily this means that the Bureau must revisit its decision following completion of the EIS. Among other things, in so doing, the Bureau must consider the validity of its prior determination that only a Missouri River-Minot pipeline would meet the Project goals as then defined.

In short, there is no basis to formulate the “no action” alternative any differently in the EIS than in the Final EA. Indeed, to do so would run counter to Judge Collyer’s ruling regarding the inadequacy of the Final EA and inappropriately relegate in-basin options, which may prove to be viable and environmentally preferable, to the “no action” category. Thus, the EIS should define “no action” to mean not just eliminating the Missouri River-Minot pipeline but also eliminating any development



of in-basin sources to serve North Dakota's needs for a sufficient quantity/quality of water.

- (4). **Geographic Scope.** A major part of an EIS is its discussion of the “affected environment” (40 C.F.R. § 1502.15). The Bureau’s Notice of Intent states that “[t]he geographic scope of the DEIS includes areas and resources within the United States affected by water diversion and delivery for NAWS Project purposes” (71 *Fed. Reg.* at 11227). Manitoba strenuously objects to BOR’s effort to narrow the scope of analysis to the U.S. environment and to exclude the environment of Canada. The environment affected by the NAWS Project includes the Hudson Bay Basin as a whole, which encompasses both the United States and Canada, as well as the downstream Missouri River. The Bureau must, in such circumstances, analyze reasonably foreseeable transboundary effects. Such analysis is expressly called for in the July 1, 1997 CEQ “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,” which states, “*NEPA requires agencies to include analysis of reasonably foreseeable transboundary effects of proposed actions in their analysis of proposed actions in the United States.*” (see <http://ceq.eh.doe.gov/nepa/regs/transguide.html>). Moreover, as a practical matter, impacts within the United States cannot effectively be understood without consideration of correlative impacts in Canada. In this case and in other words, Canada basically provides a mirror into the United States’ own environment. Finally, including an analysis of transboundary effects is consistent with how the Bureau has approached this issue in the RRVWSP Draft EIS.<sup>4</sup> If such analysis is feasible for the RRVWSP Draft EIS, it is certainly feasible for NAWS. There is no basis for proceeding differently here.
- (5). **Assessment of Environmental Consequences.** Under the CEQ regulations, the EIS must fully explore the “environmental consequences” of the proposed action and its alternatives (40 C.F.R. § 1502.16). There are four elements of this obligation that are especially important in the NAWS context:
- a. **Truly Taking a “Hard Look” at Consequences.** The major fault of the Final EA was the Bureau’s failure to take any serious look at the environmental consequences of accidental biota transfer. Instead, the Bureau simply dismissed these consequences by characterizing the risks of such a transfer as low. Judge Collyer found this impermissible. Referring to the mid-1990s decision to rely on pre-treatment south of the basin divide, she stated,

*“That decision has never been seriously re-visited. Instead, BOR and North Dakota have dedicated themselves to reducing the likelihood of pipeline releases and have refused -- despite EPA's warnings, despite*

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<sup>4</sup> The RRVWSP Draft EIS states (Executive Summary at 3) that the Bureau is undertaking such an analysis for that project as a “voluntary measure.” However, the important point is that the analysis can be and is being undertaken for a similar project.



*Canada's position, despite Manitoba's TetrES report, and, most critically, despite acknowledging that chloramination will not prevent Cryptosporidium, WD, and other pathogens from crossing the divide - - to change their position. Whether this is the wisest action is not for litigation to decide. What has resulted from this obduracy, however, is a two-fold problem: there has been no study of the consequences of leakage from the pipeline . . . and, therefore, no evaluation of the consequences of failure compared to more complete treatment at the source” (2005 U.S. Dist. LEXIS 5142 at \*59-60).*

The Judge concluded,

*“Federal Defendants argue that the risks of leakage are low and, therefore, that no further study is necessary. They repeatedly provide varied estimates that more than ninety-nine percent of biota will be disinfected under NAWS. While facially compelling, the argument ignores the fact that certain biota have been identified that may be impervious or highly-resistant to the planned treatment measures. Therefore, even a low risk of leakage may be offset by the possibility of catastrophic consequences should any leakage occur. Without some reasonable attempt to measure these consequences instead of bypassing the issue out of indifference, fatigue or through administrative legerdemain, the Court cannot conclude that BOR took a hard look at the problem” (Id. at \*64).*

The Bureau now has the opportunity in the EIS to remedy these deficiencies by undertaking a “reasonable attempt to measure . . . consequences” of its actions. The Bureau’s analysis in the EIS should consist of several parts.

First, the EIS should generally discuss the threat that non-indigenous species pose to ecological integrity, species diversity, rare and endangered species, and the composition and abundance of natural communities, with severe environmental, economic and social consequences. The zebra mussel invasion in the Great Lakes, for example, has caused hundreds of millions of dollars of damage to infrastructure and has caused significant ecological impacts.

Second, the EIS should consider the extent to which the Hudson Bay Basin contains different plant and animal species than those found in the Missouri River Basin, including important recreational and commercial species of fish that may not be resistant to non-native, disease-causing organisms. At the same time, it should identify the numerous organisms found in the Missouri River Basin and not found in the Hudson Bay Basin, including viruses, bacteria, rickettsias, protozoa, fungi, and microscopic eggs or larvae of macrobiotic invertebrates, that could cause substantial harm should they be introduced from one Basin to the other. Many of these are identified above and were previously identified in the August 20, 2001, report of TetrES Consultants Inc. (the “TetrES Report”), submitted to the Bureau in connection



with Manitoba's administrative appeal of the Bureau's decision not to prepare an EIS at that time (*see* TetrES Report at 2-5). Particular attention should be given, for example, to *Myxobolus cerebralis*, a parasite found in the Missouri River Basin but not in the Hudson Bay Basin. This parasite attacks fingerling trout and other salmonid species, causing fish to swim erratically and have difficulty feeding and avoiding predators and, in severe infections, causing high rates of mortality in young-of-the-year fish (*see* <http://www.whirling-disease.org>).

Third, the EIS should consider the mechanisms by which the NAWS Project might introduce alien and invasive species into the Hudson Bay Basin. As outlined in the TetrES Report, these include, among others: catastrophic system failures, both at the treatment facility in the Missouri River Basin and in the transmission pipeline before the water reaches Minot; normal and expected leakage from line joints and connectors; and discharges to the environment of backwash water and residue or sludge from treatment processes at Minot (TetrES Report at 9, 21-24). Human error in both operation and response to system failures adds to the risks.

Fourth, in connection with these mechanisms, the Bureau should endeavor to assess, as was done in the TetrES Report, the potential invasive species likely to be released, on a per-event basis, annually and over the lifetime of the Project. The TetrES Report, for example, estimated that, because one disinfectant-resistant organism can be assumed to occur in each gallon of inadequately treated Missouri River water transferred northward across the basin divide, about 3.6 billion disinfectant-resistant organisms would likely be transferred each year (TetrES Report at 21). Of these, TetrES estimated that 256,000 disinfectant-resistant organisms would be expected to be lost each year, on average, due to catastrophic failure such as line breakage and an additional 3.6 million disinfectant-resistant organisms would be expected to be lost through routine, undetected and predictable leakages (*Id.* at 23). Finally, the TetrES Report estimated that the remaining organisms (approximately 3.596 billion) would be expected to be concentrated in filter backwash and sludge at Minot, North Dakota, water treatment facility and would require handling and potential disposal within the Hudson Bay Basin (*Id.* at 9-10).

Fifth, the EIS must closely examine the environmental and economic *consequences* of foreign biota being transferred and establishing themselves in their new environment. As Judge Collyer found, the introduction of non-indigenous species into the Hudson Bay Basin could cause "catastrophic" and "devastating" harm (2005 U.S. Dist. LEXIS 5142 at \*64, 68). Once alien species are established in a new environment, they can produce profound changes in aquatic ecosystems that can include a decline in the abundance of native species, extirpation of rare or endangered species, introduction of new diseases to native populations, alteration of the gene pool of native species and reductions in reproductive success, genetic integrity and biodiversity. In its 1977 report on the broader Garrison Diversion Project, the IJC concluded that the introduction of non-indigenous Missouri River Basin species into the Hudson Bay Basin could cause a reduction of 30%-75% of the commercially



- valuable species found in Lake Winnipeg (1977 IJC Report at 56). Even the Bureau's Final EA acknowledged (at 70, 117) that the transfer of Missouri River biota as a result of the NAWS Project may "result in replacement of native or other desirable species with less desirable ones," that the inter-basin transfer of biota is "[o]ne of the greatest concerns for irreversible commitment of resources" and that "[m]ost often, when this [inter-basin transfer] occurs, the damage is not reversible." What is now required is a sustained and serious effort by the Bureau to update these assessments and examine in depth the environmental and economic harm that the Project could entail.
- b. **Consideration of Transboundary Effects.** As noted above, BOR has narrowly defined the geographic scope of the Project. However, as explained above, the NAWS Project poses significant risks to the environment of Canada and even impacts within the United States cannot truly be understood without understanding what consequences may occur within Canada. Once BOR recognizes the appropriateness of more broadly defining the geographical scope of its actions, then BOR must proceed to assess potential consequences to the environment in Canada. Such an approach is called for by the 1997 CEQ guidance. It is, moreover, the approach taken in the RRVWSP Draft EIS and so is clearly feasible. There is no reason BOR cannot and should not undertake such an assessment for NAWS. Manitoba stands ready and willing to cooperate with BOR and provide baseline data and information about the Manitoba environment that will assist BOR in preparing an EIS that properly considers transboundary effects.
- c. **Cumulative Impacts.** An EIS must consider "cumulative impacts" (40 C.F.R. § 1508.25(b)(2)). As defined in the CEQ regulations, "*Cumulative impact' is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period time*" (40 C.F.R. § 1508.7). In the context of NAWS, consideration of cumulative impacts must at a minimum involve both the Devils Lake outlet and the RRVWSP. The North Dakota State-financed Devils Lake outlet was completed in the late summer of 2005 and could operate this year at 100 cubic feet per second for the period allowed by the North Dakota Department of Health permit (21,223 acre feet per year). The RRVWSP, as noted above, is currently undergoing NEPA review and could involve the transfer of substantially greater volumes of water (between 113,702 and 142,380 acre feet per year) into the Hudson Bay Basin (RRVWSP Draft EIS, Executive Summary at 9). Cumulative impacts from these projects could have serious and permanent effects on Manitoba's aquatic environment downstream of the confluence of the Assiniboine River and the Red River and including Lake Winnipeg.
- d. **Incomplete and Unavailable Information.** In considering the biota transfer issue, BOR may well encounter "gaps in relevant information or scientific uncertainty." For



example, relatively little may be known about some of the pathogens found in the Missouri River Basin, the likelihood that they would become established north of the basin divide if they were accidentally released into the environment and the damage that they might cause if such eventualities occurred. The CEQ regulations address this problem in 40 C.F.R. § 1502.22. The regulations specify that, if information is not known and the cost of obtaining the information is not “exorbitant,” the agency should proceed to develop and include the information in the EIS. If the information is not known and not obtainable, the agency must “weigh the need for the action against the risk and severity of possible adverse impacts were the action to proceed in the face of uncertainty.”

We hope that these scoping comments are useful to the Bureau. We look forward to working with the Bureau as the NEPA process proceeds.

Sincerely,



Dwight Williamson, Director  
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