RECLAMATION

Managing Water in the West

Record of Decision for the Northwest Area Water Supply Project Final Supplemental Environmental Impact Statement

Burke, Bottineau, Divide, McHenry, McLean, Mountrail, Pierce, Renville, Ward and Williams counties in North Dakota

Approved:

Michael J. Ryan, Regional Director
Great Plains Region
Bureau of Reclamation
Department of the Interior

August 21, 2015
Date

Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

CONTENTS

ACRONYMS

BMPs	best management practices
CEQ	Council on Environmental Quality
Corps	U.S. Army Corps of Engineers
DAF	dissolved air flotation
EPA	U.S. Environmental Protection Agency
IMA	Impact Mitigation Assessment team
NEPA	National Environmental Policy Act
OM&R	operation, maintenance and replacement
Project	Northwest Area Water Supply Project
ROD	Record of Decision
SCPP	Snake Creek Pumping Plant
SEIS	Supplemental Environmental Impact Statement
Service	U.S. Fish & Wildlife Service
UV	ultra violet
WTP	water treatment plant
	pump symbol

Introduction

This Record of Decision (ROD) documents the Department of the Interior, Bureau of Reclamation's (Reclamation) selection of the Missouri River and Groundwater Alternative for the Northwest Area Water Supply Project (Project). The Regional Director of Reclamation's Great Plains Region is the responsible official for the decision made in this ROD. The Federal decision being made is the selection of an alternative that meets the purpose and need of the proposed action. As the lead agency for the purposes of compliance with the National Environmental Policy Act (NEPA) of 1969, Reclamation prepared the Supplemental Environmental Impact Statement (SEIS) for the proposed action. Five alternatives, including no action and four action alternatives were evaluated in the Final SEIS. Reclamation's Preferred Alternative, developed from the alternatives analyzed in detail, was identified in the Final SEIS.

The Final SEIS was prepared in response to an order from the U.S. District Court for the District of Columbia. Reclamation has taken a hard look at the potential impacts associated with the proposed action as required by NEPA. Analyses within the Final SEIS address the issues identified in the court order and in addition, the SEIS updates other analyses presented in prior NEPA evaluations.

As a means of providing transparency throughout this NEPA process, Reclamation used a variety of documents and meeting styles to share information as well as gather input from the public. Displays, website, presentations and a Project newsletter were used to provide information to the public and a public hearing was held to gather comments on the Draft SEIS. The full text of the SEIS and the associated appendices contain the technical information, graphics, maps, etc. to fully disclose the alternatives evaluation and the potential resource effects; an executive summary of the SEIS was also prepared and distributed to all interested parties. The executive summary is a concise description of the technical information along with graphics and photographs to illustrate the data and summarize the effects.

Specific agencies were invited to participate as cooperating agencies in the preparation of the SEIS in accordance with the Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 CFR Parts 1501.6). Reclamation invited agencies with jurisdiction by law and those with special expertise to join the Cooperating Agency Team. The federal, state and local agencies that accepted the invitation to participate as a cooperating agency included: U.S. Army Corps of Engineers (Corps), U.S. Environmental Protection Agency (EPA), North Dakota State Water Commission, Garrison Diversion Conservancy District, and the City of Minot, North Dakota. The cooperating agency team included experts from each agency who worked on collaborative efforts pertaining but not limited to: data sharing and accession, data analysis and water user surveying.

Summary of Action

The proposed action is to construct a project that provides drinking water to local communities and rural water systems in northwestern North Dakota. Ten counties are included in the service area and some of these counties are located within the Missouri River basin while the others are located within the Souris River basin which is a sub-basin of the Hudson Bay basin. The Project is a bulk water supply system that will serve the municipal, rural and industrial water needs of communities and rural water systems in the service area. The Project will supply water to specific delivery points, and each community or rural water system will then be responsible for connecting the Project's distribution pipeline to their water system and delivering water to end users. Figure 1 shows the communities and rural water systems within the Project service area.

The Project is needed because existing water supplies are not of sufficient quality or quantity to reliably meet current needs or projected growth in the Project area. The city of Kenmare's groundwater source violates the primary drinking water standard for arsenic, and many Project members rely on water sources that do not meet secondary standards. In addition to water quality issues, several communities and rural water systems currently have water shortages or would face water shortages in the future using their existing water sources. In addition to the water quality issues experienced throughout the project area, the quantity of water needed is also increasing.

To estimate future water needs, a *Water Needs Assessment Technical Report* (Reclamation 2012) was prepared in support of the SEIS. The analysis completed and documented in this report estimates the population to be served by the Project will increase from approximately 78,000 people to 82,000 people by the year 2060. The Project will include the addition of rural populations into rural water systems or communities. The Project will also serve populations in the more urban areas which are expected to increase. In terms of industrial use, the Project is not designed to supply water for irrigation or for oil and gas production. Some livestock water needs will be served by the Project via rural water districts and are included in the future water demand estimates.

The Final SEIS and this ROD have been prepared in accordance with the NEPA, the CEQ Implementing Regulations for NEPA (40 CFR 1500-1508), and Department of the Interior policies. The decision made here is based on the Final SEIS filed with the EPA (EIS No. 21050099) on April 10, 2015, and noticed by Reclamation and EPA in the *Federal Register* on April 10, 2015 (80 FR 19316 and 80 FR 19347, respectively).

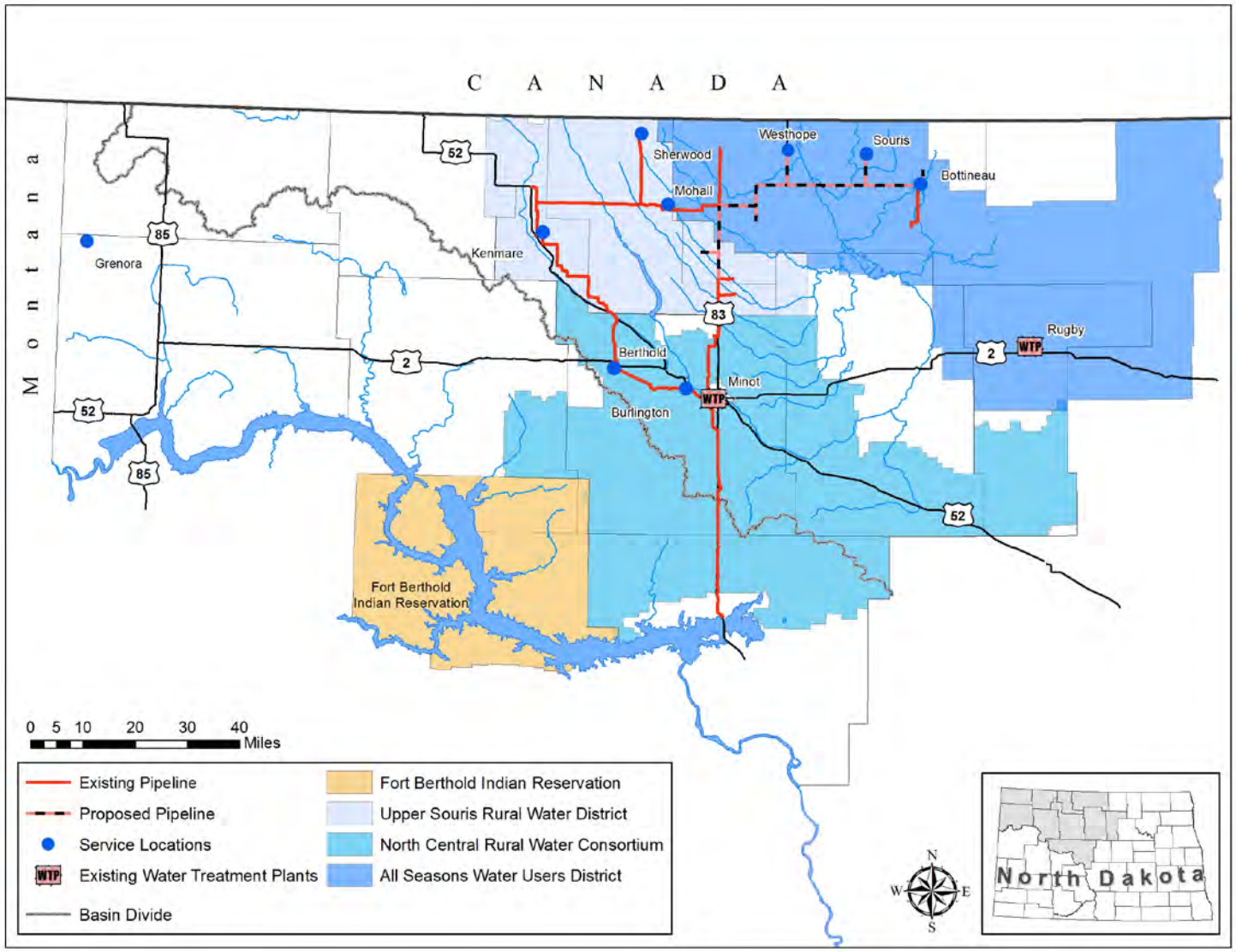


Figure 1 – Northwest Area Water Supply Project Service Area.

Alternatives Considered in the Final SEIS

The Final SEIS analyzed four action alternatives as well as the No Action Alternative which are described below. The action alternatives are designed to provide a bulk water supply to communities and rural water systems to serve their estimated water needs through the year 2060. Each of the alternatives evaluated in the Final SEIS include the same bulk distribution system with the primary difference in the alternatives being the source water. The action alternatives whose principal water sources are within the Souris River basin are referred to as *inbasin alternatives* and the alternatives whose principal water source is within the Missouri River basin are referred to as *Missouri River alternatives*.

Alternatives evaluated in detail in the Final SEIS:

- **No Action Alternative** – This alternative describes the future as it would occur without additional Reclamation funding for the Project, based on the best available data. This alternative includes any reasonably foreseeable federal, state, tribal and local water supply project that may be constructed in the Project area through 2060.

- **Groundwater with Recharge Alternative –** This alternative would use the existing Minot and Sundre aquifer wellfields as the primary sources of water for the Project. The Souris River would be used to provide artificial recharge to the aquifers. The groundwater would be conveyed to and treated at the Minot water treatment plant (WTP) and distributed to Project members through the bulk distribution system.

- **Groundwater with Recharge and the Souris River Alternative -** This alternative would use the existing Minot and Sundre aquifer wellfields as the primary sources of water, with the Souris River providing artificial recharge to the aquifers, as well as providing a direct supply of water to the Minot WTP during certain periods. Groundwater would be conveyed to the Minot WTP, blended with Souris River water when available, and treated and distributed to Project members through the bulk distribution system.

- **Missouri River and Conjunctive Use Alternative –** This alternative would withdraw water from Lake Sakakawea as the primary water supply. Water would be conveyed to a biota WTP at Max (within the Missouri River basin), where it would be treated to reduce the risk of transferring invasive species to the Hudson Bay basin. After treatment at Max, water would be conveyed to the Minot WTP, and blended with Souris River water and groundwater from the Minot and Sundre aquifers. Following treatment at the Minot WTP, water would be distributed to Project members through the bulk distribution system. This alternative includes two options for a new intake and pump station at Lake Sakakawea and five water treatment options for a Biota WTP in Max, North Dakota.

- **Missouri River and Groundwater Alternative -** This alternative would withdraw water from Lake Sakakawea as the primary water supply. Water would be conveyed to a biota WTP at Max (within the Missouri River basin), where it would be treated to reduce the risk of transferring AIS to the Hudson Bay basin. After treatment at Max, water would be conveyed to the Minot WTP and blended with groundwater from the Minot and Sundre

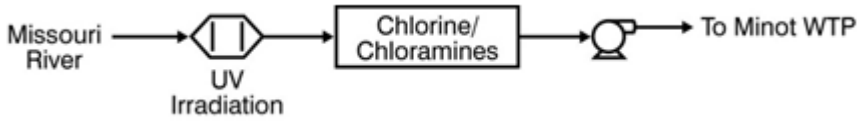
aquifers. No water would be withdrawn from the Souris River. Following treatment at the Minot WTP, water would be distributed to Project members through the bulk distribution system. This alternative includes the same two options for a new intake and pump station at Lake Sakakawea and five water treatment options for a Biota WTP as the Missouri River and Conjunctive Use Alternative.

The Missouri River alternatives include intake and pump station options at Lake Sakakawea, as well as water treatment options at a Biota WTP near Max, North Dakota. The Missouri River alternatives require an intake structure and pump station to withdraw water from Lake Sakakwea and convey it to the Minot WTP for Project use. The intake options included modifying Reclamation's existing Snake Creek Pumping Plant or build a new intake and pump station adjacent to Snake Creek Pumping Plant.

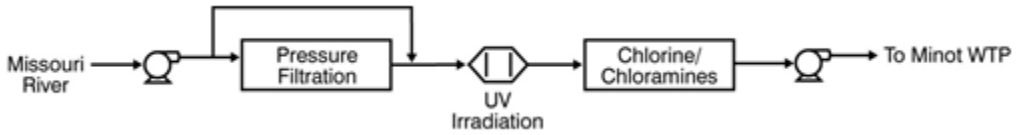
Five Biota WTP options were evaluated. These would provide treatment to reduce the risk of a Project-related transfer of AIS to the Hudson Bay Basin. The options illustrated below represent a range of treatments starting with chemical disinfection (chlorination) and incrementally adding treatment technologies.

Chlorination

Chlorination with UV Inactivation

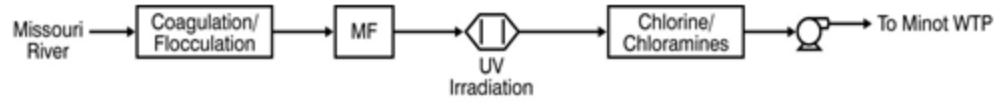


Enhanced Chlorination with UV Inactivation



Conventional Treatment [1]

Microfiltration



[1] DAF is dissolved air flotation that results in sedimentation (clarification).

Environmentally Preferable Alternative

CEQ defines the environmentally preferable alternative as *"… the alternative that will promote the national environmental policy as expressed in NEPA's Section 101. Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources"* (CEQ's Forty Most Asked Questions Concerning CEQ's NEPA Regulations [40 FR 18026-18038]).

Based on the environmental analysis in the Final SEIS, Reclamation has identified the Missouri River and Groundwater Alternative as environmentally preferable, because when it is compared to No Action and the other action alternatives, it will have the most beneficial effects and the fewest adverse effects on the environment.

Permanent impacts associated with construction activities for the alternative will be minimal, and less than construction impacts from inbasin alternatives. Project water withdrawals from Lake Sakakawea under the Missouri River and Groundwater Alternative represent a very small fraction (less than 0.03 percent) of average Missouri River System storage; therefore impacts to the Missouri River and related resources will be negligible. The Missouri River and Groundwater Alternative will not have adverse and unavoidable impacts to the Souris River and its associated resources that would occur as a result of inbasin alternatives. Protected areas including the U.S. Fish and Wildlife Service national wildlife refuges along the Souris River will not be affected by this alternative. Groundwater withdrawals from aquifers within the Project area will be substantially reduced under the Missouri River and Groundwater Alternative, allowing aquifers to recover from years of sustained over use by communities and/or rural water systems.

The Conventional Treatment option selected for the Biota WTP, along with other safeguards incorporated into the main transmission pipeline, provides a robust level of protection against AIS transfer, resulting in a very low risk of a Project-related biological invasion. Given the much higher risk posed by competing non-Project pathways, the overall risk of a biological invasion would be similar under all alternatives, including No Action. Under the selected Missouri River alternative, potential impacts from transfer and establishment of AIS would be comparable to the No Action alternative and inbasin alternatives, because numerous high risk transfer pathways already exist and impacts are dependent on the species transferred; not the source of introduction.

Decision

Reclamation's Great Plains Regional Director, as delegated by the Secretary of the Department of the Interior, has selected the Missouri River and Groundwater Alternative including Modification to Snake Creek Pumping Plant as the intake option and the Conventional Treatment Biota WTP option, for implementation. This alternative will meet future water needs with a combination of Missouri River water from Lake Sakakawea and groundwater from the Minot and Sundre aquifers (see Figure 2). The alternative includes eight water supply components which are described in Table 1.

The estimated construction cost of this alternative is $244 million and the annual operation, maintenance, and replacement (OM&R) cost is $10.7 million. Expenditures on previously constructed Project components, as allowed by the U.S. District Court, total $110.4 million; therefore the estimated cost to complete construction is $133.6 million. The Project sponsor is responsible for the OM&R costs of the Project, with the exception of the portion of the OM&R costs at the Biota WTP that are necessary to ensure compliance with the 1909 Boundary Waters Treaty, as directed by the authorizing legislation. Costs associated with treaty compliance are a federal responsibility. The federal portion of the estimated OM&R costs for the Biota WTP is $2.3 million annually.

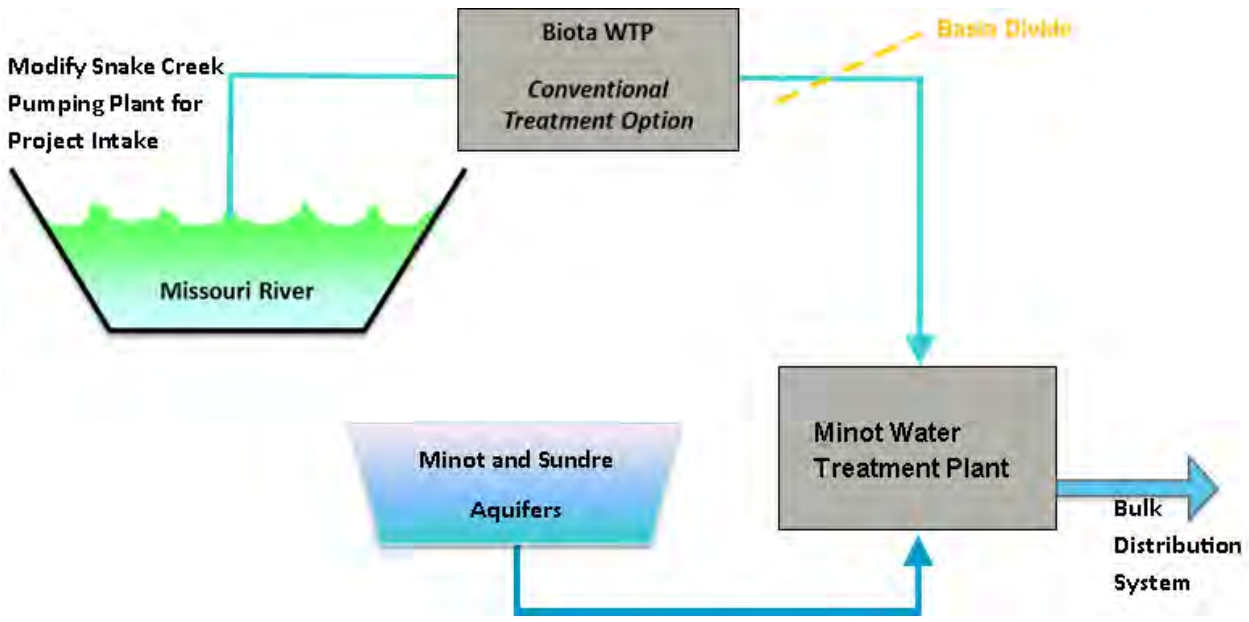


Figure 2 – Missouri River and Groundwater Alternative

Table 1 – Components of the Missouri River and Groundwater Alternative.

Component	Status	Description
Intake and Pump Station at Lake Sakakawea - Modification to Snake Creek Pumping Plant	Proposed	Includes complete removal of one of the three existing pumping units, revising the floor plan, and installing pumps and piping appurtenances specific to Project purposes.
Biota WTP and Pump Station - Conventional Treatment Option	Proposed	Located in Max, ND (within the Missouri River basin), the Biota WTP will include treatment processes designed to reduce the risk of a Project-related transfer of AIS into the Hudson Bay basin. The Conventional Treatment option has been selected for implementation, and is further described below.
South Prairie Storage Reservoir	Proposed	Located along the transmission pipeline between the Biota WTP and the Minot WTP, a 3-million-gallon aboveground storage reservoir that provides operational and emergency storage for the Project.
Transmission Pipeline (buried)	Existing	Construction of the transmission pipeline is substantially complete and will deliver water from the intake on Lake Sakakawea to the Minot WTP. The buried pipeline is approximately 43 miles long.
Bulk Distribution System	Existing & Proposed	Includes pipelines, pump stations, and storage reservoirs that together distribute water from the Minot WTP to Project members
Minot WTP Upgrades	Existing & Proposed	The capacity will be increased from 18 to 27 mgd, and a static mixer will be added to provide adequate blending of the source waters prior to treatment.
High Service Pump Station and Reservoir at Minot WTP	Existing	A high service pump station and associated reservoir were constructed in the immediate vicinity of Minot WTP.
Rugby Water Treatment Facility Upgrades	Existing	This community is not physically connected to the bulk distribution system, but upgrades to increase the capacity of the WTP were completed as part of the Project.

Intake and Pump Station – Modifications to the Snake Creek Pumping Plant

The Snake Creek Pumping Plant (SCPP) is located on the north shore of Lake Sakakawea and is owned and operated by Reclamation. The facility pumps water from Lake Sakakawea to Audubon Lake to serve the McClusky Canal and other features of the Garrison Diversion Unit. An agreement between Reclamation and the Project sponsor will be necessary for the modification and payment for use of this federal facility for Project purposes.

Modifications to the SCPP would include complete removal of one of the three existing pumping units, revising the floor plan, and installing pumps and piping appurtenances specific to Project purposes as described in the Final SEIS.

Biota WTP – Conventional Treatment Option

The U.S. government has not developed water treatment standards, rules, or regulations specifically for use in reducing the risk of an introduction of an invasive species through interbasin water transfers. However, the United States, in its Secretarial Determination, as required under the Dakota Water Resources Act of 2000, has committed to disinfect the Missouri River water to inactivate 3 logs of *Giardia* and 4 logs of viruses prior to water entering the Hudson Bay basin.

Conventional Treatment has been selected as the Biota WTP option for the Project. "Conventional treatment" is defined as a series of processes, including coagulation, flocculation, sedimentation, and filtration, resulting in substantial particulate removal (40 CFR 141.2).

This option includes coagulation and flocculation, followed by sedimentation (clarification) via dissolved air flotation (DAF). "Sedimentation" is defined as a process for removal of solids before filtration by gravity or separation (40 CFR 141.2). The DAF process removes particles through flotation and therefore is considered a type of sedimentation. The clarified water will then be filtered through dual media filters, treated with ultraviolet (UV) irradiation, and chemically disinfected with chlorine, followed by conversion to chloramines. UV disinfection has been shown to be effective against protozoa including *Cryptosporidium* and *Giardia,* and *Myxobolus cerebralis* (Hedrick et al. 2007, 2008). Figure 3 shows the treatment processes included in this option.

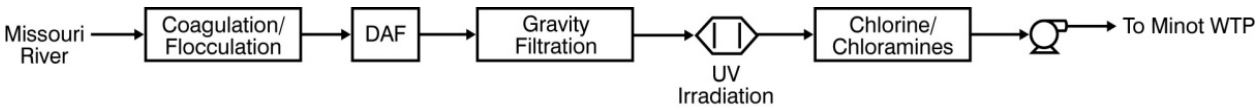


Figure 3 – Conventional Treatment Option for Biota WTP.

Considerations Relevant to the Decision

The decision to select this alternative was made after carefully weighing economic, social, and technical considerations, as well as the potential environmental effects analyzed in the Final SEIS. Reclamation also considered the comments from members of the public, community leaders, state and federal agencies, private organizations and the representatives of the cooperating agencies. With this in mind, Reclamation has selected the Missouri River and Groundwater Alternative for implementation.

Primary issues analyzed by Reclamation during preparation of the Final SEIS were as follows:

- Need for a project. The SEIS evaluated current and future water needs. Community leaders and members of the public expressed their continuing concerns regarding the quantity of water available to some communities and the poor quality of water sources currently used by other communities.

- Aquatic invasive species. The SEIS evaluated the potential Project-related risks and consequences of aquatic invasive species transfer associated with an interbasin transfer of water from the Missouri River basin to the Hudson Bay basin, as well as the risks and consequences associated with numerous non-Project pathways.

- Cumulative depletions of water from the Missouri River. The SEIS analyzed the effects of continuing reservoir sedimentation within the Missouri River system, and how Project depletions and other reasonably foreseeable future depletions would affect the different Missouri River uses and resources. These uses and resources include flood control, navigation, hydropower, water supply, recreation, fisheries, Federally listed species protected under the Endangered Species Act, natural resources, historic properties, and Tribal water rights.

- Climate change. The SEIS evaluated the potential effects of climate change on Missouri River System operations and Souris River flows as well as annual greenhouse gas emissions attributable to Project operations.

Analysis and consideration of these issues and resources, along with the associated environmental impacts as documented in the Final SEIS, are the supporting rationale for selecting the Missouri River and Groundwater Alternative. The decision to select this alternative provides the most effective means to minimize or avoid environmental harm and meet the water quality and quantity needs of the Project members through the year 2060.

Important considerations in making the decision include Reclamation's mission of managing, developing, and protecting water and related resources in an environmentally and economically sound manner in the interest of the American public. The decision gives due consideration to several factors including: source water reliability, finished water quality, impacts to water resources, environmental impacts, risk of Project-related transfer of AIS, and alternative uncertainty.

The Missouri River is a more reliable water source than the Souris River and groundwater sources within the Project area. This alternative also provides the highest finished water quality; meeting all Safe Drinking Water Act primary and secondary standards. Operations of this alternative will not cause any significant impacts to water resources; and in fact will benefit the groundwater sources in the Project area by substantially reducing the withdrawals from the aquifers and allowing them to recover after years of sustained over use by communities and/or rural water systems.

No significant adverse environmental effects were identified for construction and operation actions associated with this alternative. As illustrated in Table 2, construction of this alternative will result in temporary impacts to some natural resources. A temporary impact is defined as short-term; with the resource returning to its previous condition within 1 to 3 years. Reclamation will implement best management practices in an effort to avoid impacts where practicable, or minimize the impacts that cannot be avoided. These best management practices will be included

in all construction contracts. In addition, no effects are anticipated for historic properties documented within the Project area. The implementation of best management practices will allow construction activities to avoid them where practicable. Reclamation has also determined the Project will not adversely impact Indian Trust Assets based on consultation with potentially affected tribes and analysis in the Final SEIS.

In compliance with Section 7 of the Endangered Species Act, Reclamation prepared a biological assessment which determined the Missouri River and Groundwater Alternative "may affect, is not likely to adversely affect" the endangered interior least tern, the threatened piping plover, designated critical habitat for the piping plover and the endangered whooping crane. A determination of "no effect" was made for the threatened rufa red knot, the endangered pallid sturgeon, the endangered gray wolf, the threatened Dakota Skipper, proposed critical habitat for the Dakota Skipper, and the threatened northern long-eared bat. The concurrence letter from the U.S. Fish and Wildlife Service is included in Appendix A.

Selection of Conventional Treatment as the Biota WTP option was ultimately based on complying with SDWA regulations. This level of treatment exceeds that determined to be necessary to adequately reduce the Project-related risk of AIS transfer in compliance with the Boundary Waters Treaty. The consequences of a transfer of AIS is the same for this alternative as it is for the No Action and other action alternatives as explained in the Final SEIS and special study undertaken to evaluate this concern. An independent peer review conducted on this special study supports the conclusions of the analysis.

Comments on the Final SEIS

Reclamation received seven comment letters on the Final SEIS from various agencies and members of the public. In accordance with Reclamation's NEPA Handbook (Reclamation 2012), Reclamation prepared responses to the comments received. All comments were carefully considered and responses to these comments are included in Appendix B.

Table 2 Summary of Missouri River and Groundwater Alternative Impacts

Beneficial Effect ● / Minimal or No Effect ▸ / Adverse Effect ● — Resource Issue	Construction Impacts	Operation Impacts
Water Resources		
Crossings, intakes, water quality	▸	
Souris River Flows and Water Quality		▸
Groundwater Quantity		●
Groundwater Quality		▸
Missouri River Flows, Storage and Reservoir Levels		▸
Fisheries and Aquatic Invertebrates		
Habitat Loss	▸	
Change in Souris River Flows		▸
Change in Missouri River Flows		▸
New Intakes		▸
Aquatic Invasive species		
Risk to Hudson Bay Basin		▸
Environmental and Economic Impacts		▸
Land Use		
Temporary Change	▸	▸
Permanent Conversion	●	▸
Vegetation		
Temporary Disturbance	▸	
Permanent Loss	●	
Wetlands and Riparian Areas		
Temporary Disturbance	▸	
Permanent Loss	▸	
Change in Souris River Flows		▸
Change in Aquifer Levels		▸
Change in Missouri River Flows		▸
Wildlife		
Temporary Habitat Disturbance	▸	
Permanent Habitat Loss	●	
Additional Resources		
Federally Protected Species, Historic Properties, Indian Trust assets, and Environmental Justice	▸	▸
Socioeconomics		
Job Creation, Annual Wages and Economic Output	●	●
Drinking Water Quality		●
Missouri River System Economic Benefits		▸

Environmental Commitments and Monitoring

Project planning, as described in the Final SEIS, included all practicable means of avoiding and/or minimizing adverse environmental impacts. Reclamation has committed to implement several best management practices (BMPs) and environmental commitments (Table 3 and Table 4) involving avoidance, minimization, reduction, compensation, and/or review of construction activities and operations. The following mitigation, monitoring, and enforcement commitments will be implemented as integral parts of the decision to avoid or minimize adverse effects. To aid in implementing the environmental commitments, an Impact Mitigation Assessment (IMA) team was formed in 2002 and this team will continue to advise Reclamation on Project mitigation. The IMA team includes representatives from Reclamation, the North Dakota State Water Commission, the U.S. Fish and Wildlife Service (Service), the North Dakota Game and Fish Department, and the Garrison Diversion Conservancy District. When construction is planned on lands administered by other agencies or on private lands, other specialists and/or landowners will be invited to become members of the team for that part of the construction affecting them.

The purpose of this team is to ensure that Project activities are completed concurrently and in full compliance with all environmental commitments. This team will also comply with other relevant State and Federal environmental rules and regulations, such as the Endangered Species Act and the National Historic Preservation Act.

As of April 2013, the IMA team had met 15 times. The IMA team reviewed Project work plans and, if necessary, recommended specific modifications or other measures to avoid, reduce, or eliminate construction impacts which would have otherwise occurred. A review of newly-constructed facilities was undertaken by the IMA team to determine if any permanent impacts occurred that required mitigation in accordance with the Project's authorizing legislation. Approximately 228 miles of buried pipelines have been completed, resulting in temporary impacts to approximately 3,040 acres. Following reclamation of the lands disturbed by this construction, no permanent impacts have been documented. Permanent impacts associated with construction of above-ground facilities total less than three acres. This IMA team will continue to meet and perform tasks necessary to ensure that environmental commitments identified herein, are met.

As stated in the Final SEIS, Reclamation will develop an adaptive management plan, in accordance with the U.S. Department of the Interior's policy guidance (Order 3270 [2007]) and Adaptive Management: the U.S. Department of the Interior Technical Guide (Williams et al. 2007), to monitor the effectiveness of the water treatment systems in reducing the risk of transfer of AIS. A key factor in the successful implementation of adaptive management is stakeholder involvement and Reclamation will continue to engage the Project sponsor and others as appropriate in the development of adaptive management goals and objectives for the water treatment systems within the Biota WTP.

BMPs and environmental commitments have been incorporated into the Missouri River and Groundwater Alternative. The following definitions apply to best management practices and environmental commitments found in the following tables.

Best Management Practices - Methods intended to avoid or reduce effects while an action is being implemented. These methods are commonly implemented in projects of this nature. If BMPs are changed after final engineering or during Project construction, then all changes to the BMPs will require the coordination and agreement of the IMA team.

Environmental Commitment - Methods or plans to reduce, offset, or eliminate adverse project effects. Action taken to avoid, reduce the severity of, or eliminate an adverse effect. Environmental commitments could include one or more of the following:

- Avoiding effects.
- Minimizing effects by limiting the degree or magnitude of an action.
- Rectifying effects by restoration, rehabilitation, or repair of the affected environment.
- Reducing or eliminating effects over time.
- Compensating for the effect by replacing or providing substitute resources or environments to offset the loss.

Table 3 Best Management Practices

Resource	Best Management Practices
GENERAL	Construction activities will comply with all appropriate federal, state, and local laws and regulations. This list may include but is not limited to stormwater discharge permits, National Pollution Discharge Elimination System permits, Clean Water Act, and the Migratory Bird Treaty Act.
	Erosion control measures will be employed as appropriate and at stream crossings at all times: (a) Care will be exercised to preserve existing trees along the streambank. (b) Stabilization, erosion controls, restoration, and revegetation of all streambeds and embankments will be performed as soon as a stream crossing is completed and maintained until stable. (c) Riparian woody shrubs and trees will be replanted as necessary to preserve the shading characteristics of the watercourse and the aesthetic nature of the streambank. (d) At locations where soil conditions or slopes are such that erosion may occur along the pipeline trench, construction contractors will be required to construct earth berms perpendicular to the trench line at intervals sufficient to divert water from the trench. (e) In pasture and hayland, straw wattles shall be furnished and installed within 14 days of pipeline installation, at approximately the following intervals: Slope (%) — Interval (feet) 7-10 — 120 10+ — 50 (f) Straw wattles shall be a minimum of 6” diameter, and shall be installed across the entire width, plus 3’ either side, of the disturbed area.
	Dump grounds, trash piles, and potential hazardous waste sites will be avoided.
	All construction waste materials and excess or unneeded fill associated with construction will be disposed of on uplands; non-wetland areas.
	Standard construction, industry measures will be taken to minimize fugitive dust emissions during construction activities. Any complaints that may arise will be dealt with by the project sponsor and contractor in a timely and effective manner.
	New pipeline, to the extent possible, will be placed just outside and parallel to the road right of way.

Resource	Best Management Practices
	To the extent possible, construction will avoid wetlands; federal, state, and local wildlife areas and refuges; designated critical habitats; migratory bird habitat during the critical nesting and brood-rearing season; known cultural resources and historic sites; hazardous material sites; and other resource sensitive areas noted below.
	During the final engineering design phase, Project components will be sited to minimize impacts on or avoid permanent structures and limit, to the extent practicable, impacts on existing land use.
	Construction limits will be clearly marked with stakes or fencing prior to beginning ground disturbing activities. No disturbance will occur beyond these limits other than non-destructive protection measures for erosion/sediment control.
	Material and equipment storage will be only within well-defined, designated staging areas placed outside of wetlands and other sensitive areas.
	Structures affected by pipeline construction, including utilities, roads, highways, rivers, canals, railroads, agricultural irrigation facilities, fences, and other structures, will be replaced, repaired, or restored to their current condition or better after construction.
	Construction debris will be hauled from the work site to a disposal location approved by Reclamation's Contracting Officer or his/her representative.
	If established survey bench marks must be removed or should any monuments be dislodged or damaged during construction, the National Geodetic Survey (Attn: N/CG 162, Rockville, Maryland 20852) will be contacted.
	No above ground structures that will interfere with the above ground movement of floodwaters will be placed in the flood plain, or will be protected with flood protection.
SURFACE WATER	Contractors will be required to make at least two boring attempts before using an alternate wetland, stream or river crossing method.
	Intermittent streams will be crossed only during low-flow periods and preferably when the streambeds are dry.
	Identified river or stream crossings will be performed by horizontal directional drilling operations whenever practicable, which will not disturb the stream channel or the adjacent wetlands.
GROUNDWATER	Established ground water monitoring wells will be avoided. However, if any monitoring wells are inadvertently damaged or impacted during project construction, the Water Appropriation Division of the North Dakota Office of the State Engineer will be contacted.
WATER QUALITY	As part of the National Pollution Discharge Elimination System permitting requirement, a Stormwater Pollution Prevention Plan will be developed and submitted to the ND Department of Health prior to commencing construction activities.
	The Stormwater Pollution Prevention Plan will include erosion control measures to prevent or reduce erosion, soil loss, and nonpoint source pollution. These practices may include, but are not limited to, silt fencing, filter fabric, sediment logs, hay bales, temporary sediment ponds, check dams, and/or immediate mulching of exposed areas to minimize sedimentation and turbidity effects as a result of construction activities. The placement and specific measures used will be dictated by site specific conditions.
	In-stream flows will be maintained during stream crossing construction. Spoil, debris piling, construction materials, and any other obstructions will be removed from stream crossings to preserve normal water flow.
	Stream crossings will be routed, as practicable, to minimize disturbance. Intermittent streams will be crossed only during low-flow periods and preferably when streambeds are dry.
	Disturbed portions of the stream banks and beds of rivers, streams, and other waterways will be protected by rock riprap of adequate size and type to minimize erosion and scour. Any slopes greater than 3:1 will be protected with erosion-control blankets after seeding.
AQUATICS	In-stream flows will be maintained during stream crossing construction. Water will be allowed to flow around or past stream crossings to preserve normal water flow downstream from construction.

Resource	Best Management Practices
	To minimize impacts to fisheries resources any stream identified as a fishery (confer with ND Game and Fish Department) that cannot be directionally bored will be avoided from April 15 to June 1 and crossed later in the summer or fall when flows are low or the stream is dry.
	Avoid work in Class II or higher waters (fisheries – confirm with ND Game and Fish Department) April 15 – June 1, or directionally bore. (ND Century Code: CHAPTER 33-16-02.1 STANDARDS OF QUALITY FOR WATERS OF THE STATE)
	In consultation with the Service, the following screen and velocity recommendations will be incorporated into the design of intake structure(s) of the Project: 1) Intakes shall be screened and maintained with 1/4-inch or smaller mesh size opening. 2) Johnson intake screens shall have wire spacing 1/8 inch or smaller. 3) Intake velocities shall not exceed 1/2 foot per second with 20 feet of overhead water. 4) Intake velocities shall not exceed 1/4 foot per second where 20 feet of overhead water cannot be achieved. 5) The intake shall be placed at a maximum practicable depth in relation to extreme, low water elevations experienced between 2003 and 2008. 6) Intakes shall be marked so they are observable during day and night hours, as appropriate.
WETLANDS - RIPARIAN AREAS	Long- and short-term effects on wetlands and riparian areas will be avoided to the extent practicable and in compliance with Section 404 of the Clean Water Act
	Erosion control measures will be employed as appropriate and at stream crossings prior to construction activities. In addition: ▪ Preserve, if feasible, existing trees along the stream bank. ▪ Stabilize, control erosion, restore, and revegetate streambeds and embankments as soon as a stream crossing is completed, following vegetation best management practices, and maintain until stable. ▪ Replant riparian, as necessary, woody shrubs and trees appropriate to ecological characteristics of the site to preserve shading characteristics of the watercourse and the aesthetic nature of the stream bank.
	Any equipment used previously in a water body that is jurisdictional under the Clean Water Act or a water body designated as infested by the North Dakota Game and Fish Department will be disinfected to prevent the spread of invasive aquatic species.
	All temporarily disturbed wetlands will be reestablished following construction by doing the following: ▪ Restore contours to previous elevations ▪ Compact trenches sufficiently to prevent drainage along the trench or via bottom seepage ▪ Salvage and replace topsoil ▪ Backfill in such a manner as to not drain wetland or stream ▪ Reestablish wetlands to similar type of wetland and wetland function
VEGETATION and LAND USE	To the extent practicable, construction will avoid: ▪ Wetlands ▪ Federal, state, and local wildlife areas and refuges ▪ Native prairie However, if these areas are disturbed during pipeline construction, topsoil will be replaced and revegetation plans will be specifically designed for these areas to ensure reestablishment of a similar type and quality of native vegetation recommended by local National Resources Conservation Service office and approved by the landowner. Impacts to federal or state wildlife areas may require additional agency review.

Resource	Best Management Practices
	Vegetated areas temporarily disturbed by construction (except cropland) will be revegetated with species appropriate to ecological conditions of the surrounding area, and in a manner that prevents erosion and noxious weed invasion. Revegetation will occur as soon as practicable after construction and will follow all pertinent local and state regulations. Temporary seeding may be required when areas remain disturbed for more than 30 days.
	Woody species including those bordering wetlands, shelterbelts, riparian woodlands, woody draws, or woodland vegetation will be avoided to the extent practicable. For unavoidable impacts to woody habitats, credit for equal value or environmental equivalent: (a) will be applied toward the impact and deducted from Reclamation's Mitigation Enhancement Ledger **or** (b) the Project sponsor may develop separate acceptable mitigation.
	Prior to beginning construction through Conservation Reserve Program lands, program or private wetlands, the project sponsor will consult with: (a) respective landowners, NRCS, and U.S. Department of Agriculture Farm Services Agency to ensure that landowner eligibility in farm subsidy programs (if applicable) will not be jeopardized by project actions and (b) ensure that Swampbuster requirements will not be violated by construction activities
	Reclamation will complete and submit a Farmland Conversion Form (AD-1006) to the NRCS in compliance with the Farmland Protection Policy Act, if required.
	Topsoil will be removed and stockpiled separately from surface soils for reapplication following construction. In-stream flows will be maintained during stream crossing construction. Water will be allowed to flow around or past stream crossings to preserve normal water flow downstream from construction.
	Topsoil, soil amendments, fertilizers, and mulches will be reapplied selectively as appropriate, prior to revegetation during favorable plant establishment climate conditions to match site conditions and revegetation goals.
WILDLIFE	Identified potential habitat for federal or state threatened, endangered, critical habitat and sensitive species will be avoided if feasible.
	Construction will be prohibited within 1/2 mile of designated piping plover or interior least tern breeding areas during the breeding season (April 15 through August 31) when these species are present.
	If threatened or endangered species are identified and encountered during construction, all ground-disturbing activities in the immediate area will be stopped to consult with the Service and determine appropriate steps to avoid affecting the species.
	Project is responsible for compliance with the Migratory Bird Treaty Act. Sites for project features will be selected to minimize potential for environmental impacts to nesting migratory birds. Construction around wildlife habitats will be timed to avoid migratory bird nesting and wildlife parturition dates. Avoid work around wetlands April 1 through July 15.
	Construction within 660 feet of visible nesting bald eagles or other raptors will be avoided from February through August.
	Project sponsor will coordinate with the Service's appropriate Refuges and Wetland Management Districts and provide the latest map version of project features to avoid impacts to Service lands, including wetland and grassland easements, national wildlife refuges, and waterfowl production areas, allowing for identification of an avoidance route for the contractor. Any impacts to national wildlife refuges or waterfowl production areas will have to go through a refuge compatibility determination.

Resource	Best Management Practices
	Project power lines will be: (a) Buried (Service 2010a) to minimize electrocution hazards to raptors and minimize impacts to all birds, bats, and particularly benefit whooping cranes. Use *Suggested Practices for Avian Protection on Power Lines - The State of the Art in 2006*, Avian Power Line Interaction Committee, Edison Electric Institute, Raptor Research Foundation, Washington, D.C., or similar standards will be used. Available online at http://www.eei.org/ourissues/TheEnvironment/Land/Documents/AvianProtectionPlanGuidelines.pdf (see pages 31 through 42) ***or*** (b) Any new, aboveground power lines and an additional equal length of existing power lines in the same vicinity must be marked with visibility enhancement devices to benefit migrating whooping cranes as well as all migratory birds and bats. Construction within 660 feet of visible nesting bald eagles or other raptors will be avoided from February through August.
	If forested habitat is identified prior to construction activities the Impact Mitigation Assessment team will determine if bat surveys are required. If any tree (with a diameter of greater than 3 inches) removal activities cannot be avoided between April and September, then northern long-eared bat surveys will be conducted to confirm absence of the species. If any suitable roost sites, possible hibernacula, or the species are observed during the onsite meeting, then any steps taken to avoid and minimize disturbance of this habitat will be documented.
NOISE and VIBRATION	Night construction will be avoided near residential and populated areas.
VISUAL RESOURCES	As noted for vegetation, short-term disturbances associated with constructing facilities will be revegetated and/or landscaped.
	Existing topographic grades will be restored following pipeline excavation.
	Constructed facilities will be designed to blend with the architectural characteristics of surrounding structures.
	Valve boxes will be left above grade in a cultivated field if agreeable to the landowner, or moved to the nearest fence or right-of-way. Valves will not be located adjacent to or in close proximity to a paved or graveled road and will be painted a neutral color that blends with the background, reduces visibility, and maintains the viewshed.
HISTORIC PROPERTIES	Direct disturbance to historical properties will be avoided to the extent feasible.
	All known burials or cemeteries will be avoided to the extent possible. All such burials or cemeteries will be avoided to the extent possible. If a burial or cemetery cannot be avoided or is encountered during construction, Reclamation will comply with the Native American Graves Protection and Repatriation Act if graves are discovered on federal or trust lands or within reservation boundaries. Reclamation will comply with North Dakota Century Code 23-06-27: “Protection of Human Burial Sites, Human Remains, and Burial Goods” for graves on private or state-owned lands and the Section 106 programmatic agreement.
	If unrecorded cultural resources or traditional cultural properties are encountered during construction, all ground disturbance activity within the area will be stopped, Reclamation and appropriate authorities will be notified, and all applicable stipulations of the Section 106 programmatic agreement will be followed. Activities in the area will resume only when compliance has been completed.
	All appropriate cultural resource compliance activities will be completed in accordance with the Section 106 programmatic agreement.
PALEONTOLOGICAL RESOURCES	All previously recorded paleontological resources and paleontologically sensitive zones within the path of the Project will be inspected in the field by a qualified paleontologist. Avoidance measures will be developed to avoid significant resources.

Resource	Best Management Practices
	Reclamation will consult with North Dakota Geological Survey to identify areas for paleontological survey where significant fossils are likely. Paleontological surveys will be completed prior to construction. Based upon survey data, Reclamation will consult with a qualified paleontologist about revising routes to avoid damaging significant fossil locations.
HAZARDOUS MATERIALS	A Hazardous Spill Plan or Spill Prevention, Control and Countermeasures Plan, whichever is appropriate, will be in place, stating what actions will be taken in the event of a spill, notification measures, and preventive measures to be implemented, such as the placement of refueling facilities, storage, and handling of hazardous materials.
	All equipment will be maintained in a clean and well-functioning operating condition to avoid or minimize contamination from automotive fluids.
	Before construction, a more detailed hazardous materials assessment in conformance with the scope and limitations of American Society for Testing Materials (ASTM) 1527-05: "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process" will be conducted to identify sites with soil and/or groundwater contamination not documented in readily ascertainable agency files (ASTM 2005).
	Any known solid waste disposal areas identified in the construction sites will be avoided or removed and properly disposed at a permitted solid waste disposal facility
	Equipment or vehicles will not be refueled within 100 feet of rivers, streams, or identified wetlands. If onsite fuel tanks are used approved containment devices will be required.
	Identified evidence of hazardous materials, petroleum product spills, or other contamination will be avoided or excavated and properly disposed at a permitted waste disposal facility.
	If soil and/or groundwater contamination is encountered during construction, mitigation procedures will be implemented to minimize the risk to construction workers and to future operations.
UNIQUE AND PRIME FARMLAND - AGRICULTURAL LANDS	To the extent feasible, construction activities on irrigated lands will be avoided during the growing season.
	Cropland disturbed by construction will be restored with topsoil to the depth, quality, grade, and relative density as the original surface as described for soils below. Pipelines crossing agricultural fields will be backfilled and compacted to prevent settling when the field is irrigated.
	Long-term effects on prime and unique farmland will be avoided to the extent feasible. If avoidance is not possible, Reclamation will complete and submit a Farmland Conversion Form (AD-1006) to the NRCS in compliance with the Farmland Protection Policy Act for any long-term change in land use.

Table 4 Environmental Commitments

Resource	Environmental Commitments
SURFACE WATER	When pipeline construction through a stream or wetland basin is unavoidable, existing basin contours will be restored and trenches will be sufficiently compacted to prevent any drainage along the trench or through bottom seepage.
	Where open trench crossing of stream is required, the stream channel will be reestablished following pipe installation.
	Project construction will be coordinated with operation of the SCPP, especially during the filling of Audubon Lake.
WATER QUALITY	Reclamation will consult with the Project sponsor, and other stakeholders as appropriate to develop an adaptive management plan to identify the appropriate level of water quality monitoring necessary to ensure that treatment processes included at the Biota WTP will not result in any violations of the Safe Drinking Water Act. The plan will be developed in accordance with the U.S. Department of the Interior Policy guidance (Order 3270) and the report *Adaptive Management, the U.S. Department of the Interior Technical Guide* (Williams et al. 2007).
VEGETATION and WETLANDS	Where construction cannot avoid: ▪ Wetlands ▪ Federal, state, and local wildlife areas and refuges, and ▪ Native prairie. If these areas are disturbed during pipeline construction, topsoil will be replaced and revegetation plans will be specifically designed for these areas to ensure reestablishment of a similar type and quality of native vegetation recommended by local Natural Resources Conservation Services office and approved by the landowner.
	Effects on jurisdictional wetlands and waters of the United States will require authorization from the U.S. Army Corps of Engineers. A compensatory mitigation plan may be required for the loss of any wetlands and will include methods to replace specific functions of affected wetlands.
	Lost wetlands will be replaced acre for acre with ecological equivalency or 1/2 acre for acre with ecological equivalency (adversely affected wetlands) as required by the Project's authorizing legislation: (a) by crediting previously completed wetland restoration for the Garrison Diversion Unit (GDU) and deducting those credits from Reclamation's Mitigation and Enhancement Ledger (MEL)[2] **or** (b) the Project sponsor may develop separate acceptable mitigation.
	Lost woodlands will be mitigated 2:1 (acres) in accordance with MEL[2]
	Lost grasslands will be mitigated acre for acre in accordance with MEL[2]
WILDLIFE	Pipelines, water treatment plants, and pump station facilities will be realigned, where feasible, to avoid sensitive wildlife habitat. If sensitive wildlife habitat cannot be avoided then mitigation will be determined in coordination and agreement with the IMA team including pertinent regulatory agencies.

[2] Reclamation has credits for created and restored wetlands in the MEL that can be used to mitigate impacts to wetlands. The GDU MEL was developed according to the 1985 memorandum of understanding between Reclamation, the U.S. Fish and Wildlife Service (Service), and the North Dakota Game and Fish Department regarding the establishment of mitigation and enhancement debits and credits for wildlife purposes. The MEL documents GDU project impacts, mitigation requirements, and concurrence for planning purposes and for review by other agencies and the public. Projected impacts listed were first presented in the GDU Commission Report. The GDU Reformulation Act of 1986 resulted in the adjustment of the projected impacts to reflect modifications to the project. Impacts to date reflect modifications to the project.

Resource	Environmental Commitments
	Preconstruction surveys with the Impact Mitigation Team will identify sensitive habitats and wildlife use before construction to allow implementing best management practices and mitigation measures.
INVASIVE SPECIES/BIOTA TRANSFER	Reclamation will consult with the Project sponsor and others, as appropriate, in development of an adaptive management framework for the OM&R of the Conventional Treatment Biota WTP. A water quality monitoring plan will be developed as part of this plan. The plan will be developed in accordance with the U.S. Department of the Interior Policy guidance (Order 3270) and the report *Adaptive Management, the U.S. Department of the Interior Technical Guide* (Williams et al. 2007). This commitment is included as a means of complying with the Secretarial Determination made as required by the Dakota Water Resources Act of 2000. Reclamation's role in adaptive management will be related to maintaining compliance with the Boundary Waters Treaty, and the Project sponsor will be responsible for Safe Drinking Water Act compliance and other drinking water concerns. An emergency response plan with special emphasis on potential biota transfer issues will be developed in accordance with the Secretarial Determination. Final design plans and construction specifications for the Biota WTP will be provided to Manitoba Water Stewardship prior to the award of construction contracts. Annual water quality monitoring data will be provided to interested stakeholders.
HISTORIC PROPERTIES	Reclamation will continue complying with stipulations in *Programmatic Agreement Between the Bureau of Reclamation, The Advisory Council on Historic Preservation, and the North Dakota State Historic Preservation Officer for the Implementation of Reclamation Undertakings in North Dakota* for the life of the project and in consultation with tribes.
	Avoidance will be the preferred method for treating historic properties. However, should that not be possible, the programmatic agreement identifies the standards to be used in developing mitigation plans.
	Reclamation will consult under Section 106 of the National Historic Preservation Act with appropriate Indian Tribes regarding the locations of and potential impacts to properties of traditional religious and cultural importance. If any such properties cannot be avoided and must be mitigated, Reclamation will invite the appropriate Tribes to participate in development of an appropriate treatment plan.
	All gravel, fill, and rock materials will be obtained from a source approved by Reclamation to ensure compliance with Section 106 of the National Historic Preservation Act.

Should subsequent revisions be made to the appraisal-level design that result in significant changes that are outside the scope of the Final SEIS analyses, additional NEPA analysis will be conducted as necessary to fully evaluate and disclose the impacts.

Compliance with the Boundary Waters Treaty of 1909

The Dakota Water Resources Act of 2000 (Section 1(h)) states:

> *Delivery of Water into the Hudson Bay Basin - 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).*

The relevant provision of the Boundary Waters Treaty of 1909 (Article IV) provides:

> *It is further agreed that the waters herein defined as 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.*

This ROD approves delivery of Missouri River water into the Hudson Bay Basin, subject to the provisions of the Dakota Water Resources Act. The analysis and changes to the Project since 2001 are within the scope of the Secretarial Determination signed by Secretary Babbitt. The Determination outlines six features that are to be incorporated into the Project design and each of these design elements is present in the current Project plans and will continue to move forward as a part of the Project through any future iterations. Table 5 includes the list of Project features for the Project design as specified in the Secretarial Determination and how they are addressed in the alternative selected.

Table 5 Secretarial Determination on Boundary Waters Treaty Compliance

Secretarial Determination Features and Commitments	Disposition of the Features
Raw water from either Lake Sakakawea or Lake Audubon will be disinfected to inactivate 3 logs of Giardia and 4 logs of virus prior to crossing the continental divide.	Lake Sakakawea water will be treated at the Biota WTP, located within the Missouri River Basin, using conventional treatment technologies. This treatment is designed to achieve greater than 3 log inactivation of Giardia and greater than 4 log inactivation of viruses. This exceeds the Secretarial Determination requirement. In addition to the inactivation, the selected treatment process includes filtration which further reduces the potential for biota transfer. See Table 2-23 of the Final SEIS for more information.
Appropriate engineering controls and fail-safe systems will be incorporated (including an appropriate number of automated pipeline isolation valves) to minimize the accidental release of pre-treated water from spills and pipeline breaks insensitive areas.	Engineering controls were included in the design and construction of the main transmission pipeline as described on page 2-13 of the Final SEIS. Engineering controls included: • isolation valves installed in strategic locations along the pipeline • pipeline joints were welded or constructed with restrained joint fittings and encased in concrete at locations where the pipeline crossed a coulee or drainage

Secretarial Determination Features and Commitments	Disposition of the Features
	• the pipeline is buried at a depth of 7 to 7.5 feet • rigorous testing of the pipeline was conducted following installation and each segment exceeded the requirements defined by the *Northwest Area Water Supply Project Biota Transfer Control Measures* report (Houston Engineering et al. 1998). In addition to these engineering controls included in the pipeline, the conventional water treatment process selected for the Biota WTP exceeds the 'pre-treatment' process of disinfection upon which the Determination was made. The engineering controls and water treatment at the Biota WTP minimize the Project-related risk of AIS transfer.
Adequate facility inspection, operation, maintenance and capital replacement plans to minimize the potential for facility degradation and breakdowns.	Reclamation will develop an adaptive management plan that addresses the operations, maintenance, and replacement needs of the Biota WTP as stated in the Aquatic Invasive/Biota Transfer environmental commitment included in Table 4 above.
Contingency plans, emergency response procedures, and periodic exercises to address response to accidental releases of water or sludge.	Reclamation will develop an emergency response plan for the Biota WTP as stated in the Aquatic Invasive/Biota Transfer environmental commitment included in Table 4 above. This plan will include contingency strategies and periodic exercises procedures.
Adequate controls to contain any accidental spills of recycled backwash or softening clarification supernatant within a covered perimeter of the treatment plant facility, and prevent any release from the site.	This requirement for the Minot WTP plant was included in the Secretarial Determination because the Biota WTP proposed at that time did not include filtration. The Biota WTP option selected in this ROD includes filtration and treatment processes that are effective against disinfection-resistant organisms. Therefore, this requirement will be met at the Biota WTP in the Missouri River basin, thus no additional controls will be included at the Minot WTP.
Sludge resulting from the filter backwash and softening clarification processes will be either treated to inactivate disinfection-resistant pathogens, or transported for disposal at an appropriate disposal facility.	This requirement for the Minot WTP plant was included in the Secretarial Determination because the Biota WTP proposed at that time did not include filtration. The Biota WTP option selected in this ROD includes filtration and treatment processes that are effective against disinfection-resistant organisms. Therefore, this requirement will be met at the Biota WTP in the Missouri River basin, thus no further treatment or disposal requirements for sludge from the Minot WTP will be included.

Implementing the Decision

The Project is currently the subject of ongoing litigation in U.S. District Court for the District of Columbia. Until the litigation is resolved, no actions will be taken to implement this decision. Upon resolution of the litigation, the Project will move forward and Reclamation will work with the State of North Dakota and other stakeholders as appropriate to begin implementing the actions and complete the tasks necessary to comply with the environmental commitments described herein during the implementation of the selected alternative.

REFERENCES

Bureau of Reclamation (Reclamation). 2012. *Water Needs Assessment Technical Report. Northwest Area Water Supply (NAWS) Project*, North Dakota. Dakotas Area Office, Great Plains Region. Bismarck, ND.

Bureau of Reclamation (Reclamation). 2012. Reclamation's NEPA Handbook. February. Website (http://www.usbr.gov/nepa/docs/NEPA_Handbook2012.pdf).

Williams, B.K., R.C. Szaro, and C.D. Shapiro. 2007. *Adaptive Management: The U.S. Department of the Interior Technical Guide*. Adaptive Management Working Group, U.S. Department of the Interior, Washington, D.C. http://www.doi.gov/initiatives/AdaptiveManagement/TechGuide.pdf

APPENDIX A
U.S. Fish and Wildlife Service – Concurrence of Biological Assessment

Northwest Area Water Supply Project
Record of Decision

United States Department of the Interior

FISH AND WILDLIFE SERVICE
North Dakota Ecological Services Field Office
3425 Miriam Avenue
Bismarck, North Dakota 58501

APR 0 2 2015

In Reply Refer To:
2012-CPA-0140

Mr. David Rosenkrance
Bureau of Reclamation
P.O. Box 1017
Bismarck, North Dakota 58502-1017

Dear Mr. Rosenkrance:

This is in response to your March 10, 2015, request for informal consultation on the Northwest Area Water Supply Project (Project). The Project was authorized by the Garrison Diversion Reformulation Act of 1986 and the Dakota Water Resources Act of 2000 as part of the Municipal, Rural, and Industrial (MR&I) Grant Program. It is intended to address long-standing water supply and water quality problems experienced by residents of northwestern North Dakota and to provide adequate, high-quality water to serve the projected population growth in the Project Area through 2060. Your letter and accompanying March 2015 biological assessment (BA) were received on May 10.

In accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.)* (Act), Reclamation has requested U.S. Fish and Wildlife Service (Service) concurrence with your determination that the Project "may affect, is not likely to adversely affect") the endangered interior least tern (*Sternula antillarium*), the threatened piping plover (*Charadrius melodus*), designated critical habitat for the piping plover and the endangered whooping crane (*Grus americana*). Based upon the project description and analysis of potential effects presented in the BA, the Service has concluded that the effects to these federally-listed resources are either insignificant or discountable. Thus, the Service **concurs** with your determination.

The BA also indicates the Project will have "no effect" on the threatened rufa red knot (*Calidris canutus rufa*), the endangered pallid sturgeon (*Scaphirynchus albus*), the endangered gray wolf (*Canis lupus*), the threatened Dakota skipper (*Hesperia dakotae*), proposed critical habitat for the Dakota skipper, and the threatened northern long-eared bat (*Myotis septentrionalis*). There is no requirement under the implementing regulations of the Act (50 CFR Part 402) for action agencies to receive Service concurrence with "no effect" determinations, therefore the responsibility for "no effect" determinations remains with the Reclamation. Accordingly, we recommend Reclamation retain the documentation and

analysis for these listed resources in the decisional record for this federal action.

Discussion

This Project has a long history of coordination and cooperation between Reclamation and the Service. In 2001, an Environmental Assessment (EA) (Houston Engineering Inc. et al. 2001) and Finding of No Significant Impact (FONSI) were completed for the Project (Reclamation 2001). Potential impacts to federally threatened and endangered species were evaluated in the Final EA and documented in the FONSI (Reclamation 2001). The Service considered Reclamation's no effect findings for threatened or endangered species from construction, operation or maintenance of the Project as appropriate (Memorandum from Allyn Sapa, Field Supervisor, Service, Bismarck, ND to Dennis Breitzman, Area Manager, Reclamation dated July 23, 1997). Any potential effects, including those identified during final design and construction would be avoided through design features and mitigation measures.

Construction of the Project began in April 2002. In October 2002, the Province of Manitoba, Canada, filed a legal challenge in the U.S. District Court for the District of Columbia claiming that the EA on the Project was inadequate under NEPA (*Government of the Province of Manitoba vs. Ken Salazar, Secretary, U.S. Department of the Interior et al.*). A court order issued in February 2005, remanded the case to Reclamation for completion of additional environmental analysis. A second court order issued in April of that year allowed construction to proceed on Project features that would not predetermine a future decision on the means for water treatment to reduce the potential risk of transferring invasive species.

Construction continued between 2002 and 2012 on the 45 miles of main transmission pipeline from Lake Sakakawea to the City of Minot, along with several segments of the bulk distribution pipelines and associated facilities. During this construction all design features and mitigation measures to avoid any potential impacts to federally-listed species were implemented in collaboration with the designated Impact Mitigation Assessment team identified in the original Project EA/FONSI. The Service participated with Reclamation on the Impact Mitigation Assessment team to ensure no effects occurred to federally-listed species. These actions are summarized in Appendix A of the current Project draft Project SEIS.

In response to the Court's order for further analysis, Reclamation initiated an EIS focused on different water treatment methods to reduce the risk of unintentionally transferring potentially invasive species from Lake Sakakawea into the Hudson Bay basin. The analysis focused on environmental impacts that could occur due to pipeline leaks and failure of the water treatment systems and included an evaluation for impacts to federally-listed species. Once again, the analysis led to a conclusion that a "no effect" determination was appropriate for the federally-listed species and the Final EIS on Water Treatment was published in December 2008 (Reclamation 2008). Reclamation signed a Record of Decision (ROD) in January 2009.

In February 2009, the Department of Justice notified the court that Reclamation had completed the Final EIS and ROD. Shortly thereafter, the Province of Manitoba filed a supplemental complaint contending that the Final EIS was insufficient. The State of Missouri later filed a complaint against the Department of the Interior and the U.S. Army Corps of Engineers (Corps) in the same U.S. District Court (Court) alleging that Reclamation's Final EIS was insufficient and that the Corps failed to complete a separate NEPA analysis for the Project.

The Court consolidated the Missouri suit with the Manitoba suit and, in March 2010, the Court issued an order remanding the case to Reclamation for further environmental review with respect to two specific issues: (1) cumulative impacts of water withdrawals on Lake Sakakawea and the Missouri River; and (2) consequences of transferring potentially invasive species into the Hudson Bay basin. The 2005 injunction was modified by the Court in 2013, halting further construction pending the completion of additional NEPA review to address these two issues.

During the process of preparing the draft SEIS, Reclamation requested a list of species and critical habitat for the purposes of updating the species list for this Project and updating section 7 consultation under the ESA. This new list of species was obtained from the Service's IPaC (Information, Planning, and Conservation System) for this Project in 2012. This list was confirmed by the Service in 2013 and 2014 (personnel communication with Terry Ellsworth and Heidi Riddle respectively – both with the North Dakota Ecological Services Field Office Bismarck, ND). The Service also participated in Cooperating Agency meetings and also reviewed preliminary drafts of the SEIS for trust resource issues, including federally-listed, candidate and proposed species, and critical habitat.

Accordingly, the March 2015 BA describes the effects of providing bulk water service to a 10-county region generally located in northwest North Dakota, referred to as the Project Area. The effects analysis focused on the anticipated effects associated with the new construction that would be necessary to complete the remaining components of the proposed action as well as any effects that may arise from operations. This includes pipeline segments, storage reservoirs, and modifications to pump stations. Operational considerations focused on groundwater withdrawals from the Minot and Sundre aquifers (1.0 – 2.6 million gallons per day) during June, July, and August and surface water withdrawals from the Missouri River at a rate approximately equal to the annual Project demand. Based on the analysis presented in the BA for each species, the Service agrees with Reclamation's conclusions that the federally-listed resources mentioned above will have extremely low likelihood of being exposed and/or respond in a biologically meaningful manner to potential Project stressors during the life of the Project. As a result, the effects of the Project are expected to be insignificant or discountable.

The Service's concurrence is based on the information contained within the March 2015, biological assessment. Pursuant to the implementing regulations of the Act (50 CFR 402.13), this letter concludes informal consultation on the subject action. This action should be re-

analyzed if: (1) new information reveals effeets of the action that may affect listed species or critical habitat in a manner or to an extent not considered in this consultation; (2) the action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this consultation; or (3) a new species is listed or critical habitat is designated that may bc affected by this action.

We appreciate your efforts to ensure the conservation of listed species as part of our joint responsibilities under the Act. If additional information is required, please contact me directly at (701) 355-8512.

Sincerely,

Kevin J. Shelley
North Dakota State Supervisor
Ecological Services

Literature Cited

Bureau of Reclamation. 2001. Northwest Area Water Supply Project FONSI and EA. U.S. Bureau of Reclamation. Bismarck, ND.

Houston Engineering, Inc., American Engineering P.C., Montgomery Watson, and Bluestem Incorporated. 2001. Northwest Area Water Supply Project Final Environmental Assessmcnt. Prepared for North Dakota Water Commission, North Dakota Garrison Diversion Conservancy District and U.S. Bureau of Rcclamation. Bismarck, ND.

APPENDIX B
Responses to Comments on the Final Supplemental Environmental Impact Statement

Northwest Area Water Supply Project
Record of Decision

Table of Contents

Northwest Area Water Supply Project
Responses to Comments on the
Final Supplemental Environmental Impact Statement

Acronyms and Abbreviations

AIS	aquatic invasive species
CEQ	Council on Environmental Quality
cfs	cubic feet per second
Corps	U.S. Army Corps of Engineers
DAF	dissolved air flotation
DNR	Department of Natural Resources
DRM	Daily Routing Model
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
kAF	thousand acre feet
Master Manual	*Missouri River Mainstem Reservoir System Master Water Control Manual* (Corps 2006)
Missouri River System	Missouri River Mainstem Reservoir System
NEPA	National Environmental Policy Act of 1969
OM&R	operation, maintenance, and replacement
RIMS II	Regional Input-Output Modeling System
ROD	Record of Decision
SCPP	Snake Creek Pumping Plant
SEIS	Supplemental Environmental Impact Statement
UV	ultraviolet
WTP	water treatment plant

Introduction

The Final Supplemental Environmental Impact Statement (SEIS) was distributed to the public on April 10, 2015. Notice of the public release announced in the local media and published in the *Federal Register*. In accordance with Reclamation's NEPA Handbook (2012), Reclamation provides the following responses to comments received on the Final SEIS. All comments SEIS were carefully considered and responses to these comments are included on the following pages.

Each comment letter has been assigned an identification number. This identification number is printed in the upper right hand corner of each letter. These identification numbers are used in the numbering of comments and corresponding responses in each letter. For example, if comment letter #5 has three substantive comments requiring a response, the comments and corresponding responses are numbered 5-1, 5-2, and 5-3. This appendix is organized with the marked letter presented first, followed by corresponding numbered responses for that particular letter. Then the next comment letter is presented, again followed by the corresponding numbered responses.

1

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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APR 16 2015

Ref: R8 EPR-N

Dave Rosenkrance
Dakotas Area Office
Bureau of Reclamation
304 East Broadway Avenue
Bismarck, ND 58501

Re: NAWS Final Supplemental EIS, CEQ #20150099

Dear Mr. Rosenkrance:

Thank you for the opportunity to review the Bureau of Reclamation's (Reclamation's) Final Supplemental Environmental Impact Statement (EIS) for the Northwest Area Water Supply (NAWS) project. The U.S. Environmental Protection Agency Region 8 is providing these comments consistent with our authority under Section 102(2)(C) of the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act.

The NAWS project is intended to serve as a reliable, high quality drinking water supply to a ten-county area in northwestern North Dakota through 2060. In the Final Supplemental EIS, Reclamation selected a new Biota Water Treatment Plant (WTP) option at Max, ND. Reclamation has moved from "Chlorination/UV Inactivation" to "Conventional Treatment." The EPA commends Reclamation's commitment to providing a reliable drinking water supply that meets or exceeds all health based standards as authorized in the Safe Drinking Water Act (SDWA) and as prescribed in the National Primary Drinking Water Regulations (NPDWR) through selection of the Conventional Treatment option for the Biota WTP. The selection of the Conventional Treatment option reduces disinfection byproducts (DBPs), in contrast to the Chlorination/UV option, previously identified in the Supplemental Draft EIS. DBPs are carcinogens regulated under the NPDWRs.

1-1

The Chlorination/UV Inactivation option would not have had the capability to remove DBP precursors prior to chlorination, enabling DBP formation upon chlorination. The backup plan for this option, a switch from chlorine to chloramines, would also have been problematic because emerging information shows that chloramines can also produce DBPs and other water quality issues with human health risks. Although the Chlorination/UV Inactivation option appeared sufficient to address biota transfer concerns, SDWA compliance and protection of human health drove selection of the Conventional Treatment Biota WTP option to the benefit of both goals.

The newly selected Conventional Treatment option includes infrastructure and multiple options for minor adjustments to remove DBP precursors prior to chlorination, reducing their formation, while meeting the project's biota transfer prevention goals. Additionally, the Supplemental EIS

identifies foreseeable source water changes due to climate change and human influence. The Conventional Treatment option increases NAWS's resiliency and flexibility to respond to foreseeable environmental changes likely to occur between the present and 2060. The selection of the Conventional Treatment option also addresses the EPA's Supplemental Draft EIS comments regarding Biota WTP Options, Adaptive Management & Monitoring and DBP Formation Potential. 1-2

The EPA appreciates Reclamation's coordination with the EPA to develop a shared understanding of the risks associated with the previously selected Biota WTP option, UV/Chlorination, and the benefits of the newly selected option, Conventional Treatment. We appreciate Reclamation's willingness to involve the EPA in the adaptive management process, but, based upon selection of the Conventional Treatment option for the Biota WTP, we do not currently consider our continued involvement to be necessary. We are, however, available to Reclamation for further assistance regarding treatment for SDWA or biota transfer concerns. If we may provide further assistance, please contact me at 303-312-6704, or Maggie Pierce, Lead NEPA Reviewer, at 303-312-6550. 1-3

Sincerely,

Philip S. Strobel, Acting Program Director
NEPA Compliance and Review Program
Office of Ecosystems Protection and Remediation

cc: Alicia Waters, Bureau of Reclamation
Dan Jonasson, City of Minot Public Works
Michelle Klose and Tim Freije, North Dakota Water Commission
Greg Wavra, North Dakota Department of Health

Response 1-1 Reclamation agrees, as noted in Chapter 2 of the Final SEIS, the Conventional Treatment biota WTP option also provides flexibility for the Project sponsor and Reclamation to adapt operations as needed to comply with Safe Drinking Water Act regulations.

Response 1-2 This affirmative statement is noted and included in the Project record.

Response 1-3 Reclamation appreciates the Environmental Protection Agency's involvement throughout this NEPA process and respects its decision regarding participation in the future adaptive management process.

Manitoba
Conservation and Water Stewardship

Water Stewardship and Biodiversity
Division
Box 80, 200 Saulteaux Crescent
Winnipeg MB R3W 3J3
CANADA

May 5, 2015

Ms. Alicia Waters
Bureau of Reclamation
P.O. Box 1017
Bismarck, North Dakota 58502
E-mail: awaters@usbr.gov

Dear Ms. Waters:

Thank you for the opportunity to provide comments to the Bureau of Reclamation ("BOR" or the "Bureau") on behalf of the Government of Manitoba on the Final Supplemental Environmental Impact Statement (the "Final SEIS") for the Northwest Area Water Supply Project ("NAWS" or the "Project") in accordance with the Notice of Availability published in the *Federal Register* on April 10, 2015 (80 *Fed. Reg.* 19347). As set forth below, our comments relate to the selection and implementation of the "preferred alternative" identified in the Final SEIS and continuing deficiencies in the Bureau's analysis of the risks and consequences of the Project.

1. Selection and Implementation of the Preferred Alternative.

Manitoba has consistently opposed and continues to oppose inter-basin transfers of water because there are inherent risks associated with such transfers including, most importantly, the risks related to the transfer of harmful alien and invasive species ("AIS") that cannot be completely mitigated for the life of the Project. Of particular concern to Manitoba are potential impacts associated with the parasitic protozoa commonly known as whirling disease. Whirling disease is having devastating impacts on coldwater fisheries in North America. Some estimates show that damage to the fishing industry is in the 100s of millions dollars per year in lost revenue. Whirling disease is not currently found in Canada but has been found in the Missouri River Basin. 2-1

Notwithstanding such opposition to inter-basin transfers, Manitoba believes that, if the Bureau ultimately proceeds with an inter-basin alternative, the "preferred alternative" for water treatment identified in the Final SEIS represents the most sensible, and most protective, course of action. The Final SEIS includes conventional water treatment with coagulation/flocculation, dissolved air filtration, gravity filtration, UV and chlorination as a component of the preferred alternative. Such treatment has long been advocated by Manitoba, and this change represents a positive and significant advancement relative to the Draft SEIS. 2-2

The Bureau's preferred alternative was selected only to meet requirements of the *Safe Drinking Water Act* and not because of the need to reduce the risk and consequences of AIS transfer into the Hudson Bay Basin. However, as the Bureau acknowledges, "[A]dding filtration with the Missouri River basin should also address Manitoba's concerns regarding the risks and consequences associated with AIS" (App. K, Response No. 23-3). In fact, the Final SEIS admits that the water treatment options at the biota water treatment plant (the "Biota WTP") provide different levels of protection to reduce the risk of a Project-related transfer of AIS into the Hudson Bay Basin, with increased protection with each option (Page 2-48). The Final SEIS states, "The Conventional Treatment and Microfiltration treatment options exhibit the highest risk reduction score (5 and 6, respectively) because they have the most integrated treatment technologies and are the least likely to fail or to allow a transfer of AIS to the surrounding environment. The addition of the filtration process (particle or media filtration) in these two options provides an additional physical barrier that the other options do not provide" (Page 4-100). The Final SEIS even states, "Biota treatment is integral to the water diversion under the Missouri River alternatives to reduce the risk of AIS transfer to the Hudson Bay basin." (Page 4-113). If an inter-basin water diversion is ultimately selected, the Bureau's preferred alternative for the Biota WTP is the right choice. 2-3

We note also that the Bureau has "committed to implement adaptive management planning regarding concerns related to AIS and the treatment efficacy of the Conventional Treatment Biota WTP" (Page 2-66). Similarly, the Bureau notes, "If a Missouri River alternative was selected in the Record of Decision, an adaptive management strategy also would be developed to assess the effectiveness of the water treatment systems in reducing risks of transfer of non-native species" (Page 4-6). If the Bureau's preferred alternative or any other inter-basin transfer alternative is ultimately selected and funded, Manitoba should be included in the stakeholder team that provides input to the specific adaptive management programs associated with the Project. 2-4

Finally, Manitoba is interested in design, construction, ongoing maintenance and monitoring in the event that the Bureau's preferred alternative or any other inter-basin transfer alternative is ultimately selected and funded. We recommend that an emergency response plan be developed for the Biota WTP, the pipeline and the related components such as the South Prairie Storage Reservoir with emphasis on preventing potential transfer of AIS in the event of a malfunction, uncontrolled release, etc. Manitoba would like to review the final engineered design of the Biota WTP and any change orders to the construction, operation or maintenance that would alter the water treatment standard. Manitoba further recommends that a long-term monitoring program be developed for the Biota WTP plant to assess treatment efficacy relative to AIS. Last of all, it will be important to review and share any monitoring results generated from the long-term monitoring plan and adaptive management. Manitoba recommends that the monitoring results and any actions associated with adaptive management be shared annually with interested stakeholders such as the Province of Manitoba and the International Joint Commission's International Souris River Board. 2-5

2. Continuing Deficiencies in the Final SEIS.

Whatever the Bureau's ultimate choice among alternatives for configuration of the Project, Manitoba continues to have significant differences with the Bureau regarding the analysis in the Final SEIS. Seven points warrant specific emphasis.

First, Manitoba adheres to the view, expressed in its September 10, 2014 comments on the Draft SEIS, that there is a need to revisit the Secretarial determination under Section 1(h)(1) of the Dakota Water Resources Act. It may well be that, as the Bureau states, the six features of the Project identified by Secretary Babbitt in January 2001 remain valid (*see* App. K. Response No. 23-3). Still, given the changes over the last fourteen years in our understanding of AIS risks and the effectiveness of various control technologies in addressing those risks, the need at least to *consider* their continued validity at the Secretarial level seems manifest. At the same time, given the controversial nature of the Project, the need for consultation not only among Executive Branch agencies but also with the Government of Canada seems equally self-evident. 2-6

Second, while the Final SEIS includes some consideration of in-basin options, these are limited to options associated with bulk water treatment and supply by pipeline rather than full consideration of community-based treatment options such as reverse osmosis. The Bureau's summary dismissal of reverse osmosis (App. K, Response No. 23-56) is unsatisfactory. The Government of Manitoba believes that a much more robust analysis is required of in-basin options, particularly because these alternatives are consistent with contemporary and sustainable water management principles and are consistent with the Government of Canada's longstanding opposition to inter-basin water transfers. 2-7

Third, the Final SEIS does not adequately address concerns that have been expressed by Manitoba with respect to the assessment of the risks and consequences related to the transfer of AIS into the Hudson Bay Basin in Manitoba and Canada. The Final SEIS includes a weak and insufficient evaluation of potential consequences in Canada that contains extensive errors and omissions. As in the Draft SEIS, the Final SEIS also abandons previous attempts to quantify the risk of transfer of AIS and purportedly employs only a qualitative risk assessment. In Manitoba's judgment, an adequate quantitative risk assessment is still needed. In this regard, Manitoba would note that one peer reviewer with expertise in ecological risk and consequence analysis, Dr. Nicholas A. Friedenberg, commented: 2-8

- There is need for a quantitative rather than a qualitative approach to risk analysis, similar to Manitoba's assessment and lacking in the Bureau's Final SEIS;
- The failure of the treatment facility and warning systems or control valves could be correlated or dependent. Specifically, Dr. Friedenberg noted that correlation and dependency of events are often overlooked, leading to widespread underestimates of risk. Although Dr. Friedenberg noted that the trans-basin effects analysis report concludes that biota transfer is highly unlikely in part because it would depend on a cascade of events, he also pointed out that such a cascade is itself only unlikely if its components are considered independent events; and
- The report describes the transfer of biota as a result of an episodic failure of treatment systems. However, Dr. Friedenberg noted that is more likely to be the result of variation in a constant, chronic failure to inactivate/physically exclude AIS. Given that three of the five Biota WTP options fail to exclude biota, this conclusion is of great concern to Manitoba.

Ultimately, Dr. Friedenberg's review further supports the conclusion that the Bureau's risk assessment is flawed.

Fourth, as in previous documents assessing the NAWS Project, the Final SEIS acknowledges that the alternatives that use Missouri River water add an additional pathway for biota of concern to enter the Hudson Bay Basin but dismisses the consequences of this additional risk since non-Project pathways for biota transfer already exist. This logic is flawed and fails to recognize several key points:

- The Missouri River and Hudson Bay watersheds are unique, separate 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.
- Biotic communities have remained largely distinct between the Missouri River and Hudson Bay Basins for thousands of years and thus the existence of purported non-Project pathways is largely irrelevant.
- The Missouri River alternatives could transfer biota of concern to the Hudson Bay Basin that might not otherwise be transferred through non-Project pathways.
- The Project could move significant quantities of water from the Missouri River Basin to the Hudson Bay Basin, greatly exceeding volumes of water transported through non-Project pathways.
- Given the significant effort currently underway across the jurisdictions to reduce the risk of transfer of biota of concern from human action, the relative importance of the Project pathway might actually increase over time.

2-9

Fifth, the Final SEIS inadequately evaluates the risks and consequences associated with the five biota water treatment plant options. The Final SEIS acknowledges that three of the treatment options do not include the removal of biota (Page 2-50 and Page 2-52) or the removal of biota at all times (Page 2-53). The Final SEIS admits, "The addition of filtration at the Biota WTP would slightly reduce the Project-related risks as compared to the preferred alternative identified in the Draft SEIS" (App. K, Response No. 23-59). Still, the Final SEIS concludes that all five of the Biota WTP options are sufficient to reduce the Project-related risk for AIS transfer. The flawed analysis in the Final SEIS leads to an evaluation of alternatives that fails to recognize that the five Biota WTP options provide differing levels of protection and that only those options that include filtration (conventional treatment and microfiltration) can significantly reduce the risks of AIS transfer.

2-10

Sixth, the risks and consequences associated with an uncontrolled release of water from the South Prairie Storage Reservoir are not assessed in the Final SEIS. The transboundary effects report (Appendix E) includes no analysis of the risks associated with the South Prairie Storage Reservoir which is clearly to be located in the Hudson Bay Basin and in the contributing drainage basin (Figure 8, Page 71). The reservoir would receive water from the Biota WTP, it would provide 3 million gallons ("MG") of system storage and, because of its high elevation, the reservoir would feed the Minot WTP by gravity, thereby suggesting that an uncontrolled release from the reservoir would flow into the Hudson Bay Basin (Appendix J, page J-49). The risk assessment in Appendix E assumes that the risks between the Biota WTP and the Minot WTP are limited to the pipeline which is buried and thus effects would be limited to contact with soil. However, the South Prairie Storage Reservoir is expected to be constructed "above ground" (Page 2-34) because it would "allow the reservoir to be constructed from steel plates, which is a more cost effective material for storage capacities up to 3 MG." (Appendix J, Page J-49).

2-11

Potential risks and consequences associated with an uncontrolled release from the South Prairie Storage Reservoir to surface waters have not been assessed in the Final SEIS.

Seventh, planned water releases during pipeline maintenance are not considered in the Final SEIS. The Final SEIS states, "Operation and maintenance of water pipelines also periodically requires draining a portion of the line for inspection and possible repairs to maintain integrity of the pipe." (Page 4-90). While the Final SEIS indicates that that ongoing operation and maintenance would occur as per the best management practices outlined in Appendix F, there is no information provided on how water drained from the portion of the line flowing from the continental divide to the Minot WTP would be managed (a distance of about 17 miles – Page 4-101). Appendix F indicates that "construction" activities would comply with the *Clean Water Act,* but ongoing operation and maintenance is not discussed. The risk assessment provides no assessment of the potential risks and consequences associated with operating and maintaining the water pipelines between the continental divide and the Minot WTP. 2-12

* * * *

We hope that these comments are useful to the Bureau. We look forward to working with the Bureau as it considers the way forward on the NAWS Project.

Sincerely,

Bruce Gray
Assistant Deputy Minister
Water Stewardship Division

c: Grant Doak, Deputy Minister, Conservation and Water Stewardship
Nicole Armstrong, Director, Water Science and Management
International Joint Commission and International Souris River Board Co-Chairs

Response 2-1 This comment is noted and included as part of the Project record. There are many pathways, both anthropogenic and natural, through which aquatic invasive species (AIS) can be transferred between basins. Risks of AIS transfer were thoroughly evaluated in the *Transbasin Effects Analysis Technical Report* (Appendix E) and in Chapter 4 of the Final SEIS, which concluded that the Project poses a much lower risk of transfer than competing non-Project pathways. *Myxobolus cerebralis*, the causative agent of whirling disease, occurs in parts of the Missouri River basin in western Montana. It has not been detected in North Dakota, and is unlikely to become established in the state due to the absence of any naturally reproducing salmonid populations. Furthermore, the impacts of whirling disease in parts of the United States cannot be used to reliably predict potential impacts to the receiving waters in the Hudson Bay basin, including Lake Winnipeg. Potential impacts are highly dependent on the distribution and abundance of susceptible hosts. As noted by the Canadian government in their comments on the Red River Valley Water Supply Project's Environmental Impact Statement, "… there are very few water bodies in the Canadian portion of the area of concern where there are self-supporting populations of rainbow trout *Oncorhynchus mykiss* and those salmonids that are resident in the area of concern are relatively unaffected by the presence of *M. cerebralis*".

Response 2-2 This comment is noted and included as part of the Project record. Reclamation appreciates Manitoba's endorsement of the Biota water treatment plant (WTP) option included in the preferred alternative of the Final SEIS.

Response 2-3 As concluded in analyses conducted in support of the Final SEIS, all of the Biota WTP options evaluated, in combination with other control system components, would significantly reduce the risk of a Project-related transfer of aquatic invasive species. The level of risk reduction varies among the options, with more advanced treatment options further reducing the already very low Project-related risk. In addition, the decision made in this document includes the Conventional Treatment Biota WTP option which reduces the potential for formation of disinfection byproducts with regards to drinking water, as well as providing additional physical barrier, which the commenter has previously expressed as essential in its opinion to remove AIS of concern. The commenter's acknowledgement of the selected Biota WTP option as the 'right choice' is noted.

Response 2-4 In this decision document, Reclamation has committed to develop and implement an adaptive management plan in accordance with U.S. Department of the Interior's policy. This request for participation as a member of the stakeholder team in the development of this plan will be considered in the future as the Project moves forward in the design and implementation phases, pending the outcome of the ongoing litigation.

Response 2-5 The decision document contains the following environmental commitments:

- An emergency response plan with special emphasis on potential biota transfer issues will be developed.
- Final design plans and construction specifications for the Biota WTP will be provided to Manitoba Water Stewardship prior to awarding a construction contract for this Project component.
- A water quality monitoring plan will be developed in the adaptive management plan as stated in Table 4 Environmental Commitments.

- Annual monitoring data will be provided to interested stakeholders.

Response 2-6 The Secretarial determination is a requirement of the authorizing legislation for the Project (Garrison Diversion Reformulation Act of 1986[P.L. 99-294] and the Dakota Water Resources Act of 2000 [P.L. 106-554); and is separate from the NEPA process as outlined by the Council on Environmental Quality (CEQ) implementing regulations (40 CFR 1500-1508). The need to revisit the 2001 Secretarial determination has been considered and no additional action is required as explained in Reclamation's response to the same comment provided on the Draft SEIS (see Appendix K – Response 23-3). The commenter has provided no new or additional information, therefore there is nothing warranting Reclamation reconsidering or amending its original response.

Response 2-7 The SEIS evaluated a reasonable range of alternatives utilizing inbasin groundwater and surface water sources, as well as water from the Missouri River, specifically Lake Sakakawea. Reclamation worked with the cooperating agencies to evaluate available water sources and numerous ways to utilize the water sources during the initial formulation phase of alternative development. Under NEPA, the range of alternatives required to be evaluated by an environmental impact statement (EIS) is governed by the rule of reason, which requires an EIS to set forth only those alternatives necessary to permit a reasoned choice. Alternatives must be feasible and consistent with the statement of purpose and need. Feasible alternatives are those that can be carried out based on technical, economic, and environmental factors, as well as common sense (40 CFR 1502.14; Forty Most Asked Questions Concerning the Council on Environmental Quality NEPA Regulations No. 2a [Federal Register 18026, March 23, 1981; as amended, 51 Federal Register 15618, April 25, 1986]). Through a deliberative process, a reasonable range of alternatives was identified for thorough evaluation in the SEIS. Reclamation complied with 40 CFR 1502.14 by providing the justification of why some alternatives were considered but eliminated. This regulation states the lead agency, in disclosing those alternatives considered but eliminated from further study, should "briefly discuss the reasons for their having been eliminated."

As disclosed in Chapter 2 and Appendix C -1 – *Alternatives Development Process*, during the public scoping process Reclamation received numerous comments on the scope of analysis for the SEIS, which included the use of the reverse osmosis treatment process. Specifically, Option 3-enhancement of existing groundwater systems, was considered and eliminated for several reasons as stated in Appendix C – *Alternatives Formulation*. The use of reverse osmosis treatment in this option was economically in-feasible for the size of communities being served and in addition, water managers within the Project area expressed concern regarding their ability to hire and maintain staff with the skill level required to operate a reverse osmosis treatment facility. Qualified individuals are difficult for small communities to reasonably attain.

Reclamation does not concur with Manitoba's contention that construction of multiple community-based advanced water treatment plants (such as reverse osmosis) is consistent with contemporary and sustainable water management principles. Rather, development of regional water systems with centralized treatment facilities represents an ongoing trend in contemporary drinking water management because it is typically the most cost effective way to ensure a reliable supply of high quality drinking water to rural areas and small communities. Furthermore, sustainability is not related to whether or not the water supply involves an

interbasin transfer. Rather, sustainability is assessed based on the ability to meet current and future water needs while minimizing adverse impacts to the source waters. Results of the analyses completed in support of the SEIS demonstrate that the Missouri River represents the most sustainable water supply option for the Project.

Finally, in regards to Canada's longstanding opposition to interbasin water transfers, Reclamation notes that more streamflows are diverted out of their basin of origin in Canada than any other country in the world. For example, the average rate of interbasin water transfer flow in Canada is about 156,000 cfs, which is more than six times greater than the United States with a transfer rate of about 25,000 cfs. There are 62 diversion projects developed across Canada, with seven of those in Manitoba (Ghassemi and White 2007).

Response 2-8 Reclamation has taken a 'hard look' at the risks and consequences related to the transfer of aquatic invasive species in Canada as documented in the *Transbasin Effect Analysis Technical Report* (Appendix E). This technical report underwent an independent technical peer review with a panel of experts in the fields of fish pathogens and parasites, ecological risk and consequence analysis, and surface water treatment. The peer review report (*Peer Review of the Draft Transbasin Effects Analysis Technical Report, Northwest Area water Supply Project, North Dakota*) and *Reclamation Response to Comments and Recommendations in: Peer Review Report on Draft Transbasin Effects Technical Report* were provided as supporting documents with the Final SEIS. The *Transbasin Effects Analysis Technical Report* was summarized in the SEIS and comments pertaining to this analysis were responded to in Appendix K of the Final SEIS (see Appendix K- Responses 23-4, 23-7 through 23-19, 23-25 through 23-54). Reclamation's evaluation of controversial issue and disclosure of the information to the public in the SEIS was acknowledged by the Government of Canada in their comment letter (Letter #5) on the Final SEIS which states "…we note that the Final SEIS took 'a hard look' at possible environmental impacts within the Canadian environment – an action vitally important from the perspective of the Canadian government…"

The SEIS, including Appendix E - *Transbasin Effects Analysis Technical Report*, supplements the analyses that were conducted for the 2008 Final EIS on Water Treatment. Previous analyses, including U.S. Geologic Survey (2007) have not been abandoned as the comment asserts. Rather, those analyses informed the additional analysis completed for the SEIS. Reclamation responded to a similar comment provided on the Draft SEIS and the commenter has provided no new or additional information, therefore there is nothing warranting Reclamation reconsidering or amending its original response (see Appendix K – Response 23-7).

The commenter focuses on a few select comments from one peer reviewer to support its assertion that the Transbasin Effects Analysis is flawed. However, the basic conclusion of the peer review panel states, "[o]verall, the reviewers found the draft *Transbasin Effects Analysis Technical Report* to be based on the best available science and its results and conclusions to be supported by that science, given the uncertainties." Reclamation considered all comments provided by all members of the peer review panel and responded to their comments and revised the technical report as appropriate in response to their comments. In the technical report and in responses to the peer review comments, Reclamation provided a thorough discussion of its rationale in addressing the peer review comments and identified the changes made to the technical report in response to the comments.

With respect to the peer reviewer's comments specifically identified by the commenter, Reclamation considered a quantitative approach to the risk analysis, but a qualitative risk approach was selected as the best method following a thorough review of available information, risk assessment methodologies, data gaps, and the development of a Project plan of study, based on input from experts representing the cooperating agencies, including the U.S. Environmental Protection Agency (EPA). In response to a previous comment on the Draft SEIS (see Appendix K – Response 23-7), Reclamation also noted that the most extensive biota surveying effort conducted to date in the Hudson Bay Basin supported the Devils Lake – Red River Basin Fish Parasite and Pathogen Project (Bensley et al 2011) and the International Joint Commission nonetheless selected a qualitative approach as the preferred method for evaluating risk. The International Joint Commission is composed of members representing the federal governments of Canada and the United States.

Reclamation also considered Dr. Friedenberg's comments regarding correlation and dependency of events and responses are included in the SEIS supporting document, *Reclamation Responses to Peer Review Comments* (see comments/responses NF-4, NF-13 and NF-14). Reclamation concluded that simultaneous failures at the Biota WTP the main transmission pipeline or Minot WTP would be required for a release of untreated or undertreated water into a contributing drainage in the Hudson Bay basin to occur, and that potential failures of these components would likely be independent and uncorrelated because these Project components are geographically separated and functionally independent (see Chapter 4 pages 4-101 through 4-103, Appendix E and Appendix K – Response 23-32.

Response 2-9 The SEIS does not dismiss the consequences of AIS transfer, but does reasonably conclude that the consequences would be the same regardless of the transfer pathway (see Chapter 4, Aquatic Invasive Species section and Appendix E – *Transbasin Effects Analysis Technical Report*). The commenter provides bulleted statements on five areas within the SEIS analysis where it believes the analysis is flawed. Reclamation responded to several similar comments provided on the Draft SEIS (see Appendix K – Responses 23-1, 23-18, 23-19 and 16-10) and the commenter has provided no new or additional information, therefore there is nothing warranting Reclamation reconsidering or amending its original responses. The commenter states that the Missouri River basin and the Hudson Bay basin are ecologically distinct and notable for their different species compositions, including pathogenic species such as bacteria, viruses, protozoa, fungi, and other microscopic plant and animal parasites. As noted in response to a similar comment provided on the Draft SEIS (see Appendix K – Response 23-18) this statement is incorrect, and in fact the basins are more notable for their similarities in species compositions, particularly in regard to microscopic organisms. Two of the bullets are vague statements regarding biota of concern not otherwise transferred through non-Project pathways and a comparison of the volume of water transferred by the Project versus volumes of water transferred through non-Project pathways. The commenter provides no data, citations to scientific literature, or a technical basis in support of these statements; therefore Reclamation cannot respond to the accuracy of these statements and will continue to rely on the scientific data and methods used in the analyses supporting the SEIS.

The volume of water transferred is one of several factors that influence the risk of transfer and establishment of invasive species. Other factors include the concentration of potentially invasive microorganisms in the water transferred, the location of the transfer, and the availability of

suitable habitat (including susceptible hosts for pathogens and parasites). These other factors have a much greater influence on the risk and potential consequences of transfer (see Appendix K – Response 23-17). This is particularly true given that the transferred water would meet all Safe Drinking Water Act standards under the alternative selected in this decision document.

The relative risks of Project-related and non-Project pathways may change over time, but non-Project pathways will always be more diffuse and difficult to control than the Project, where the water would be treated twice and contained in a buried pipeline constructed with additional safeguards as discussed in Chapter 2 (see page 2-13). As a result, non-Project pathways will continue to pose a much higher risk than the Project. And, once an invasive species is transferred and becomes established, additional transfers to the same waterbody pose little risk. For example, in 1977 the International Joint Commission considered the potential transfer of rainbow smelt to Lake Winnipeg to be one of the greatest risks posed by the Garrison Diversion Unit as it was envisioned at that time. Despite the fact that no interbasin transfer has occurred under the Garrison Diversion Unit, rainbow smelt were transferred to Lake Winnipeg and are now abundant in the lake. Similarly, without any Garrison Diversion Unit interbasin water transfer, zebra mussels were documented at several locations in Lake Winnipeg in 2013 and again in 2014, and in the Canadian portion of the Red River in 2015.

Response 2-10 The SEIS does not fail to recognize that the level of risk reduction varies among the biota treatment options evaluated as the commenter contends. In fact, the quote from the SEIS included in this comment demonstrates that varying levels of risk reduction were explicitly considered. After extensive analysis, Reclamation concluded that all of the biota treatment options evaluated would significantly reduce the risk of AIS transfer compared to the transfer of untreated water. The commenter's assertion that only options including filtration would significantly reduce the risk is not supported by the available science. However, Reclamation acknowledges that filtration provides additional risk reduction as compared to treatment options not including filtration.

Response 2-11 As stated in Response 2-8, the risk and consequences analysis conducted in support of the SEIS supplements previous analyses completed by the U.S. Geological Survey. The system failure analysis was conducted for major Project infrastructure components and the analysis includes consideration of environmental conditions potentially influencing failure such as soil corrosivity, earth movements, soil heave, etc. as discussed in Appendix E – *Transbasin Effects Analysis Technical Report*. In the alternative selected for implementation in this decision document, water in the South Prairie Reservoir will be treated at the biota WTP, with chemical disinfection, ultraviolet irradiation and filtration, prior to being conveyed through the main transmission pipeline to the reservoir. An uncontrolled release from the reservoir would be highly unlikely, and even were it to occur, it would not significantly increase the Project-related risk given the treatment process at the Biota WTP. Reclamation notes that the City of Winnipeg recently completed construction of a water treatment plant that is very similar to the Biota WTP included in the Preferred Alternative, and the city states that the plant "virtually eliminates the risk of waterborne disease" (http://www.winnipeg.ca/waterandwaste/water/treatment/default.stm#wtp, accessed June 19, 2015). Finally, as stated in Response 2-8, Reclamation has taken a 'hard look' at the risks and consequences related to the transfer of AIS in the Hudson Bay Basin as acknowledged by the Government of Canada in their comment letter (Letter #5) on the Final SEIS which states "…we

note that the Final SEIS took ‘a hard look’ at possible environmental impacts within the Canadian environment – an action vitally important from the perspective of the Canadian government…”

Response 2-12 Planned releases for periodic pipeline maintenance would not significantly increase the risk of AIS transfer. Planned releases would be of water that has been treated at the Biota WTP and would not occur if the Biota WTP was not operating as designed. Additionally, to comply with the Clean Water Act, planned releases would not be made to any stream or waterbody, except in compliance with the Project’s discharge permits. In addition, as stated in Response 2-8, Reclamation has taken a “hard look” at the risks and consequences related to the transfer of AIS in the Hudson Bay Basin.

North Dakota Department of Transportation

Grant Levi, P.E.
Interim Director

Jack Dalrymple
Governor

April 28, 2015

Michael J. Ryan
Regional Director
US Department of Interior
Bureau of Reclamation
P.O. Box 36900
Billings, MT 59107-6900

FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT MANAGING WATER IN THE WEST, NWAWS, WARD, RENVILLE, MCHENRY, COUNTIES, NORTH DAKOTA

RD
DRD
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1000

We have reviewed your April 7, 2015, letter.

This project should have no adverse effect on the North Dakota Department of Transportation (NDDOT) highways.

3-1

However, if because of this project any work needs to be done on highway right of way, appropriate permits and risk management documents will need to be obtained from the Department of Transportation District Engineer, Jim Redding, Minot at 701-837-7625.

Robert Fode

ROBERT A. FODE, P.E., DIRECTOR – OFFICE OF PROJECT DEVELOPMENT

57\raf\js
c: Jim Redding, Minot District Engineer

Response 3-1 Reclamation and the Project sponsor will continue to inform and coordinate with the state's Department of Transportation to obtain any required permits and risk management documents throughout the construction of the Project.

4

GARY L. PEARSON, D.V.M.
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May 5, 2015

Mr. Michael J. Ryan
Regional Director
U. S. Department of the Interior
Bureau of Reclamation
Great Plains Regional Office
P. O. Box 36900
Billings, Montana 59107-6900

Dear Mr. Ryan:

Enclosed are my comments on the Bureau of Reclamation's April 2015 Northwest Area Water Supply Project, North Dakota, Final Supplemental Environmental Impact Statement.

Because the Final Supplemental Environmental Impact Statement for the Northwest Area Water Supply Project upon which Reclamation's Record of Decision on the Northwest Area Water Supply Project will be based will be subject to review by the U. S. District Court for the District of Columbia, I would recommend that a senior official on your staff who has not been involved in the development, analysis, promotion or legal defense of the NAWS Project be assigned to read these and other comments received on the Final SEIS.

I would also strongly encourage you to read at least Replies 16-20 to 16-32 and the Conclusion of the enclosed comments, which is based on 47 pages of extensively documented comments on the Draft SEIS for the NAWS Project and another 54 pages of thoroughly documented replies to Reclamation's responses to those comments. The Conclusion is:

> "Reclamation's failure to address substantively, objectively and forthrightly the compelling evidence demonstrating that an in-basin water supply alternative for the NAWS Project would not only be feasible and would avoid the potentially serious environmental impacts of a Missouri River diversion, but also would cost a fraction of the $244,000,000 for Reclamation's Missouri River and Groundwater Preferred Alternative with the Conventional Treatment Option (Final SEIS, p. 2-65), is one of the most significant and stunning revelations in the 29-year Northwest Area Water Supply Project National Environmental Policy Act environmental impact analysis process.

Communities and rural water systems located within the Hudson Bay Basin region of North Dakota and the North Dakota State Water Commission, which is principally responsible for the planning, design and construction of the NAWS Project (Final SEIS p. 1-1), may be required by North Dakota law to develop supplemental water supply projects using water from the Missouri River (Comments on the Final SEIS, pp. 4-5, Reply 16-20), but the Federal National

Environmental Policy Act requires the Bureau of Reclamation to provide a "**detailed** statement . . . on alternatives to the proposed action" (emphasis added), including alternatives for meeting the future water needs of the NAWS Project area based on existing in-basin groundwater sources (Replies 16-21 to 16-32).

Sincerely,

Gary L. Pearson

Gary L. Pearson, D.V.M.

COMMENTS ON THE
U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

APRIL 2015

NORTHWEST AREA WATER SUPPLY PROJECT
NORTH DAKOTA
FINAL SUPPLEMEMNTAL
ENVIRONMENTAL IMPACT STATEMENT

Prepared by

Gary L. Pearson, D.V.M.
1305 Business Loop East
Jamestown, North Dakota

May 5, 2015

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INTRODUCTION

The Bureau of Reclamation's (Reclamation) April 2015 *Northwest Area Water Supply Project, North Dakota, Final Supplemental Environmental Impact Statement* (Final SEIS) states that:

> "Reclamation has prepared this Final SEIS in response to substantive comments on the Draft SEIS related to environmental issues. Comments were received from reviewing state and federal agencies, organizations, and interested and potentially affected members of the public. Some changes were incorporated into the Final SEIS in response to comments on the Draft SEIS, but these revisions do not fundamentally change the impact analysis or the results presented in the SEIS. . ." (Final SEIS p. 1-10).

In fact, the only substantive change in the proposed Northwest Area Water Supply (NAWS) Project resulting from comments received on the Draft SEIS is:

> "In response to concerns raised by the U. S. Environmental Protection Agency, Reclamation changed the Biota WTP [Water Treatment Plant] **option included in the preferred alternative** to the Conventional Treatment option. . ." (Emphasis added) (Final SEIS p. 1-10)

Otherwise, Reclamation's responses to comments received on the Draft SEIS appear to be designed primarily to dismiss the issues, avoid addressing issues by quibbling over semantics, reject comments with unsubstantiated statements about a lack of technical substantiation when it is Reclamation that should have provided the data in the Draft SEIS, and frequently to disregard information in Reclamation's Draft SEIS that contradicts its responses.

The Final SEIS states that:

> "In accordance with NEPA [National Environmental Policy Act] requirements, there will be a minimum 30-day period between the availability of the Final SEIS and the issuance of a ROD [Record of Decision]. Comments on the Final SEIS may be offered to Reclamation for consideration during this time. . ." (Final SEIS p. 1-11)

Because no substantive changes were made in the NAWS Project alternatives described in the Draft SEIS, because the impact analysis provided in the Final SEIS is not fundamentally changed, and because the 30-day "waiting period" (Ryan 2015) is not sufficient for the preparation of a detailed analysis of the 413-page Final SEIS and its over three inches of appendices, the following review will focus on Reclamation's Responses to my September 3, 2014, Comments on the U. S. Department of the Interior, Bureau of Reclamation, July 2014 Northwest Area Water Supply Project Draft Supplemental Environmental Impact Statement. (Comments; Pearson 2014). 4-1

REVIEW OF BUREAU OF RECLAMATION RESPONSES TO COMMENTS ON THE NORTHWEST AREA WATER SUPPLY PROJECT DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

The format of this review of the Bureau of Reclamation's responses to my Comments on the Northwest Area Water Supply Project Draft Supplemental Environmental Impact Statement follows the organization of the Comments and presents the specific comments to which

Reclamation chose to respond in italics, followed by Reclamation's Response from Appendix K of the Final SEIS, and then a Reply to the Response. Numbered comments refer to Reclamation's responses in the Final SEIS Appendix K. The review also includes selected significant non-italicized comments to which Reclamation did not respond, as well as additional non-italicized text to provide context for Reclamation's responses. References cited in the text of Comments and not listed here but cut can be found in the Reference section of the Comments. References cited in the Replies are listed in the References section of this review.

Introduction

Comment:

"Although the Northwest Area Water Supply (NAWS) Project is a Federal project, authorized by Federal legislation and with up to 75 percent of the costs paid by Federal funding (Draft SEIS p. 4-176):

'The planning, design and construction of the Project is a cooperative effort between Reclamation and the State of North Dakota. Reclamation is providing technical and financial assistance for the planning and construction of the Project. **The North Dakota State Water Commission (SWC)** is the project sponsor and **has worked extensively** with the communities and rural water systems to **develop a plan** that would meet their water needs.' (Emphasis added) (Draft SEIS p. 1-1)

What this means is that NAWS is a Federal project that will be funded largely by Federal tax revenues, but it is being designed by the North Dakota State Water Commission with only 'technical and financial assistance for the planning and construction' from the Bureau of Reclamation." (Comments p. 3)

4-2

Reclamation's Response:

None.

National Environmental Policy Act Compliance

Comment:

"The 'SWC et al. 2001' citation in the Draft SEIS is for:

North Dakota State Water Commission (SWC), North Dakota Garrison Diversion Conservancy District, Bureau of Reclamation. 2001. NAWS Northwest Area Water Supply Project Final Environmental Assessment. Prepared by Houston Engineering, Inc., American Engineering P. C., Montgomery Watson, and Bluestem Incorporated. (Draft SEIS p. 6-18)

As was noted in comments on the scoping of the subsequent NAWS Project Draft Environmental Impact Statement on Water Treatment (Pearson 2006, Attachment No. 2), Council on Environmental Quality Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act state that any Environmental Impact Statement prepared pursuant to the requirements of NEPA:

'. . . shall be prepared directly by or by a contractor selected by the lead agency. . . . It is the intent of these regulations that the contractor be chosen by the lead agency, or by the lead agency in cooperation with the cooperating agencies, or where appropriate by a cooperating lead agency **to avoid conflict of interest**. Contractors shall execute a disclosure prepared by the lead agency. . . specifying that they have no **financial or other interest in the outcome of the project**.' (Emphasis added)" (Comments, p. 5)

The comment then pointed out that the Environmental Assessment for the NAWS project had been prepared for the North Dakota State Water Commission, the Garrison Diversion Conservancy District and the Bureau of Reclamation by Houston Engineering, Inc., American Engineering PC, Montgomery Watson and Bluestem Incorporated, that both the State Water Commission and the Conservancy District have mandates under North Dakota statutes to pursue the diversion of water from the Missouri River into the Hudson Bay Basin of North Dakota, and that Houston Engineering, American Engineering P.C., Montgomery Watson and Bluestem Incorporated, all have long histories of contractual relationships with the State Water Commission, the Conservancy District, and others with vested interests in Missouri River diversion and, consequently, have clear financial interests in the outcome of the NAWS project.

4-3

Reclamation's Response:

None.

Comment 16-1:

"It should also be noted that four years after the explicit determination in the U. S. District Court's March 5, 2010, Memorandum Opinion that:

'One final point must be addressed. **Reclamation asserts that** it has no duty to take a "hard look" at the consequences of biota transfer in Canada because **NEPA does "not require assessment of environmental impacts within the territory of a foreign country**" and "therefore this type of evaluation is considered outside the scope of the EIS." 2009 AR 2008_172 at 20. However, the Council on Environmental Quality "has determined that agencies must include analysis of proposed actions in the United States" [citations omitted]. NEPA requires agencies to consider reasonably foreseeable transboundary effects resulting from a major federal action taken within the United States [citation omitted]. Accordingly, when analyzing the consequences of biota transfer in the Hudson Bay Basin, Reclamation must include in its analysis the impacts in Canada.' (Emphasis added)

the Bureau of Reclamation still defiantly asserts that:

'NEPA does not require federal agencies to carry their impact analysis into the sovereign territories of foreign governments." *(Emphasis added) (Draft SEIS p. 1-7)*

but then condescendingly states:

'However, in order to comply with the court's decision, Reclamation has done so in this particular case.' (Draft SEIS p. 1-7)

Unfortunately, as the following comments demonstrate and document, this intransigent institutional attitude continues to undermine the objectivity and credibility of the current Northwest Area Water Supply Project Draft Supplemental Environmental Impact Statement." (Comments pp. 9-10)

Reclamation's Response 16-1:

"In this case, Reclamation has undertaken an evaluation of the potential impacts from the Project to the Canadian environment consistent with the Court's order. The text in the Final SEIS has been amended."

Reply 16-1:

4-4

It is gratifying to see that Reclamation has decided at least to temper its open contempt for the U. S. District Court and Council on Environmental Quality guidelines "in this case" by removing these defiant and condescending statements from the Final SEIS. Unfortunately, this same intransigent institutional attitude continues to undermine the objectivity and credibility of the current Northwest Area Water Supply Project Final Supplemental Environmental Impact Statement.

The Preferred Northwest Area Water Supply Project Alternative

Comment 16-2:

*"Therefore, the $207,000,000 Preferred Missouri River and Groundwater Alternative identified in the 2014 Draft SEIS (pp. 2-60, 2-61) has not been changed in any substantive way from the Preferred Alternative identified in the 2008 NAWS Project Final Environmental Impact Statement on Water Treatment to reduce the **risk** of the transfer of invasive species from the Missouri River to the Hudson Bay Basin by the NAWS Project."* (Emphasis in original) (Comments p. 11)

Reclamation's Response 16-2:

"The 2008 Final EIS on Water Treatment included a preferred alternative of chlorination/UV inactivation at the Biota WTP near Max, ND. The Draft SEIS identified the Missouri River and Groundwater Alternative as the preferred alternative which included the chlorination/UV Inactivation Biota WTP option, therefore this comment is correct in stating that the treatment process proposed to reduce the risk of AIS [aquatic invasive species] transfer is the same."

Reply 16-2:

4-5

It is important to recognize that the risks of biota transfer from the Missouri River Basin to the Hudson Bay Basin posed by the NAWS Project alternatives discussed in the Final SEIS are the same as the risks posed by the NAWS Project alternatives that were proposed at the time the U. S. District Court determined in its February 3, 2005, Memorandum Opinion that:

". . . Manitoba has raised the specter of significant environmental consequences that deserve serious consideration."

and pointed out that:

"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. Therefore, even a low risk of leakage may be offset by the possibility of catastrophic consequences should leakage occur. Without some reasonable attempt to measure these consequences instead of bypassing the issue out of indifference, fatigue, or through administrative legerdemain, the Court cannot conclude that BOR [Bureau of Reclamation] took a hard look at the problem." (See Comments pp. 6-7)

Environmental Impacts in Canada

Affected Environment

Comment 16-3:

"The Hudson Bay Basin is the largest ocean watershed in Canada, it covers an area of 1,490,000 square miles, all but a small portion of which is located in Canada, and it extends over five Canadian provinces, including Alberta, Saskatchewan, Manitoba, Quebec and the Northwest Territories - equivalent to half the size of the United States. The Hudson Bay Basin includes Lake Winnipeg, Lake Manitoba and Lake of the Woods and it is drained by the vast Nelson, Churchill and Saskatchewan river systems with their additional thousands of lakes. The Hudson Bay Basin comprises one of the largest and, in many places, most pristine ecosystems remaining on North America.

How does the Draft SEIS describe this 1.5 million square-mile Hudson Bay ecosystem for which it purports to analyze the environmental impacts of introducing up to 29,100 acre-feet of water per year (Draft SEIS p. 4-78) from the 529,350 square-mile Missouri River Basin draining nearly one-sixth of the area of the United States, including all or portions of ten states?

It doesn't." (Comments p. 11)

Reclamation's Response 16-3:

"Chapter 3 of the SEIS describes resources in the Hudson Bay basin that could be affected by Project alternatives including No Action, consistent with NEPA's Implementing Regulations (40 CFR 1502.15). For example, the analysis of Souris River hydrology is limited to the portion of the river where water withdrawals could have measurable effects. For AIS transfer, the affected environment analyzed in the SEIS is expanded to include portions of the watershed downstream of Minot to Lake Winnipeg in response to input during the public scoping process. Lake Winnipeg is the largest freshwater lake in Southern Canada. The Lake Winnipeg watershed includes the Souris River, and any Project-related AIS transfer potentially affecting Canada would occur in

the Souris River basin. Within the Hudson Bay basin, the risks and potential consequences of a Project-related AIS transfer are greatest for Lake Winnipeg because it lies downstream of the Project, has many of the same ecological receptors as Lake Sakakawea, and has high ecological and economic value. The commenter's characterization of the Hudson Bay basin as a single ecosystem that could be affected by the Project is incorrect and lacks technical support."

Reply 16-3:

4-6

Reclamation's narrow and simplistic understanding of fundamental ecological concepts and its erroneous assertion that the characterization of the Hudson Bay Basin as a single ecosystem that could be affected by the NAWS project is incorrect and lacks technical support are flatly refuted by the findings of the International Joint Commission regarding biota transfer from the Missouri River Basin to the Hudson Bay Basin by the Garrison Diversion Unit, of which the NAWS Project is a part, quoted on pages 23-24 of the Comments:

> "Experience has taught us that the impact of resource developments must be analyzed from **a total systems concept**, and the most fundamental system of all is the biosystem. International boundaries may separate countries but such political arrangements should not divide **natural ecosystems**.
>
> Throughout the course of this investigation, **the study area** went beyond the immediate Boundary areas. It **included not just the Souris, Assiniboine and Red River Basins and Lakes Manitoba and Winnipeg, but also the streams entering or leaving these latter lakes since such streams, including the Nelson River, for example, might be affected by possible transfer of Missouri River biota**."
>
> "The Commission believes it must advise the two Governments to be conservative and proceed very cautiously with new and untried engineering works, the failure of which might seriously affect **the equilibrium of a large natural system such as the Hudson Bay Drainage Basin** that has been achieved over many centuries. . ." (Emphasis added) (International Joint Commission 1977)

Unfortunately, Reclamation's failure to grasp such basic ecological principles is reflected throughout the Draft and Final SEISs for the NAWS Project and underlies many of the serious conceptual flaws and technical deficiencies in Reclamation's analysis of the environmental impacts of the NAWS Project.

Comment 16-4:

> *"The Draft SEIS does not explain how the reader - or the court - is supposed to believe that Reclamation has taken a 'hard look' at the environmental impacts of the NAWS Project in Canada when it does not describe the 1.5 million square-mile Hudson Bay Basin ecosystem where those impacts would occur and upon which its analysis ostensibly is based."* (Comments p. 12)

Reclamation's Response 16-4:

"Reclamation does not concur with this comment as discussed in Response 16-3. Consistent with NEPA's Implementing Regulations, the SEIS 'describe[s] the environment of the area(s) to be affected or created by the alternatives under consideration (40CFR 1502.15).' The Affected Environment chapter (Chapter 3) includes pages of text describing the affected environment for aquatic invasive species as being '...composed of the Missouri River basin, which is a potential source of AIS and the Hudson Bay basin, which includes Canada's Lake Winnipeg area and the surrounding communities...'; The section goes on to describe the AIS of concern, the aquatic environment they could affect, as well as illustrations and descriptions of their known locations within North America. In addition to the natural environment, the SEIS also includes a section describing the Trans-Border Economics Related to Invasive Species.

The Environmental Impacts chapter (Chapter 3) includes approximately 20 pages of discussion on the potential impacts to the environment and economic impacts of each alternative as it relates to AIS. The area of potential effect includes the Hudson Bay basin.

In each of the chapters, the reader is also made aware of information presented in the chapter is a summary of the *Transboundary Effects Analysis Technical Report* which is included as Appendix E of the SEIS. The full text of the report contains additional in-depth discussion, data and illustrations of the analysis completed."

Reply 16-4:

4-7

Reclamation's response is refuted by its own statements and by the documents it cites. For example, Reclamation's response states that the Affected Environment for aquatic invasive species considered in the Draft SEIS "includes Canada's Lake Winnipeg area and the surrounding communities," with no description or mention of the rest of the 1.5 million square-mile Hudson Bay Basin ecosystem. Chapter 3 - Affected Environment of the Draft SEIS does not contain a description of the Hudson Bay Basin ecosystem but is limited to "parts of three ecoregions: the Northwestern Glaciated Plains, Northern Glaciated Plains, and Northwestern Great Plains (Figure 3-1)." (Draft SEIS p. 3-1) And, as was pointed out in the Comments two paragraphs above the one to which Reclamation chose to respond:

> "Figure 3-1 is a map of 10 counties in northwestern North Dakota north of the Missouri River that ends at the Canadian Border (Draft SEIS p. 3-2)"

Finally, the *Transboundary Effects Analysis Technical Report* contained in Appendix E consists simply of a discussion of various biota transfer risk studies, a listing of life history characteristics and distribution of potential aquatic invasive species, a discussion of biota transfer pathways and ecological receptors, a risk assessment and a consequences analysis. The only information on the Hudson Bay Basin ecosystem contained in the Report is a 5 3/16 x 6 11/16-inch "Hudson Bay Basin and Adjacent Drainage Basins" map of North America showing the Project Area, Canada Basin/Regions, Regions and the US/Canada Border (Draft SEIS Appendix E p. ES-6, Figure ES3).

Despite the fact that Reclamation states in its response that "this area of potential effects includes the Hudson Bay basin," nowhere in any of the documents cited by Reclamation is there any substantive description of the 1.5 million square-mile Hudson Bay Basin ecosystem.

Without a description and understanding of the basic components and ecological processes of the Hudson Bay Basin ecosystem, it clearly is not possible to analyze adequately the impacts of projects such as NAWS on the ecosystem, or to know the deficiencies of any analyses that are done.

Risk of Transfer of Invasive Species Into the Hudson Bay Basin

Water Transfer Rule

Comment 16-5:

"The Draft SEIS states that:

> '. . . there are no standards for treatment of interbasin water transfers to control invasive species, and the EPA has published a final rule in the Federal Register (73 FR 33604) that generally exempts interbaisn water transfers from regulation under the National Pollutant Discharge Elimination System permitting system.' (Draft SEIS p. 4-97)

However, *Greenwire* reported on March 31, 2014, that:

> 'A federal judge on Friday sent U.S. EPA's controversial "water transfer rule" back to the agency to reconsider, holding that the agency overstepped its legal authority. EPA's 2008 rule exempted government agency transfers between different bodies of water - if they didn't involve industrial, municipal or commercial use - from obtaining a national discharge permit.
>
> . . .
>
> U.S. District Judge Kenneth Karas of the Southern District of New York ruled that EPA's "justification does not hold water."' (Snider and Jacobs 2014)

The Draft SEIS, which was released three months later does not address the potential implications of the NAWS Project being subject to the requirements of the National Pollutant Discharge Elimination System requirements under the Clean Water Act." (Comments p. 13)

Reclamation's Response 16-5:

"As noted in the Draft SEIS, EPA has issued a regulation clarifying that activities conveying or connecting waters of the United States are not subject to the NPDES permitting requirements (40 C.F.R. 122.3). The decision by the U. S. District Judge for the Southern District of New York has been appealed to the Second Circuit Court of Appeals. At this point, the Water Transfers Rule is in effect in the Project Area. If any activities included in the Project are subsequently deemed to be discharges requiring an NPDES permit, the State of North Dakota, as the Project sponsor, would work to obtain NPDES permits for the relevant activities."

Reply 16-5:

4-8

Reclamation brought up the applicability of Section 404 of the Clean Water Act to the NAWS Project in the Draft SEIS but did not mention that the 'water transfer rule" had been found to be invalid by a U. S. District Court. Reclamation's response does not address the real possibility that the U. S. District Court's ruling could be upheld on appeal and that NPDES permits could be denied for the NAWS Project, require modifications of the Project that would make it economically infeasible or make other alternatives, such as in-basin sources, even more feasible.

Rescinding of the "water transfer" rule is a reasonably foreseeable Federal action that should have been addressed in the Draft SEIS and certainly should have been addressed in the Final SEIS.

Level of Risk

Comment 16-6:

"It is instructive to note in this context [i.e., that the risk of transfer of biota is a function of the volume of water transferred and the level of treatment provided] that the biota treatment process for the Preferred Missouri River and Groundwater Alternative identified in the Draft SEIS is not modified from the Preferred Missouri River Alternative identified in the prior 2008 NAWS Project Final Environmental Impact Statement on Water Treatment, but *the volume of Missouri River water to be transferred into the Hudson Bay basin has been increased from an average of 12,000 acre feet per year (Reclamation 2008, p. 2-5) to an average of 13,600 acre-feet per year (Draft SEIS p., 5-65, Appendix D p. D-25), and the maximum transfer has been nearly doubled from 15,000 acre-feet per year (Bureau of Reclamation 2008 p. 2-5) to 29,100 acre-feet per year (Draft SEIS p. 4-65, Appendix D p. D-15). This is an increase of 13% to 94% from the volumes upon which the Bureau's previous risk analysis was based."* (Comments p. 13)

Reclamation's Response 16-6:

"Under the preferred alternative, the volume of water that would be transferred from the Missouri River basin into the Hudson Bay basin is slightly less than what was proposed in the 2008 Final EIS on Water Treatment (Reclamation 2008).

The estimated future water need is 10.4 mgd (SEIS, Table 2.1). Of this need, 0.3 mgd for the cities of Rugby and Genora would be served by local groundwater, and would not be connected to the project's distribution system. To estimate Missouri River withdrawals, the remaining 10.1 mgd need was increased by 20 percent to account for losses (e.g., due to back flushing filters at the Biota WTP for treatment options that include filtration). This would result in an average withdrawal of 12.1 mgd, or 13,600 acre-feet per year. Note that the volume of water used for backflushing Biota WTP filters would increase Missouri River withdrawals, but would not increase the volume of water transferred to the Hudson Bay basin above that needed to meet future demands.

The 15,000 acre-feet per year figure cited by the commenter is the amount of water reserved under the Project's water permit issued by the State of North Dakota, This water right was established prior to the latest needs assessment for the Project.

The 29,100 acre-feet per year figure cited by the commenter corresponds to the capacity of the main transmission pipeline (26 mgd). The pipeline is sized to meet the peak daily demand, which is 2.5 times greater than the projected average daily demand. Thus, while 26 mgd could be withdrawn from the Missouri River for only a few days each year under the preferred alternative, this volume would not be withdrawn year-round,. As explained in the Draft SEIS, a 29,100 acre-feet per year withdrawal simulation was evaluated solely to provide an upper bound to the maximum possible withdrawal as part of the impact analysis. As explained in Chapter 4-Water Resources-Methods section, it would not be technically feasible to operate the alternatives at this volume.

Also note that the Missouri River depletion analysis presented in the SEIS assumed that 100 percent of the future water needs (less 0.3 mgd for Rugby and Grenora) would be met with Missouri River water. As currently designed, however, at least 1.0 mgd of the future need would be met with groundwater from the Minot and Sundre aquifers. Thus, the volume of water that would be transferred from the Missouri River to the Hudson Bay basin, under the preferred alternative, is not more than evaluated in previous NEPA analyses for this Project."

Reply 16-6:

4-9

The facts are:

1. The Draft SEIS states that:

> "In this SEIS, the two Missouri River alternatives were analyzed based on the Project's forecasted annual withdrawal of 13,600 acre-feet (ac-ft) per year and a theoretical maximum Project withdrawal of 29,100 ac-ft per year." (Draft SEIS p. 4.65)

The Draft SEIS does not indicate that any of this water would be used to backflush filters at the Biota Water Treatment Plant nor does Reclamation's response explain why water for backflusing filters was not mentioned in the 12,000 acre-feet per year water withdrawal listed the 2008 NAWS Project Final Environmental Impact Statement on Water Treatment for the Conventional Treatment Alternative Biota Water Treatment Plant, which included filtration and "Backwash Waste." (Bureau of Reclamation 2008, p. 2-10).

Reclamation says that the 13,600 acre-feet average annual withdrawal listed in the 2014 Draft SEIS includes a 20 percent increase for flushing of filters, so the volume transferred to the Hudson Bay Basin "is not more than evaluated in the previous NEPA analysis for this project."

A 20 percent increase for flushing filters that produces a total 13,600 acre-feet average annual withdrawal would result in 11,333 acre-feet of Missouri River water being transferred into the Hudson Bay Basin (11,333 x 1.2 = 13,600).

Assuming that the 12,000 acre-feet average annual withdrawal listed in the 2008 Final Environmental Impact Statement on Water Treatment would also have included a 20 percent increase to account for backflusing of filters, then an average of (12,000 acre feet withdrawal - 2,000 acre-feet for flushing of filters =) 10,000 acre-feet of Missouri River water would have been transferred annually

4-9 cont.

into the Hudson Bay Basin. Therefore, based on Reclamation's response, the average annual transfer of Missouri River water into the Hudson Bay would be 1,333 acre-feet higher under the project described in the Draft SEIS than under the project described in the 2008 Final Environmental Impact Statement on Water Treatment. That is a 13 percent increase.

Reclamation can't have it both ways. Either Reclamation understated the12,000 acre-feet average annual withdrawals (12,000 acre-feet + 20% for flushing filters = 14,440 acre-feet total withdrawal) in the 2008 Final Environmental Impact Statement on Water Treatment, or the statement in its response that the volume of Missouri River water transferred into the Hudson Bay Basin "is not more than evaluated in the previous NEPA analysis for this project" is not correct.

2. Reclamation acknowledges that:

> "The 15,000 acre-feet per year figure. . . is the water reserved under the Project's water permit issued by the State of North Dakota."

Consequently, there is nothing to prevent withdrawals from the Missouri River under the NAWS Project from being increased to 15,000 acre-feet per year under the current permit. If 20 percent of the water would be used to backflush filters at the Biota Water Treatment Plant, an average of 12,500 acre-feet per year of Missouri River water would be transferred into the Hudson Bay Basin. That would be 500 acre-feet per year more than the 12,000 acre-feet upon which Reclamation's previous risk analysis was based.

3. The Draft SEIS states:

> "Although the transmission line would never be operated at full capacity [29,100 acre-feet per year] year-round, this simulation provides an **upper bound to the maximum possible Project water withdrawal from the Missouri River System**." (Emphasis added) (Draft SEIS p. 4-65)

With the NAWS Project's water transmission line already designed to provide a maximum water withdrawal of 29,000 acre-feet per year, increasing the withdrawal above 15,000 acre-feet per year would require only that the North Dakota State Water Commission, which has a statutory mandate to promote diversions of Missouri River water into the Hudson Bay Basin (See Comments, pp. 5, 26; Reply to Response 16-20, pp. 26-29 below), increase the allocation under the Project's current water permit.

Comment 16-7:

"Thus, not only does the Draft SEIS's Preferred Missouri River and Groundwater alternative do nothing to reduce the risk of biota transfer, but by increasing the volume of the water transfer, it actually increases the risk. To put this increased risk in perspective, it is helpful to consider that, with an annual transfer of 12,000 acre-feet of water, 99.99% biota treatment efficacy would be equivalent to 1.2 acre-feet of untreated Missouri River water being transferred into the Hudson Bay Basin annually, and 13,600 acre-feet of water being transferred with 99.99% biota treatment efficacy would be equivalent to 1.36 acre-feet of untreated water being transferred. Or in a worst case scenario, 29,100 acre-

feet per year of Missouri River water being transferred into the Hudson Bay Basin with 99.99% biota treatment efficacy would be equivalent to 29.1 acre-feet per year of untreated Missouri River water being transferred into the Hudson Bay Basin. That would be equivalent to 9,484,690 gallons - more than 14 Olympic size pools - per year of untreated Missouri River water being transferred into the Hudson Bay Basin by the NAWS Project. And that's with the project's biota treatment and water conveyance systems working perfectly." (Comments p. 13-14)

Reclamation's Response 16-7:

"Reclamation refers the reader to response 16-6 for clarification. Furthermore, the concept of an 'equivalent volume' of untreated water lacks technical support. Using the commenter's logic, one would assume that human illness caused by waterborne pathogens in drinking water should be commonplace, when in fact such incidents are extremely rare. Under the Missouri River alternatives, 100 percent of Missouri River water would be treated prior to crossing the basin divide."

Reply 16-7:

4-10

Readers are referred to the preceding Reply 16-6 to Reclamation Response 16-6 above.

Reclamation cites no "technical support" for rejecting basic logic in order to avoid addressing the issue of the treatment of Missouri River water under the NAWS Project being less than 100 percent effective in preventing the transfer of biota into the Hudson Bay Basin.

Reclamation's assertion that under the "equivalent volume" concept, human illness caused by waterborne pathogens in drinking water should be commonplace when such incidents are quite rare serves only to validate the concept and the issue of biota treatment under the NAWS Project. Reclamation's analogy between treatment to drinking water standards and treatment to prevent biota transfer fails to address the fact that the Safe Drinking Water Standards and National Primary Drinking Water Regulations requirements of 99.9% removal/inactivation of *Giardia* and 99.99% removal/inactivation of viruses from drinking water (Draft SEIS p. 2-55) are sufficient to prevent human illness from waterborne pathogens and protect public health, but they are not sufficient to prevent such low levels of biota from multiplying after being transferred into the Hudson Bay Basin and becoming established as aquatic invasive species.

Reclamation also does not address the facts that (1) treating 100% of 12,000 acre-feet of Missouri River at 99.99 percent biota treatment efficacy is, for purposes of perspective, equivalent to 1.2 acre-feet of untreated Missouri River water being transferred into the Hudson Bay Basin annually, (2) treating 100% of 29,100 acre-feet of Missouri River water at 99.9% biota treatment efficiency is, for purposes of perspective, equivalent to 29.1 acre-feet of untreated Missouri River water being transferred into the Hudson Bay Basin annually, and (3) 29.1 acre-feet is equivalent to 9,482,690 gallons, which is more than the capacity of 14 Olympic size pools.

Comment 16-8:

"The Draft SEIS does not address the effects of increasing the volume of Missouri River water transferred with the NAWS Project by up to 94% on the risk of introducing invasive species into the Hudson Bay Basin." (Comments p. 14)

Reclamation's Response 16-8:

"See Response 16-6"

Reply 16-8:

4-11

See Reply 16-6 to Reclamation's Response 16-6 above.

Reclamation does not address the facts that (1) the maximum withdrawal of Missouri River water under the NAWS Project has been increased from 15,000 acre-feet per year in 2008 (Bureau of Reclamation 2008) to 29,100 acre-feet (Draft SEIS p. 4-65), (2) 29,100 acre-feet is "the upper bound to the to the maximum possible Project withdrawal from the Missouri River system" (Draft SEIS p. 4-65), and (3) 29,100 acre-feet is a 94% increase from 15,000 acre-feet.

Risk Assessment

Comment:

"It is important to note that:

> 'Potential influence from this Project is limited to the **increased or incremental** transfer risk associated with the action alternatives **compared to the condition of No Action**.' (Emphasis added) (Draft SEIS p. 4-96)

This means that the risk analysis presented in the Draft SEIS is not based on the actual risk of biota transfer presented by the NAWS Project, but rather on the **increased** risk presented by the Project, and that **incremental** increase is influenced by how the baseline risk without the Project is determined. For purposes of illustration, if the qualitative risk of biota transfer by the Project were 9 on a scale of 1 to 10, and the baseline risk were determined to be 2, then the incremental risk would be 7. But if the baseline risk were determined to be 8, then the same biota transfer risk of 9 would be an incremental risk of 1. Therefore, even seemingly small over- or under-statements of the risks of biota transfer can significantly skew the incremental risk analysis.

It is instructive to note in this context that the risk analysis presented in the Draft SEIS includes a number of statements acknowledging the high degree of uncertainty of the analysis, but then emphasizing the high baseline risk of biota transfer without the Project while downplaying the risk of biota transfer by the NAWS Project. . ." (Comments p. 14)

Reclamation's Response:

None

Reply:

4-12

4-12 Cont.

Reclamation's failure to respond to the comment constitutes tacit acknowledgement of this important fundamental conceptual flaw in the biota transfer risk assessment for the NAWS Project.

Comment 16-9:

"These statements demonstrate that the risk analysis provided in the Draft SEIS is based on the premise that non-Project transfers of invasive biota into the Hudson Bay Basin are 'reasonably foreseeable' and certain, but the risks of the NAWS Project transferring invasive biota into the Hudson Bay Basin are too complex and too uncertain to define, but nevertheless are inconsequential compared with the risk posed by non-Project pathways and they can be addressed after-the-fact if problems arise. The premise neglects to consider several points." (Comments p. 16)

Reclamation's Response 16-9:

"The risk of transfer and establishment of AIS varies by species, and is dependent upon the life history characteristics of each AIS and the availability of suitable habitat (including susceptible hosts for pathogens and parasites) in the receiving basin, as explained in the AIS section of Chapter 4 and Appendix E. The relative contributions of different pathways to the overall or aggregate risk also vary greatly among AIS. For some species (e.g., *Cryptosporidium parvum*), transfer through natural pathways is indeed inevitable, which accounts for the world-wide distribution of this species, including widespread occurrence in both the Missouri River and Hudson Bay basins. On the other hand, transfer and establishment of *Myxobolus cerebralis* is much less likely to occur through any pathway due to the general lack of suitable hosts in the receiving waters of the Hudson Bay Basin. Project-related risks are not addressed after-the-fact as the comment contends. All known Project-risks are specifically addressed through incorporation of treatment within the Missouri River Basin and control systems within the main transmission pipeline in each of the Missouri River alternatives."

Reply 16-9:

4-13

Reclamation's abstract and diversionary response does not address the fact that the statements from the Draft SEIS cited in the comment confirm that the risk assessment is based on the premise that non-Project transfers of invasive biota into the Hudson Bay are "reasonably foreseeable" and certain, but the risks of the NAWS Project transferring invasive biota into the Hudson Bay Basin are too complex and too uncertain to define, but nevertheless are inconsequential compared with the risks posed by non-Project pathways.

Reclamation's claim that transfer and establishment of *Myxobolus cerebralis* is much less likely to occur through any pathway due to the general lack of suitable hosts in the receiving waters of the Hudson Bay Basin is based on incomplete data. For example, the Draft SEIS acknowledges that:

> "Ecological receptors of concern that may exhibit at least some vulnerability to whirling disease may include brook trout, Chinook salmon, lake trout, whitefish, rainbow trout and shortjaw cisco [citation omitted]. However, studies regarding the sensitivity of lake whitefish and lake trout, **two of the most common**

salmonids in the Hudson Bay basin have been **largely inconclusive.**" (Emphasis added) (Draft SEIS p. 4-106)

4-13 Cont.

The Draft SEIS states:

> "Additionally, **an adaptive management plan would be implemented** that would **monitor the effectiveness of the control system** and include provisions for modifying the control system if the risk changed significantly." (Emphasis added) (Draft SEIS p. 4-112)

Monitoring may detect problems after they occur but it does not prevent them from occurring. Adaptive management is applicable only where monitoring provides information that can then be used to modify management practices. Monitoring the effectiveness of the NAWS Project's biota treatment system will identify problems only after biota transfer potentially already has occurred and when adaptive management no longer is effective.

Comment 16-10:

> *"First, despite having been separated since the retreat of the Wisconsin Glacier, and despite the existence of many of the non-Project pathways identified in the Draft SEIS (e.g., natural interbasin connections, aquatic pathways, animal transport and weather related phenomena [Draft SEIS p. 4-97]) the Hudson Bay Basin and the Missouri River Basin have maintained distinct differences in their flora and fauna for 10,000 years, including many of the 37 Aquatic Invasive Species listed in Draft SEIS Appendix E pp. 11-35. Clearly, the interbasin transfer of biota by natural means is not inevitable."* (Comments p. 16)

Reclamation's Response 16-10:

> "In addition to the pathways noted in the comment, the waters of the Hudson Bay Basin and the Missouri River Basin have been connected through a constructed interbasin diversion from the St. Mary River to the Milk River in Montana for more than 100 years, as described in the Draft SEIS.
>
> When comparing the basins as a whole there are differences in aquatic communities, but these differences cannot be attributed solely to a lack of past species transfers as the comment suggests. The aquatic community of the Churchill River at Churchill, Manitoba is quite different from the aquatic community of the Missouri River at St. Louis, Missouri. This is to be expected, as the tundra and tiaga ecosystems in northern Manitoba are very different from anything found in the State of Missouri. Similarly, there are large differences in the aquatic community within each basin due to climate and geography. Thus, the aquatic community of the Madison River in Wyoming (headwaters of the Missouri River) is very different from the community in the lower Missouri River despite the existence of a continuous surface water connection between them.
>
> It is instructive to note that where the Missouri River Basin and Hudson Bay Basin lie in close proximity to each other, the aquatic communities are marked by their similarities rather than their differences. For example, the aquatic communities in wetlands and small lakes of the Missouri River Basin near Max, North Dakota are indistinguishable from those similar habitats a few miles away in the Hudson Bay Basin.

Of the 37 AIS evaluated in the SEIS, four have been documented in the Missouri River Bain but not in the Hudson Bay Basin. Of these four, three are invasive species recently introduced to the Missouri River Basin (but not yet recorded in North Dakota."

Reply 16-10:

4-14

Reclamation's diversionary response serves primarily to confirm the fallacy of the underlying premise of the NAWS Project biota transfer risk assessment that interbasin transfer of biota by natural means is inevitable so the Project does not pose a significant increase in the risk of introduction of aquatic invasive species.

It is instructive to note that that three of the four invasive species that do not occur in the Hudson Bay Basin are species recently introduced into the Missouri River Basin. Of course, as more new invasive species occur in the Missouri River Basin, the risk of transfer into the Hudson Bay Basin by the NAWS Project will increase as well.

It should be noted that water for the Milk River Irrigation Project in Montana comes from the St. Mary River in Glacier National Park in northwestern Montana, which is within the Hudson Bay Basin, and is diverted via the St. Mary Canal to the North Fork of the Milk River, which is in the Missouri River Basin, where it flows northeast into Alberta and then south into Montana. Consequently, the diversion is from the Hudson Bay Basin to the Missouri River Basin and not from the Missouri River Basin into the Hudson Bay Basin, and the only connection between the two basins is in Glacier National Park in extreme southwestern corner of the Hudson Bay Basin in northwestern Montana where the diversion from the Hudson Bay Basin to the Missouri River Basin occurs. (Draft SEIS Appendix E, pp. 40-41; Draft SEIS Figure 3-26, p. 3-61))

Comment 16-11:

"Second, the Draft SEIS provides information on 37 current potential Aquatic Invasive Species and states that its risk analysis is based on representative species (Draft SEIS p. 4-45). However, despite noting that 15 new invasive species arrive in Canada every decade (Draft SEIS, Appendix E p. 112), the risk analysis does not address the probability of new invasive species appearing in the Missouri River Basin, other than to say that an adaptive management plan would be implemented to monitor the effectiveness of the control system (Draft SEIS p. 4-11, 4-112). Of course, implementing adaptive management after invasive species have been introduced is the quintessential 'closing the barn door after the horse is gone.'" (Comments p. 16)

Reclamation's Response 6-11:

"The AIS evaluated cover a range of taxonomic groups, sizes and life history characteristics, including susceptibility to chemical and physical disinfection. This broad range of potentially invasive microorganisms was selected for analysis so that the Project's control system could be designed and operated to be effective not only for these species, but also for species not known to currently exist in the Missouri River, including unknown and emerging pathogens and parasites. Thus, the appearance of new invasive species in the Missouri River would likely have little effect on Project-related risks. However, as a precautionary measure, an adaptive management plan would be developed to assess risks of new and emerging organisms and adjust treatment processes if

warranted. This is not tantamount to 'closing the barn door after the horse is gone' as the comment asserts, but rather represents a proactive approach to risk management in the face of potentially changing and uncertain future risks."

Reply 16-11:

4-15

Reclamation's argument is that the Project's biota control system will be effective, not only for currently known aquatic invasive species, but also for all "unknown and emerging pathogens and parasites" that may be identified in the future, so the appearance of new invasive species "would likely" have little effect on Project-related risks. However, because there is a possibility that the appearance of new invasive species could affect Project-related risks, an adaptive management plan would be developed to "assess risks" of new and emerging invasive parasites and pathogens and "adjust treatment processes if warranted." What Reclamation does not understand, or at least what it does not address, is that identifying new invasive species that affect Project-related risks and adjusting treatment processes AFTER the Project is in operation and AFTER water containing those new invasive species may already have been transferred into the Hudson Basin is, in fact, a classic example of 'closing the barn door after the horse is gone.'

Comment 16-12:

"Third, the Draft SEIS neglects to consider that the statement that:

> *'The successful introduction of AIS in the Hudson Bay basin is much more likely to be caused by a high-probability pathway, such as those that involve relative large transfers of untreated water that occur repeatedly. . ." (Draft SEIS p. 4-97)*

describes the NAWS Preferred Missouri River and Groundwater Alternative, which would involve the continuous transfer of up to 9.5 million gallons of untreated Missouri River water into the Hudson Bay Basin every year (pages 13-14 above.)" (Comments pp. 16-17)

Reclamation's Response 16-12:

"See Response 16-7. The concept of an 'equivalent volume' of untreated water lacks technical support. The preferred alternative would involve the conveyance of treated water through a buried pipeline. USGS (2005a) concluded that such a system would exhibit very low risk of transfer and establishment of AIS."

Reply 16-12:

4-16

See Reply16-7 to Reclamation's Response 16-7.

Reclamation again fails to cite any technical support for rejecting logic in order to avoid addressing the issue. The fact is the NAWS Project Preferred Alternative would transfer up 24,000 acre-feet of Missouri River water annually (29,100 acre-feet maximum annual withdrawal minus 4,850 acre-feet for backflushing of filters), at 99.9% treatment efficacy for *Giardia*, into the Hudson Bay Basin.

Comment 16-13:

"Finally, the statement that:

> 'The long-term operation and maintenance of a water diversion, including withdrawal, treatment, and transmission also is characterized by **uncertainty, which reduces an accurate estimation of the potential for system failures** capable of facilitating biota release and transfer [citation omitted].' (Draft SEIS p. 4-111)

confirms but does not address the International Joint Commission's (IJC) concern regarding the transfer of Missouri River water into the Hudson Bay Basin:

> *'that even the best engineering talent available and with the best operating practices possible, the very complexity of the system, the immensity of the physical features, the large numbers of human beings involved in carrying out the responsibility, and the* ***possible mechanical failures****, what cannot happen, will happen. The Commission believes that it must advise the Governments to* ***be conservative and proceed very cautiously with new and untried engineering works, the failure of which might seriously affect the equilibrium of a large natural system such as the Hudson Bay Drainage Basin that has been achieved over centuries****. . .' (Emphasis added) (International Joint Commission, 1977)'"* (Comments p. 17)

Reclamation Response 16-13:

"The quoted excerpt is taken out of context, and its applicability to the Project is highly questionable. The 1977 International Joint Commission (IJC) report addressed the potential consequences of transferring up to 2,000 cfs of untreated water from the Missouri River Basin to the Hudson Bay Basin through an open canal with a mechanical fish screen to prevent transfer of unwanted species. By contrast, the Project would transfer a maximum of 40 cfs of treated water through a buried pipeline. The fish screen alluded to in the quote from the IJC report may well have constituted 'new and untried engineering works' at the time; however, the treatment options evaluated in the SEIS are neither new nor untried. Rather, they rely on existing and well tested technologies used world-wide with proven records of safe and very reliable operation."

Reply 16-13:

4-17

Reclamation's response does not address "the International Joint Commission's concern regarding the transfer of Missouri River water into the Hudson Bay Basin," which included "possible mechanical failures" and "engineering works, the failure of which might seriously affect the equilibrium of a large natural systems such as the Hudson Bay Drainage Basin that has been achieved over centuries."

Reclamation's response also does not address the facts that (1) the treatment options evaluated in the SEIS are based on treating water to drinking water standards and not for the prevention of the transfer of invasive species, (2) drinking water treatment systems fail and water mains and other pipelines leak or break on a regular basis (See Reply 16-18), and (3) the failure of drinking water treatment systems and ruptures of water mains and other pipelines may result in temporary interruptions of service and even significant local impacts but they generally do not "seriously affect the equilibrium of large natural systems such as the Hudson Bay Basin that has been achieved over centuries."

In fact, Reclamation does not even address the Draft SEIS's admission, quoted in the paragraph immediately preceding the one to which Reclamation chose to respond, that:

> "The long-term operation and maintenance of a water diversion, including withdrawal, treatment and transmission also is characterized by **uncertainty, which reduces an accurate estimation of the potential for system failures capable of facilitating biota release and transfer**" (Emphasis added) (Draft SEIS p. 4-111). (Comments p. 17)

Indeed, rather than addressing the International Joint Commission's concern regarding the transfer of Missouri River water into the Hudson Bay Basin, Reclamation's response validates it.

Consequences of Transfer of Invasive Species into the Hudson Bay Basin

Comment 16-14

> *"However, instead of addressing the potential catastrophic consequences of a low risk breach in an objective manner, the Draft SEIS continues to dismiss the consequences with statements such as:*
>
> > *'. . . the impacts of implementing these [Missouri River] alternatives would be essentially the same as described for the No Action Alternative because AIS pathways already exist, and the impacts of establishment would vary according to which AIS was involved and not the source of introduction. (Refer to Appendix E for additional detail.) Thus, the Missouri River Alternatives would neither cause new types of impacts nor cause more severe impacts than would occur under the existing pathways.' (Draft SEIS p. 4-109)"* (Comments p. 18)

Reclamation's Response 16-14:

> "The commenter raises the specter of 'potential catastrophic consequences' without providing any information or rationale for what those consequences could be, or what invasive species could cause those consequences if transferred. As stated in the SEIS, the *risks* of biological invasion vary among species and transfer pathways, with Project-related pathways posing very low risk. The consequences of an invasion vary by species, but not by transfer pathway. Potential environmental consequences and economic consequences are discussed in the AIS Section of Chapter 4 and comprehensively described in Appendix E. Thus, the recent invasion of Lake Winnipeg by zebra mussels may have occurred through any of the different pathways, but the consequence will be the same regardless of which pathway was responsible."

4-18

Reply 16-14:

> Reclamation claims that:
>
> > "Reclamation has conducted a new analysis to comply with the court's order to take a hard look at . . . the consequences of biota transfer into the Hudson Bay basin, including impacts in Canada. Reclamation has undertaken an evaluation

of the potential impacts from the Project to the Canadian environment consistent with the court's Order." (Final SEIS p. 1-7)

4-18 cont.

As is pointed out on pages 6-7 of the Comments:

> "Although not mentioned in the Draft SEIS, it is relevant to note that, in her February 3, 2005, Memorandum Opinion, United States District Court Judge Rosemary M. Collyer said:
>
> > 'Although it will not order production of an EIS, the Court notes that Manitoba has raised the specter of **significant environmental consequences that deserve serious consideration**. . .' (Emphasis added)
>
> and specifically pointed out that:
>
> > '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. Therefore, **even a low risk of leakage may be offset by the possibility of catastrophic consequences should leakage occur. Without some reasonable attempt to measure the consequences instead of bypassing the issue out of indifference, fatigue, or through administrative legerdemain, the Court cannot conclude that BOR took a hard look at the problem**. (Emphasis added)'

As also is pointed out in the Comments, in its March 5, 2010, Memorandum Opinion, the U. S. District Court stated that:

> "It may be that the risk of a breach is low given the pipeline's construction, but that is not an excuse for Reclamation to refuse entirely to analyze the *consequences*. When the *degree* of potential harm could be great, *i.e.*, **catastrophic**, the *degree* of analysis and mitigation should also be great." (Italics in original. Bold emphasis added) (Comments p. 9)

and:

> "The consequences of the release of foreign biota should a breach occur - or even the normal 5% leakage expected from any pipeline [citation omitted] might be **catastrophic** and should inform Reclamation's course of action." (Emphasis added) (Comments p. 17)

4-18 Cont.

Consequently, Reclamation's assertion that, "The commenter raises the specter of 'potential catastrophic consequences' without providing any information or rationale for what those consequences could be. . ." simply reveals how stunningly oblivious and dismissive the agency is of the issues presented in the U. S. District Court's February 3, 2005, and March 5, 2010, Memorandum Opinions.

Potential Environmental Consequences

Comment 16-15:

> *"So, what are the potential environmental consequences of the transfer of invasive biota from the Missouri River Basin into the Hudson Bay ecosystem? Reclamation's new analysis doesn't even hazard a guess."* (Comments p. 20)

Reclamation's Response 16-15:

> "Reclamation used the best available information to describe the relevant range of potential consequences that could result from the transfer and establishment of AIS of concern in the Hudson Bay basin, including ecological and economic effects. For fish pathogens and parasites, potential population-level and ecosystem-level effects are highly uncertain, and additional studies would not reduce the uncertainty. 'Hazarding a guess' at specific impacts in neither scientifically sound nor helpful to decision-making, as this would be entirely speculative and unsupported by available data."

Reply 16-15:

4-19

> Particularly in view of the statements in the U. S. District Court's February 3, 2007, and March 5, 2010, Memorandum Opinions cited in the previous Reply 16-14, Reclamation's response here constitutes a remarkably candid confirmation of the validity of the critical point raised in Comment 16-15.

Potential Economic Consequences

Comment 16-16:

> *"Consequently, although Reclamation claims to have performed a new analysis that takes a 'hard look' at the consequences of the transfer of invasive biota from the Missouri River Basin into the Hudson Bay Basin by the NAWS Project, only 5 pages (1.25%) of the 400-page Draft SEIS are devoted to discussion of the environmental and economic impacts in Canada, and that consists solely of abstract conjecture about incremental increases in uncertain, generic, No Action impacts that are not described substantively."* (Comments p. 22)

Reclamation's Response 16-16:

> "Consistent with NEPA Implementing Regulations, potential environmental and economic consequences of transfer and establishment of AIS of concern in the Hudson Bay basin are thoroughly described on pages 79-116 of Appendix E, the *Transbasin Effects Analysis Technical Report*, and this information is summarized in Chapter 4-Aquatic Invasive Species section of the SEIS. As previously stated, Reclamation used the best available information to describe the relevant range of potential consequences. The *Transbasin Effects Analysis Technical Report* was independently peer reviewed by a panel with expertise in fish pathogens and parasites, ecological risk and consequences analysis, and surface water treatment and disinfection. The peer review report concluded, 'Overall, the reviewers found the draft Transbasin Effects Analysis to be based on the best available science and its results and conclusions to be supported by that science, given the uncertainties."

Reply 16-16:

4-20

It should be noted that the independent panel's conclusion was based on a review of the draft *Transbasin Effects Analysis Technical Report*, but Reclamation does not disclose what changes were made in the final report and we do not know if the review panel would have concurred with those changes.

Pages 79 to 93 of the *Transbasin Effects Analysis Technical Report* contained in Appendix E of the Draft and Final SEISs consist of a discussion of Conditions that Support Establishment of Aquatic Invasive Species of Concern, pages 94 to 111 consist of a discussion of Baseline Conditions of Potentially-Affected Sectors in Receiving Area, and pages 111 to 112 explain the approach used in the Economic Consequences Analysis and provide a brief Review of Literature on Invasive Species and Predicting Their Establishment and Economic Impacts. Pages 112 to 116 provide a four page discussion of Potential Impacts of Aquatic Invasive Species of Concern in the HBB.

Reclamation's response only confirms that its "hard look" at the consequences of the transfer of invasive biota from the Missouri River Basin into the Hudson Bay Basin by the NAWS Project consists of five (or four) pages of abstract conjecture about incremental increases in uncertain, generic No Action impacts that are not described substantively.

Comment 16-17:

"Conspicuously absent from the Draft SEIS is any discussion of the liability and responsibility for compensation for even those potential adverse economic consequences that are identified - such as adverse impacts on the up to $1.6 million First Nations annual subsistence fish harvest - or how those adverse consequences will be addressed under Section IV of the Boundary Waters Treaty of 1909 between Canada and the United States
. . ." (Comments p. 22)

Reclamation's Response 16-17:

"This comment falls outside of NEPA and a response by the agency is not required."

Reply 16-17:

4-21

After claiming to have "conducted a new analysis to comply with the court's order to take a hard look at . . . the consequences of biota transfer into the Hudson Bay basin, including in Canada" (Final SEIS p. 1-7) and incorporating the results of that analysis in a Draft and Final SEIS for the NAWS Project, Reclamation now says that a major issue that could significantly affect the analysis of economic impacts - compensation for adverse economic consequences in Canada - "falls outside of NEPA."

International Joint Commission Analysis of Transboundary Impacts of Biota Transfer

The Comments on the Northwest Area Water Supply Project Draft Supplemental Environmental Impact Statement included over three pages of information on the International Joint Commission's analysis of the transboundary impacts of the transfer of biota from the Missouri

River Basin to the Hudson Bay Basin (Pearson 2014). Reclamation chose to respond to only two paragraphs of that information.

Comment 16-18:

> *"The IJC's concern that 'what cannot happen will happen' was again validated by the recent anthrax and avian influenza virus safety breaches at the Centers for Disease Control's high-security infectious disease laboratory (Steenhuysen and Bagley 2014). For further validation of the IJC's concern that 'what cannot happen will happen' and for additional examples of the fallacy of Reclamation's implicit assumption of virtual infallibility ('failure is highly unlikely') of the NAWS Project's 'biota treatment facilities and sophisticated control and response systems' (Draft SEIS pp 4-97, 4-110, 4-111, 4-112) see Schlosser 2013."* (Comments p. 24)

Reclamation's Response 16-18:

> "The 1977 International Joint Commission report addressed the potential consequences of transferring up to 2,000 cfs of untreated water from the Missouri River Basin to the Hudson Bay Basin through an open canal with a mechanical fish screen to prevent transfer of unwanted species. By contrast, the Project would transfer a maximum of 40 cfs of treated water through a buried pipeline. Reclamation does not contend that water treatment is infallible as the comment states, but the SEIS statement that failure is highly unlikely is borne out every day by the safe and very reliable operation of thousands of water treatment plants that rely on the same proven technologies evaluated in the SEIS."

Reply 16-18:

> Instead of addressing the International Joint Commission's concern that "what happen will happen" in a substantive and objective manner, Reclamation's response simply reiterates its response to Comment 16-13. 4-22
>
> The relevance of Reclamation's statement that:
>
> > "thousands of water treatment plants. . . rely on the same proven technologies evaluated in the SEIS"
>
> to the issue of biota transfers under the NAWS Project is perhaps best appreciated when considered in the context of reports such as the one by Logsdon (2006) on "How Waterborne Disease Outbreaks Relate to Treatment Failures" documenting water treatment plant failure incidents such as:
>
> - Camas, Washington, 1976 - Giardiasis outbreak
> - Berlin, New Hampshire, 1977 - Giardiasis outbreak
> - Colorado, early 1980s - Three outbreaks of giardiasis
> - McKeesport, Pennsylvania, 1984 - Giardiasis outbreak
> - Carrolton, Georgia, 1987 - Cryptosporidiosis outbreak, 13,000 people affected
> - Talent Oregon, 1992 - Cryptosporidiosis outbreak
> - Milwaukee, Wisconsin, 1993 - Cryptosporidiosis outbreak, 403,000 people affected

- North Battlefield, Saskatchewan, 2001 - Cryptosporidiosis outbreak, 5,000-7,100 people affected
- Walkerton, Ontario, 2000 - *Campylobacter jejuni* outbreal - 2,300 people affected, seven people died

4-22 Cont.

In view of the fact that the NAWS Project's has a 50-year planning horizon (Draft SEIS p. 1-6) and the Missouri River Alternatives would have 30.5 miles of pipeline between the biota water treatment plant in the Missouri River Basin and the Minot Water Treatment Plant in the Hudson Bay Basin (Draft SEIS Appendix A, Table A.1, p. A-1), it also is relevant to consider Reclamation's statement in the context of the comprehensive study of 117,603 miles of water mains in the U. S. and Canada by Folkman (2012) that documented 12,963 failures (excluding leaks at pipe joints) in 12 months, for a rate of 11 failures per 100 miles of water mains per year.

As the U. S. District Court pointed out in its March 5, 2010, Memorandum Opinion, unlike leakage from conventional water mains:

> "The consequences of the release of foreign biota should a breach occur - or even the normal 5% leakage expected from any pipeline [citation omitted] might be catastrophic and should inform Reclamation's course of action." (Comments p., 17)

Comment 16-19:

> *"However, instead of being informed by the admitted 'enormous' - Reclamation's term - uncertainty regarding the potential risks and consequences of its course of action, the Bureau has thrown up its hands, abandoned taking a 'hard look' at the impacts of invasive biota transfer in Canada and proposes to move ahead in ignorance with an action 'which might seriously affect the equilibrium of a large natural system such as the Hudson Bay Drainage Basin that has been achieved over many centuries.' Instead of taking a hard look a the potential consequences of its action, Reclamation turns a blind eye to them."* (Comments p. 25)

Reclamation's Response 16-19:

> "Reclamation relied on the best available science to take a hard look at the potential risks and consequences of both Project-related and non-Project transfer of invasive species to the Hudson Bay basin. An independent peer review of the SEIS Appendix E, the *Transbasin Effects Analysis Technical Report*, found that the report was based on the best available science and its results and conclusions were supported by that science, given the uncertainties. Reclamation has developed a new Appendix M to further explain identified missing and incomplete information and the relevance to evaluating foreseeable significant adverse impacts on the human environment (40 CFR 1502.22)"

Reply 16-19:

4-23

Final SEIS Appendix M consists of 10 pages, less than two of which (M-5, M-6) deal with Transbasin Effects Analysis and they only confirm "the high degree of uncertainty associated with individual effects from infection and the nexus with population effects, potential environmental and economic impacts related to AIS introduction." (Final SEIS, Appendix M, p. M-6)

4-23 Cont.

Nevertheless, as pointed out in Comment 16-19, instead of being informed by the admitted "enormous" uncertainty regarding the potential risks and consequences of its course of action, Reclamation has identified as its NAWS Project Preferred Alternative a project that could transfer up to 24,000 acre-feet of Missouri River water annually into the Hudson Bay Basin.

Inadequate Analysis of Alternatives

The No Action alternative

Comment 16-20:

"Consequently, as the Draft SEIS discloses with inadvertent candor, the North Dakota State Water Commission, which has a statutory mandate to promote the diversion of Missouri River water into the Hudson Bay Basin[2] (page 5 above, Pearson and Conrad 2009), 'has worked extensively with the communities and rural water systems' (Draft SEIS p. 1-1), which 'are relying on the Project to supply their future water needs' and 'have not been planning for a future without the Project' (Draft SEIS p. 2-14) 'to develop a plan that would meet their needs' (Draft SEIS p. 1-1).

The predictable - in fact, inevitable - result, of course, is a manifestly inadequate and fundamentally flawed analysis of alternatives that not only does not provide a substantive discussion of the No Action Alternative, but is deliberately intended and conceptually designed to promote Missouri River water transfer alternatives while downplaying and dismissing in-basin alternatives." (Comments. p. 26)

Reclamation's Response 16-20:

"The primary responsibility of the North Dakota State Water Commission is to provide effective management of North Dakota's water resources which includes developing and managing water resources for the future welfare and prosperity of the people of North Dakota. Reclamation worked with the State Water Commission because of their jurisdictional responsibilities in an effort to gather data on the current and future water needs within the Project Area.

All alternatives included in the SEIS were designed at an appraisal level and evaluated equally. Reclamation strongly disagrees with the commenter's opinion regarding the description of the No Action Alternative and the analysis of alternatives. Without providing a technical basis for this opinion Reclamation cannot respond other than to disagree. Reclamation would direct readers to discussions in Chapter 2 regarding how water needs were evaluated and note that Reclamation used several methods to gather data on water needs, including a survey of the communities and rural water systems. In the survey, water users were asked to identify future plans to meet their needs and the response was that the proposed project, as a regional bulk water system was their plan. This formed the basis for the description of the No Action Alternative and this is appropriate because NEPA does not require an agency to speculate in the absence of information or data."

Reply 16-20:

4-24

4-24 Cont.

Rather than responding substantively and objectively to the comment, Reclamation's response serves only to confirm its validity.

Reclamation's response launches into a diversionary discussion of water needs while ignoring the clearly stated point of the comment, which is "the manifestly inadequate and fundamentally flawed analysis of **alternatives**" for **meeting those needs** that is "deliberately intended and conceptually designed to promote **Missouri River water transfer alternatives** while downplaying and dismissing **in-basin alternatives**." (Emphasis added)

Reclamation does not address the Footnote 2 to the comment, which states:

> "North Dakota Century Code Chapter 61-02 establishes the North Dakota State Water Commission and Section 61-02-01 directs the Commission to 'develop and implement a comprehensive statewide water development program.' Section 61-01-01.1 then specifies that, '**The commission shall design the program** to serve the long-term water resource needs of the state and its people and **to protect** the current usage of, and **the state's claim to, its proper share of Missouri River water**.' (Emphasis added)"

Reclamation cites no statutory authority for its assertion that, "The primary responsibility of the North Dakota State Water Commission is to provide effective management of North Dakota's water resources which includes developing and managing water resources for the future welfare and prosperity of the people of North Dakota." In fact, no such language appears in the statutes governing waters of the State or establishing the State Water Commission.

On the contrary, North Dakota Century Code Chapter 61-01 deals with Waters of the State and Section 61-01-26.1," Findings and declaration of policy - Water to eastern North Dakota a critical priority - Water supplement study - employment of staff," states:

> "The legislative assembly finds that many areas and localities in eastern North Dakota do not enjoy safe drinking water. It also is found that other areas and localities in eastern North Dakota do not have sufficient quantities of water to ensure a dependable, long-term water supply. **The legislative assembly further finds** that **supplementation of the water resources of eastern North Dakota from other available sources, including the Missouri River**, may be the only alternative to provide eastern North Dakota with a dependable source of safe, good quality water and an adequate quantity of water.
>
> It is further declared that effective development and utilization of the land and water resources of this state; the opportunity for greater economic security; the protection of health, property, enterprise, and the preservation of the benefits from the land and water resources of this state; and the promotion of the prosperity and general welfare of all of the people of North Dakota involve, necessitate, and **require the exercise of the sovereign powers of the state** and concern a public purpose. Therefore, in order to accomplish this public purpose, the supply and delivery of water to eastern North Dakota is established as a critical priority **and the state water commission shall, in cooperation with the Garrison diversion conservancy district and the communities and rural water systems in eastern North Dakota, address this critical priority by**

> **developing a plan and estimate the costs for supplementing the water resources of eastern North Dakota with water supplies from other available sources, including the Missouri River**." (Emphasis added)

North Dakota Century Code Chapter 61-02, Section 61-02-01, "Water conservation, flood control, management, and development declared a public purpose," which establishes the North Dakota State Water Commission then declares:

> ". . . that **any and all exercise of sovereign powers of this state** in investigating, constructing, maintaining, regulating, supervising, and controlling any system of works involving [waters in the state] **embraces and concerns a single object**, and that **the state water commission in its exercise of its powers**, and in the performance of its official duties, **shall be considered and construed to be performing a governmental function for the benefit, welfare and prosperity of all the people of this state**." (Emphasis added)

4-24 Cont.

NDCC Section 61-02-01 is then followed by Section 61-02-01.1, which is quoted in the Footnote 2 to Comment 16-20 and directs the State Water Commission to develop a statewide water development program to protect "the state's claim, to its proper share of Missouri River water."

Consequently, North Dakota Century Code Section 61-012-26.1 declares the diversion of Missouri River water to eastern North Dakota to be a "critical priority," directs the State Water Commission and "communities and rural water systems" to develop plans for supplementing their water supplies with water from the Missouri River, and authorizes the State Water Commission to exercise its sovereign powers in constructing projects to divert water from the Missouri River to eastern North Dakota. North Dakota Century Code Section 61-02-01 then arbitrarily declares that anything the State Water Commission does in exercising its sovereign powers to promote the diversion of Missouri River water to eastern North Dakota "**shall be considered and construed** to be performing a governmental function for the benefit, welfare and prosperity of all the people of this state." (Emphasis added) It should be noted that the statutes do not require the State Water Commission "to provide effective management of North Dakota's water resources," nor do they require that the State Water Commission's programs actually promote "the welfare and prosperity of the people of North Dakota."

In the case of the NAWS Project, the North Dakota State Water Commission, which has a statutory mandate to develop a statewide water development program utilizing Missouri River water (NDCC Section 61-02-01), "worked extensively with communities and rural water systems" in the project area (Draft SEIS p. 1-1), that also have a statutory mandate to develop "a plan. . . for supplementing [their water resources] with supplies from. . . the Missouri River" (NDCC 61-01-26.1), that are "relying on the NAWS Project to supply their future needs" and that "have not been planning for a future without the Project" (Draft SEIS p. 2-14), "to develop a plan that would meet their needs" (Draft SEIS p. 1-1)

The predictable - in fact inevitable - result, as Comment 16-20 points out, is a manifestly inadequate and fundamentally flawed analysis of alternatives that not only does not provide a substantive discussion of the No Action Alternative, but is deliberately intended and conceptually designed to promote Missouri River surface water transfer alternatives while downplaying and dismissing in-basin alternatives.

4-24 Cont.

Reclamation's Response 16-20 that:

> "Reclamation would direct readers to discussions in Chapter 2 regarding how water needs were evaluated and note that Reclamation used several methods to gather data on water needs, including a survey of the communities and rural water systems. In the survey, water users were asked to identify future plans to meet their water needs and the response was that the proposed project, as a regional bulk water supply was their plan."

fails to address two relevant and significant facts.

First, of course, is that, as documented above, North Dakota Century Code Section 61-02-01 directs the State Water Commission to develop a statewide water development program designed to divert water from the Missouri River and Section 61-01-26.1 directs communities and rural water systems in eastern North Dakota to develop plans for supplementing their water supplies using water from the Missouri River .

Second, the fact that, when asked to identify future plans to meet their water needs, water users responded that "the proposed project . . . was their plan" confirms that the concept of a water project for the Minot area utilizing Missouri River water was developed in 1965 as a component of the Garrison Diversion Unit, nearly 50 years before the 2012 water needs survey of communities and rural water systems was conducted for the NWAS Project (See Comments p. 44), rather than as a result of the survey. With the prospect of substantial Federal funding being available through the Garrison Diversion Unit for a project based on Missouri River diversion, with a statutory directive to develop plans for supplementing their water supplies with water from the Missouri River, with the State Water Commission promoting Missouri River diversion, and without adequate information to evaluate in-basin alternatives objectively (See Replies 16-21 to 16-32 below), the communities and rural water systems in the area had little incentive to pursue in-basin water sources and little choice except to endorse the NAWS Project.

Third, immediately preceding the comment to which Reclamation chose to respond, the Comments pointed out that:

> "The Draft SEIS states that:
>
> > 'As detailed in Appendix B, most **project members** have indicated that they do not have alternative water supplies and **are relying on the Project to supply their future needs**.' (Emphasis added) (Draft SEIS p. 2-14)
>
> However, the Draft SEIS also admits that:
>
> > **'Because most members have not been planning for a future without the Project, few specific details are available regarding what the Project members would do.** This analysis does not attempt to speculate whether the project members would attempt to obtain funding from other sources or otherwise construct infrastructure improvements to address water quality and water supply issues." (Emphasis added) (Draft SEIS p. 2-14)"'

Consequently, the water needs survey for the NAWS Project was deliberately designed to garner endorsements of a Missouri River water alternative from area communities and rural water systems and to preclude full consideration of in-basin alternatives for meeting their future water needs. 4-24 Cont.

In-Basin Groundwater Alternatives

The Minot and Sundre Aquifers

Comment 16-21:

"The Draft SEIS's description of the Sundre Aquifer consists of five sentences:" (Comments p. 30)

Reclamation's Response 16-21:

"This comment is incorrect. The SEIS includes a detailed description of the water quantity, water quality and allocations of the aquifer as well as providing detailed information in Table 3-11, Table 3-12 and Figure 3-12."

Reply 16-21: 4-25

The comment is accurate. The five-sentence description of the Sundre Aquifer in the Draft SEIS is quoted following the comment to which Reclamation responded:

> "[1]The Sundre Aquifer is a buried sand and gravel aquifer in a buried bedrock valley in the vicinity of Minot (Figure 3-11). [2] The aquifer varies in width from approximately 1-2 miles, with a total length of approximately 18 miles, and it extends from Ward County near Minot into McHenry County. [3] The aquifer varies in thickness from approximately 30 to 250 feet, with an average thickness of 120 feet. [4] The Sundre aquifer is estimated to receive approximately 3 percent of its annual recharge via direct infiltration from the Souris River (Puce 1987), [5] Much of this recharge occurs during high-flow events in the river." (Draft SEIS p. 3-27)

The Draft SEIS's description of the Sundre Aquifer does not mention that with a length of 18 miles, an average width of 1.5 miles, an average thickness of 120 feet, and an average water content of 20 percent, the aquifer would contain over 400,000 acre-feet of water, which would be enough to meet the NAWS Project area's total average 10.4 million gallons per day water needs (Draft SEIS p. 1-7) for the next 35 years without any recharge. With 2 mgd provided from the Minot Aquifer, the volume of water in the Sundre Aquifer would meet the NAWS Project's needs for 44 years without any recharge.

The information cited by Reclamation does not describe the Sundre Aquifer but rather provides a cursory discussion of the quantity, quality and allocation of the water in the aquifer, which is clear from the subsequent comment addressing the deficiencies of the Drasft SEIS's discussion of Water Quality in the Sundre Aquifer (to which Reclamation did not response). The Draft SEIS discussion of Sundre Aquifer water allocations consists of four sentences (Draft SEIS p. 3-29) and a three-line table (Draft SEIS p. 3-30, Table 3-11). The discussion of water quality in the Sundre Aquifer consists of ten

sentences (Draft SEIS pp. 3-29, 3-30) and a table comparing Sundre Aquifer water quality parameters with Environmental Protection Agency drinking water standards (Draft SEIS p. 3-30, Table 3-12). It is relevant to note that the Draft SEIS states:

4-25 Cont.

> "These long-term data indicate that mean concentrations of the water quality parameters in the Sundre aquifer do not exceed EPA's primary drinking water standards." (Draft SEIS p. 3-31)

Absence of Evidence that the Sundre and Minot Aquifers are Declining

Comment 16-22:

"It also is important to note that Draft SEIS Appendix J states that:

> 'Daily groundwater levels were obtained (for **several** Sundre Aquifer wells) from the SWC water data website and analyzed graphically to **characterize water levels in the aquifer**.' (Emphasis added) (Draft SEIS Appendix J, p. J-11)

The same statement is made regarding the Minot Aquifer (Draft SEIS Appendix J p. J-11. However, neither the Draft SEIS nor Appendix J states from how many wells in each aquifer groundwater level data were obtained, where the wells are located or what the purposes of the wells are (e.g., municipal water supply, irrigation, observation, recorder, etc.)." (Comments p. 32)

Reclamation's Response 16-22:

"The comment is incorrect. The appendix states that the well data was obtained from the State Water Commission's water data website which includes information for all types of wells; Municipal, Irrigation, Observation, Recorder, etc."

Reply 16-22:

4-26

The comment is accurate. Reclamation simply decided not to respond to it substantively.

As the comment indicates, the State Water Commission's water data website includes information on a number of municipal water supply wells, irrigation wells, observation wells and recorder wells in the Minot Aquifer and the Sundre Aquifer, but the Draft SEIS does not state from how many of those wells groundwater level data were obtained and "analyzed to characterize water levels in the aquifer[s]," nor does it state where those wells are located or what their purposes are. Clearly, the validity and reliability of Reclamation's analysis of water levels in the aquifers depends entirely on the number of wells from which data were obtained, their purpose and their distribution in each aquifer. If data were obtained from a statistically representative number of wells randomly distributed throughout the aquifers, then Reclamation's analysis might be reliable. If the date were obtained from just a few selected wells located in small areas of the aquifers (e.g., the municipal wells in the Sundre Aquifer), then Reclamation's analysis would be manifestly unreliable. But Reclamation's response does not address this critical issue.

Comment 16-23:

"Consequently, the Draft SEIS cites no credible evidence that the declines in the levels of the Minot and Sundre aquifers from 1977 to 2010 were the result of withdrawals by the City of Minot or that they reflected anything other than natural fluctuations in the levels of the aquifers related to precipitation and recharge." (Comments p. 34)

Reclamation's Response 16-23:

"A thorough review of published data and information on the Minot and Sundre aquifers was conducted in the preparation of the Water Resources section of Chapter 3. Based on this information Reclamation concluded that the long-term declining levels in both the Minot and Sundre aquifers are a result of withdrawals."

Reply 16-23:

4-27

Reclamation's response does not address the published data and information on the Minot and Sundre aquifers, including information from the Draft SEIS, cited in the five preceding pages of the Comments which clearly demonstrate that the declines in the water levels in the Minot and Sundre aquifers from 1977 to 2010 were the result of natural fluctuations related to precipitation and recharge, and the response does not cite any published scientific data or information to support Reclamation's conclusion that the declines were the result of withdrawals by the City of Minot. The response simply states Reclamation's arbitrary and unsubstantiated conclusion that is refuted by the available evidence cited in the Comments.

Comment 16-24:

"With the City of Minot's municipal well field in the Sundre Aquifer (located in the eastern channel of the aquifer) spanning an area approximately 0.15 mile wide and 0.55 miles long (<0.1 square-mile) within the 1 to 2 mile-wide and 18 mile long (~25 to 30 square-mile) Sundre Aquifer (Pusc 1987), and with the data upon on which the Bureau bases its determination that the aquifer is declining coming from the immediate vicinity of the municipal well field, there is no evidence that the claimed 'approximately 60 feet of drawdown in the aquifer' (Draft SEIS p. 3-28) represents anything other than the cone of depression in the immediate vicinity of wells created by pumping from Minot's municipal wells. Consequently, the Draft SEIS cites absolutely no evidence that the entire Sundre Aquifer has declined significantly - and certainly not by 60 feet - since 1977. Or that any decline that may have occurred was the result of pumping rather than natural fluctuations in the level of the aquifer.

Because the Draft SEIS cites no credible evidence that the Sundre and Minot aquifers have been declining from normal historic levels or that the current withdrawals have caused the aquifers to decline, the 'assumption' that 'no additional sustained withdrawals (above current pumpage rate) would be possible without supplemental recharge' (Draft SEIS Appendix J, p. J-10, 11) is without foundation." (Comments p. 35)

Reclamation's Response 16-24:

"As stated in the Water Resources section of Chapter 3, based on the best available data and scientific knowledge no additional withdrawals would be possible without supplemental recharge. Reclamation has concluded that the declining trend is a result of

withdrawals and not natural fluctuations; however, the end result is the same, in that the aquifers are not a sustainable source of water for the Project without artificial recharge."

Reply 16-24:

4-28

Instead of addressing "the best available data and scientific knowledge" cited at pages 31-35 of the Comments demonstrating that the declines in the Minor and Sundre aquifers from 1977 to 2010 were the result of natural fluctuations related to precipitation and recharge - including the information from DEIS Figure 3-11 showing that the Minot Aquifer actually was 8.5 feet higher in 2011 than it was in 1976 and from DEIS Figure 3-12 showing that the Sundre Aquifer was only 12 feet lower in 2011 than it was in 1976 (Comments p. 31), the response again fails to cite any credible scientific evidence to support Reclamation's arbitrary conclusion that the decline in the levels of the aquifers was the result of withdrawals so, therefore, the aquifers are not a sustainable source of water for the NAWS Project without artificial recharge. (See also statement from the Draft SEIS pp. 2-6 and 4-28 preceding Comment 16-25 below.)

Of course, if Reclamation were to address the best available data and scientific knowledge objectively and responsibly, it would be forced to conclude that there is no need or justification for a NAWS Project Alternative involving the transfer of Missouri River water into the Hudson Bay Basin.

Failure to Analyze In-Basin Groundwater Alternatives

Reclamation did not respond to the opening paragraph of this section of the Comments, which states

"It is important to note in this context [of Comment 16-24] that the Bureau admits that:

'. .. the sustainable yield of the Sundre aquifer is undetermined.' (Draft SEIS 2-6)'

and:

'A sufficiently detailed regional groundwater model does not exist for the Minot and Sundre aquifers and the data to develop, calibrate, and validate a detailed groundwater model are not available.' (Draft SEIS p. 4-28)"

Comment 16-25:

"The Draft SEIS then goes on to state:

'As described in Appendix A of the ALD Report, in order to develop a model that is appropriate for more than an appraisal-level analysis field testing would be required, including extensive exploratory well drilling, monitoring well construction, aquifer performance testing and geologic analysis. These data would be required to construct a more accurate and reliable groundwater model that would ***encompass a larger portion of the aquifer, would likely take 2 or more years to develop****. . . ' (Emphasis added) (Draft SEIS 4-28)*

but it rejects performing an adequate evaluation of in-basin groundwater alternatives because it:

'. . . would be very expensive.' (Draft SEIS p. 28)

Draft SEIS Appendix J, Subappendix A, p. 8-11, Table 8-8, estimates the cost for testing and modeling for final design of the Missouri River and Groundwater Alternative's two 2,800 gpm peaking wells in the Sundre Aquifer to be $3,303,367.

To put into perspective Reclamation's rationale for not taking the '2 or more years' necessary to perform an accurate and objective analysis of alternatives to transferring Missouri River water into the Hudson Bay Basin because it 'would be very expensive,' it is helpful to consider the following:"

The comment went on to cite 17 reports (not including Reclamation's new analysis of the cumulative impacts of water withdrawal on the Missouri River and the consequences of biota transfer in Canada [Draft SEIS p. 1-7] and the Final SEIS) that have been prepared by or for the State of North Dakota or the Bureau of Reclamation on the NAWS Project since it was authorized in1986, none of which provided the data necessary to develop a detailed groundwater model for the NAWS Project area, determine the sustainable yield of the Sundre Aquifer or permit an objective evaluation of in-basin alternatives.

Reclamation's Response 16-25:

"The comment misrepresents information quoted from Appendix J - *Draft Appraisal Level Engineering Level Design Report*. To evaluate impacts of the inbasin alternatives, a groundwater model was developed to simulate the aquifer recharge/wellfield system for the Minot and Sundre aquifers. The SEIS and Appendix J clearly state that the groundwater model used is appropriate for assessing impacts at the appraisal level design of alternatives. The SEIS further explains that if a future decision is made to construct either of the inbasin alternatives additional data collection, modeling, and pilot testing would be needed and this could likely take two or more years at a cost of more than $3.3 million. The additional data gathering and analysis would be part of the feasibility level engineering and design. All of the action alternatives evaluated were designed at the appraisal level. Reclamation has developed a new Appendix M to further explain identified missing and incomplete information and the relevance to evaluating reasonably foreseeable significant adverse impacts on the human environment (40 CFR 1502.22)

The comment is also incorrect in stating that the Missouri River and Groundwater Alternative includes two 2,800 gpm peaking wells in the Sundre Aquifer. Neither of the Missouri River alternatives proposed and evaluated include new peaking wells; but instead would rely on existing wellfields in the Minot and Sundre aquifers. The alternatives are discussed in Chapter 2 and more detailed descriptions and drawings are included in Appendix J."

Reply 16-25:

4-29

Reclamation's response not only deliberately evades the issue, which is that after 29 years of studies and reports on the NAWS Project, neither the State of North Dakota nor the Bureau of Reclamation has developed the information necessary to evaluate in-basin groundwater alternatives objectively, but Reclamation then creates a "Catch 22" ploy to

justify not developing the information necessary to evaluate in-basin groundwater alternatives objectively.

4-29 Cont.

Reclamation says that the groundwater model that was developed to simulate aquifer recharg/wellfield systems was appropriate to evaluate **impacts of the inbasin alternatives** at the appraisal level. However, it was not adequate to provide even such basic information as the sustainable yield of the Sundre Aquifer (Draft SEIS p. 2-6) that is required to evaluate in-basin alternatives objectively. Reclamation then uses the absence of such basic information to reject an in-basin alternative. After precluding the selection of an in-basin alternative based on the State of North Dakota's and Reclamation's failure to develop the information necessary to evaluate those alternatives objectively, Reclamation has the audacity to say:

> ". . . if a future decision is made to construct either of the in-basin alternatives additional data collection, modeling, and pilot testing would be needed and this could likely take two or more years at a cost of more than $3.3 million."

Final SEIS Appendix M, Summary of Missing or Incomplete Information, similarly states, regarding Groundwater Analysis, that:

> "Development of a more sophisticated model would require field testing and data development that is time intensive and expensive to obtain. This level of design would be completed **if an inbasin alternative is selected** for implementation in the Record of Decision." (Emphasis added) (Final SEIS, Append M, p. M-3)

Meanwhile, Reclamation and the State have spent decades and untold millions of dollars developing data far beyond the appraisal level to design, justify and defend a Missouri River alternative.

Reclamation says that the comment that the Missouri and Groundwater Alternative includes two 2,800 gpm peaking wells in the Sundre Aquifer is incorrect because the alterntives would rely on existing wellfields in the Minot and Sundre Aquifers. The response does not address the point of the comment, which is that the cost for testing and modeling two new 2,800 gpm peaking wells in the Sundre Aquifer is estimated in Draft SEIS Appendix J, Subappendix A to be $3,303,367 - a figure that Reclamation does not dispute and verifies in its Response 16-25.

Draft SEIS Appendix J, Subappendix A is titled "Inbasin Alternatives Supporting Analysis" and states that:

> "The purpose of the Inbasin Alternatives Supporting analysis (Inbasin Analysis) is to develop an appraisal-level design for Alternative 1, Groundwater with Recharge and Alternative 2, Groundwater with Recharge and the Souris River, which are evaluated in the Northwest Area Water Supply project (Project) Supplemental Environmental Impact Statement (SEIS). These alternatives include aquifer recharge facilities and additional water supply wells in the Minot and Sundre aquifers in the vicinity of Minot, North Dakota, as well as the use of Souris River water either for recharge (Alternatives 1 and 2) or as a direct supply (Alternative 2 only)." (Draft SEIS Appendix J, Subappendix A, p. 1-1)

The Draft SEIS does not identify the alternatives that are considered by number, but both the Missouri River and Conjunctive Use Alternative (Draft SEIS pp. 2-32-38) and the Missouri River and Groundwater Alternative (Draft SEIS pp. 2-39--40) incorporate the use of "groundwater from the Minot and Sundre aquifers" (Draft SEIS pp. 2-32, 2-39). However, Reclamation quibbles over irrelevant trivia to avoid addressing the fact that the cost for testing and modeling two new 2,800 gpm wells in the Sundre Aquifer would be only $3.3 million. 4-29 Cont.

Comment 16-26:

"Under the preferred Missouri River and Groundwater Alternative, 5.05 million gallons per day would be supplied from the existing Minot municipal wells in the Minot and Sundre aquifer wellfields from January through May and September through December, and those existing wells plus the "'two 2,800 gpm peaking wells would be used to provide approximately 15.8 mgd of groundwater to meet 2060 demands' (Draft SEIS Appendix J, Subappendix A,p 8-9). In other words, the addition of two more wells in the Sundre Aquifer would supply over 1.5 times the 2060 average daily water needs of the communities to be supplied by the NAWS Project." (Comments p. 37)

Reclamation's Response 16-26:

"Reclamation does not concur with this comment and does not agree with the numbers presented in the comment. The preferred alternative does not include peaking wells in the Minot and Sundre aquifers as the comment states and the commenter's estimated withdrawal from these aquifers are incorrect. The comment infers that additional wells in the Sundre Aquifer could provide enough water for the Project; however the analysis presented in the SEIS clearly demonstrates that the quantity of water needed is not available in the aquifer."

Reply 16-26:

See Reply 16-25 to Reclamation's Response 16-25. 4-30

The information upon which the Comment is based is from Draft SEIS Appendix J, Subappendix A, which is quoted on page 29 of the Comments (to which Reclamation did not respond) and states:

> "To meet the 2060 peak Project water needs, two peaking wells would be added to the system to **increase the current Sundre wellfield capacity**. From January through May and September through December, water needs would be met using existing Sundre aquifer wells. Approximately 5.05 mgd would be withdrawn from the existing wells during this time. During the peak demand months of June through August the existing Sundre wells and two 2,800-gpm peaking wells would be used to provide approximately 15.8 mgd of groundwater to meet the 2060 demands. **The two wells** (Figure 7-1), **would be located in the vicinity of the Sundre aquifer wellfield**. . . The estimate of two additional wells is based on the assumption that wells with the needed capacity of 2,800 gpm could be developed in the Sundre aquifer. The estimate of 2,800 gpm is based on **current well capacities in the Sundre aquiferf wellfield**. . . An opinion of cost to construct the peaking wells and associated facilities is provided in the following section." (Emphasis added) (Draft SEIS Appendix J, Subappendix A, p. 8-9)

The cost to construct the peaking wells and associated facilities is estimated in Table 8-7, Sundre Aquifer Peak Supply Wells - Opinion of Cost, to be $228,000 per well.

4-30 Cont.

Reclamation claims that the estimated withdrawals from the Minot and Sundre aquifers, which are quoted from Draft SEIS Appendix J, Subappendix A, are incorrect, but does not provide or cite any figures that it now thinks are correct. However, even if the two 2,800 gpm peaking wells provided only 10.75 (15.8 - 5.05) mgd of the 2060 15.8 mgd demand, that still would be meet the 2060 average daily water needs of the communities to be supplied by the NAWS project.

Reclamation states that "the analysis presented in the SEIS clearly demonstrates that the quantity of water needed is not available in the aquifer," ignoring Reclamation's own admissions that "the sustainable yield of the Sundre Aquifer has not been determined" (Draft SEIS p. 2-6) and "[a] sufficiently detailed groundwater model does not exist for the Minot and Sundre aquifers" (Draft SEIS p. 4-28), and the fact that "the analysis presented in the SEIS" not only is unsubstantiated, but it is refuted by the available scientific evidence cited in pages 26 to 38 of the Comments.

Comment 16-27:

". . . If it is assumed that the maximum annual withdrawal from the Missouri River would be increased by the same percentage as the average annual withdrawal has been increased since the 2008 NAWS Final EIS on Water Treatment (Bureau of Reclamation, 2008), then the actual maximum withdrawal under the Missouri River and Groundwater Alternative would be expected to be approximately 20,000 acre-feet per year." (Comments p. 37)

Reclamation's Response 16-27:

"The commenter's assumption that the withdrawal would increase the same percentage is unsubstantiated. The Project withdrawal numbers were established in the *Water Need Technical Report* (Reclamation 2012a) and are based on population and water need projections, not arbitrary percent increases."

Reply 16-27:

4-31

The 2012 *Water Need Technical Report* states that the "**maximum** projected **annual average** demand for the Water Service Area during the planning period is 10.4 mgd" (emphasis added), but it doesn't say what the maximum annual withdrawal would be.

Comment 16-28:

"It also should be noted that one 2,800 mgd well in the Sundre Aquifer woud produce 4,517 acre-feet of water per year. Therefore, only three additional 2,800 mgd wells would be required in the Sundre Aquifer to replace the 13,600 acre-feet average annual withdrawals from the Missouri River under the Bureau's preferred Missouri River and Groundwater Alternative. To replace the 20,000 acre-feet maximum annual withdrawals from the Missouri River under the Bureau's preferred Missouri River and Groundwater Alternative would require a total of five additional 2,800 [mgd] wells in the Sundre Aquifer. At a cost of $238,000 per well (Draft SEIS Appendix J, Subappendix A, p. 8-10,

Table 8-8), the cost of five additional wells in the Sundre Aquifer would be $1,190,000. Adding and additional $1,651,000 per well for testing and modeling costs (Draft SEIS Appendix J, Subappendix A, p. 8-11, Table 8-8) would bring the total cost of an in-basin groundwater supply designed to meet the estimated maximum annual water needs of the NAWS Project to $9,448,420, compared with the estimated $75,000,000 cost of the Missouri River and Groundwater Preferred Alternative's intake, pumping plant and main transmission pipeline ($45,000,000) and biota treatment plant $30,000,000) (Draft SEIS pp. 2-41, 2-61)" (Comments p. 37)

Reclamation's Response 16-28:

"Reclamation does not concur with the calculations presented in this comment. As documented in the analysis of the SEIS, the groundwater in this area cannot sustain additional withdrawals and has poor water quality. The aquifers would require artificial recharge to provide the amount of water needed for the project; the costs of the inbasin alternatives are included in Tables 2-9 and 2-10 in Chapter 2 of the SEIS."

Reply 16-28:

4-32

Reclamation says that it does not "concur" with the calculations presented in the comment, but it does not provide any evidence to show that they are not valid.

Reclamation's assertion that the groundwater in this area cannot sustain additional withdrawals" is contradicted by the admissions that:

> ". . . the sustainable yield of the Sundre Aquifer has not been determined." (Draft SEIS p. 2-6)

and:

> "A sufficiently detailed groundwater model is not available for the Minot and Sundre aquifers. . ." (Draft SEIS p. 4-28)

Reclamation's assertion that the groundwater "has poor quality" is contradicted by the admission that:

> "These long-term data indicate that mean concentrations of the water quality parameters in the Sundre aquifer do not exceed EPA's primary drinking water standards. Only the maximum observations for arsenic and nitrite exceed primary drinking water standards. . ." (Draft SEIS p. 3-31)

The Primary Drinking Water Standard for arsenic is 10 ug/L, and the mean and maximum concentrations in Sundre Aquifer water are reported to be 8.6 ug/L and 18.0 ug/L, respectively (Draft SEIS p. 3-30, Table 3-11). The Primary Drinking Water Standard for nitrate is 10 mg/L and the mean and maximum concentrations in the Sundre Aquifer are reported to be 1.4 and 10 mg/L, respectively (Draft SEIS p. 3-30). The groundwater alternatives considered in the NAWS Project Draft SEIS propose to use over 10 million gallons per day of water from two wells in the Sundre Aquifer to meet 2060 peak demands (Draft SEIS Appendix J, Subappendix A, p. 8-10)

Reclamation does not address the fact that the "analysis in the SEIS" is not supported by credible science evidence, but is refuted by the available data, including information contained in the Draft and Final SEIS and by the information cited in pages 26 to 38 of the Comments to which Reclamation has failed to respond substantively.

Comment 16-29:

"Adding another 50% of the cost of the wells in the Sundre Aquifer to cover the costs of additional water conveyance features to the Minot Water Treatment Plant would bring the total cost of this in-basin groundwater alternative to approximately $147,000,000, or 71 percent of the $207,000,000 estimated cost of the preferred Missouri River and Groundwater Alternative (Draft SEIS p, 261)." (Comments pp. 37-38)

Reclamation's Response 16-29:

"See Response 16-28."

Reply 16-29:

4-33

Reclamation's refusal even to attempt to address the compelling evidence, based on data from the Draft SEIS, of the significant cost savings of a NAWS Project in-basin groundwater alternative compared with Reclamation's Missouri River and Groundwater Preferred Alternative, or any other alternative based on Missouri River diversion, constitutes a tacit, if embarrassing, admission of the validity of the comment.

It is revealing to note that, after repeatedly quibbling over other numbers, Reclamation decided to refrain from pointing out that the cost of its $207,000,000 Missouri River and Groundwater Preferred Alternative has increased by $37,000,000 to $244,000,000 with the Conventional Treatment Option (Final SEIS p. 2-65). This means that the estimated $147,000,000 cost of the in-basin groundwater alternative outlined in Comment 16-29 would now be only 60 percent of the cost of Reclamation's Preferred Missouri River and Groundwater Alternative.

Comment 16-30:

"Unfortunately, the North Dakota State Water Commission's premature construction of the NAWS Project's pipeline from the Missouri River before the Federal NEPA process was completed may preclude realization of the full savings from an in-basin groundwater alternative. Therefore, the discussion of in-basin groundwater alternatives should also consider reimbursement by the State of North Dakota of the sunk Federal costs of the NAWS Project's Missouri River pipeline." (Comments p. 38)

Reclamation's Response 16-30:

"As discussed in the Background section of Chapter One, construction of Project components began in the spring of 2002 and it wasn't until many months later that a legal challenge was filed in the U. S. District Court for the District of Columbia. An order issued by the court in 2005, allowed construction to continue so the assertion that construction was 'premature' is inaccurate.

With respect to the comment regarding reimbursement by the State of North Dakota for the costs associated with the Missouri River pipeline, Reclamation presented costs in the SEIS as Total Project costs and did not distinguish between state cost share and federal contributions. The Total Project cost would not change under the scenario presented in the comment."

Reply16-30:

4-34

Reclamation's response again does not address the issues raised in the comment.

As is clearly documented on pages 4-10 of the Comments, prior to the initiation of construction on the NAWS Project, serious flaws and deficiencies had been pointed out in Reclamation's 2001 decision to prepare an Environmental Assessment and Finding of No Significant Impact instead of initiating a full Environmental Impact Statement for the NAWS Project, yet Reclamation went ahead and initiated construction on the Project in the spring of 2002 (Comments p. 4-5), and Reclamation continued construction on the Project after the U. S. District Court prohibited construction of Project components within the Missouri River Basin in 2010.

Meanwhile, comments on the scope of a full Environmental Impact Statement in 2006, on a Draft Environmental Impact Statement on Water Treatment in 2007, on a Final Environmental Impact Statement on Water Treatment in 2008 and a Draft Supplemental Environmental Impact Statement in 2014 continued to raise significant concerns about the environmental impacts of the NAWS Project and the inadequacies of Reclamation's evaluation of those impacts and of alternatives to Missouri River diversion. Nevertheless, Reclamation and the State of North Dakota have pushed on relentlessly with construction of the NAWS project.

The issue is not what Reclamation and the State of North Dakota can do before they are stopped by the Federal Court, but rather what responsible government agencies and officials do to comply with Federal laws like the National Environmental Policy Act in order to ensure that the projects they build consider all alternatives objectively, are environmentally sound and economically justified and serve the best interests of U. S. taxpayers and the citizens of the State. Reclamation's response does not show that it has done that.

Reclamation's response regarding reimbursement by the State of North Dakota for the sunk Federal costs of the NAWS Project's Missouri River pipeline does not address the point, which is:

> "Therefore, the discussion of in-basin groundwater alternatives should also consider reimbursement by the State of North Dakota of the sunk Federal costs of the NAWS Project's Missouri River pipeline." (Comments p. 38)

This would not change the Total Project costs, but it would inform the reader of the actual cost to U. S. taxpayers of an in-basin groundwater alternative if the Federal Government were to be reimbursed by the State for the sunk Federal costs of the Missouri River pipeline.

Comment 16-31:

"The North Dakota State Water Commission and the Bureau of Reclamation have not hesitated to spend 28 years and untold millions of taxpayer dollars promoting, designing, analyzing, constructing and defending a Northwest Area Water Supply Project with a 45-mile, $45 million pumping plant and pipeline from the Missouri River and a $30 million biota treatment plant, with annual Operation, Maintenance and Replacement costs in excess of $2.5 million (Draft SEIS pp. 2-44, 2-61), to deliver Missouri River water into the Hudson Bay Basin, but they obstinately refuse to spend two years and a few million dollars to develop the information necessary to evaluate objectively the obvious alternative of drilling new wells in the Sundre Aquifer a few miles from the existing Minot municipal well field as needs arise over the next 60 years." (Comments p. 38)

Reclamation's Response 16-31:

"The comment states that additional wells in the Sundre aquifer could provide enough water for the Project; however the analysis presented in the SEIS demonstrates that the quantity of water needed is not available from the aquifer. Commenter is referred to Chapters 3 and 4 as well as Appendix J for further information."

Reply 16-31:

4-35

Reclamation's response does not address the fact that "the analysis presented in the SEIS" is not substantiated by any credible scientific evidence and it is flatly refuted by compelling scientific evidence, as well as information from the Draft SEIS - discussed on pages 26 to 38 of the Comments and to which Reclamation failed to respond substantively - showing that the Sundre Aquifer contains more than enough water to meet the Project area's needs well beyond 2060. This evidence is again discussed in the Replies to Reclamation's Responses 16-20 to 16-30 above. However, Reclamation's unqualified assertion that "the quantity of water needed is not available from the [Sundre] aquifer" is perhaps most succinctly and unequivocally refuted by the admissions in the Draft SEIS itself that:

> ". . . the sustainable yield of the Sundre aquifer has not been determined." (Draft SEIS p., 2-6)

and:

> "A sufficiently detailed groundwater model does not exist for the Minot and Sundre aqufiers. . ." (Draft SEIS p. 4-28)

The response continues to evade addressing the documented fact that Reclamation and the State of North Dakota:

> ". . . obstinately refuse to spend two years and a few million dollars to develop the information necessary to evaluate objectively the obvious alternative of drilling new wells in the Sundre Aquifer a few miles from the existing Minot municipal well field as needs arise over the next 60 years." (Comments p. 38)

However, as we learn from Reclamation's Response 16-25, it would cost something "more than $3.3 million" to develop the information necessary to evaluate objectively the obvious alternative of drilling new wells in the Sundre Aquifer as needs may - or may not - arise over the next 60 years, at a savings of some $97,000,000 (not including the

$2,500,000 annual operating and maintenance costs for the biota treatment plant) compared with the $244,000,000 cost of Reclamation's Preferred Missouri River and Groundwater Alternative.

Comment 16-32:

"Consequently, 28 years after the NAWS Project was authorized and 17 years after the NEPA process was initiated for the Project, an adequate analysis of alternatives to transferring Missouri River water into the Hudson Bay Basin still has not been performed. Indeed, the Bureau's analysis of in-basin groundwater alternatives for the NAWS Project cannot be explained simply as inept and unprofessional; it is intentionally misleading and fundamentally dishonest." (Comments p. 38)

Reclamation's Response 16-32:

"Throughout the process, Reclamation has followed the implementing guidance provided by the Council on Environmental Quality and Reclamation NEPA Handbook (Reclamation 2012b), including the formation of a cooperating agency team. Cooperating agencies include technical representatives from federal, state and local agencies who have special expertise or jurisdiction relevant to the issues to be addressed. Team members included representatives from the U. S. Army Corps of Engineers, U. S. Environmental Protection Agency, North Dakota State Water Commission, Garrison Diversion Conservancy District, and the City of Minot. Reclamation also consulted with the U. S. Fish and Wildlife Service on information relative to the Souris River and how the proposed alternatives would impact the National Wildlife Refuges downstream. Cooperating agencies were involved in the development of plans of study for analyses, provided data and technical expertise in the review of all evaluations contained in the SEIS.

The comment notes the number of years through which aspects of this proposed Project have been analyzed and debated. This ongoing dialogue demonstrates the cautious approach taken in the evaluation of alternatives and impacts associated with meeting water needs within the Project area. Throughout these years Reclamation has worked diligently with other agencies within the United States and Canada (federal/state/provincial) to identify and evaluate issues as well as keeping the lines of communication open in an effort to provide sound scientific analysis to inform decision makers."

Reply 16-32:

4-36

Reclamation's two-paragraph, self-serving, evasive and irrelevant pronouncement serves only to demonstrate the extreme lengths to which Reclamation will go to avoid addressing a straightforward and factual comment, which in this case is that:

> ". . . 28 years after the NAWS Project was authorized and 17 years after the NEPA process was initiated for the Project, an adequate analysis of alternatives to transferring Missouri River water into the Hudson Bay Basin still has not been performed."

Cumulative Impacts

Precedent for Missouri River Diversion Into the Hudson Bay Basin

Comment 16-33:

"The Draft SEIS does not address the precedent that its preferred Missouri River and Groundwater Alternative would establish for other diversions of Missouri River water into the Hudson Bay Basin in North Dakota and for out-of-basin diversions by other states, and now those future diversions could affect other uses of the Missouri River." (Comments p. 38)

Reclamation's Response 16-33:

"Precedence is considered under NEPA (1508.27(b)(6)) when looking at the context and intensity of actions relevant to significance. The degree to which the action may establish a precedent for future actions with effects can be considered. The draft SEIS determined the preferred Missouri River and Groundwater Alternative would have minimal impacts based on the data and analysis conducted. Reclamation determined that, with respect to 'significant effects', this alternative would not establish a precedent. As for setting a precedent for out of basin diversion - this Project would not be the first out of basin transfer. There are many major across basin transfers in the U. S. and Canada including the following (http://www.swc. state.nd.us/4link9/4cgi/getcontent-pdf/pb=1065/intetbasinwhitepaper06.pdf):

- Saint Mary's River Project that transfers water for irrigation from the Hudson Bay Basin to the Missouri River Basin (1915)
- Long Lake Project that transfers water for hydro from the Hudson Bay Basin to Great Lakes Basin (1948)
- Ogoki River Project that transfers water for hydro from the Hudson Bay Basin to the Great Lakes Basin (1943)
- Chicago Sanitary and Ship Canal Project transfers sewage water from the Great Lakes Basin to the Mississippi River Basin (1900)
- Akron Project transfers municipal water from the Great Lakes Basin to the Mississippi River Basin (1998)
- Pleasant Prairie Project transfers municipal water from the Great Lakes to the Mississippi River Basin (1990)
- Churchill River Project transfers water for hydro from the Churchill River Basin to the Nelson River Basin (1976)
- Lake Saint Joseph Basin transfers water for hydro from the James Basin to the Nelson River Basin (1950s)"

Reply 16-33:

4-37

The deficiencies of Reclamation's response, which should be noted is based on information from the North Dakota State Water Commission, are so painfully obvious that a reply is hardly necessary.

First, after the International Joint Commission identified biota transfer as a major concern with diversion of water from the Missouri River Basin to the Hudson Bay Basin in 1977, and after preparing the Draft and Final SEISs specifically to address the potential risks and consequences of biota transfer from the Missouri River Basin to the Hudson Bay Basin under the NAWS Project, - characterized by the U. S. District Court as potentially "catastrophic" - (Final SEIS p. 1-7; Reply to Reclamation's Response 16-14) ,

4-37 Cont.

Reclamation now claims to have determined that its NAWS Project Missouri River and Groundwater Preferred Alternative would not set a precedent for "significant effects."

Second, the response does not address the Reclamation Great Plains Regional Director's own October 20, 2000, Briefing for the Secretary of the Interior, quoted two paragraphs above the one to which Reclamation chose to respond, which concluded that:

> "Approval of NAWS would likely set a precedent in North Dakota for any other interbasin transfers into the Hudson Bay drainage of Canada, as this decision will be the fist Executive Branch application of the 1986 GDU provision." (Bach 2000)

Third, the response does not address the North Dakota State Engineer's statement that the NAWS project provides the framework for a Red River Valley Water Supply Project to deliver Missouri River water to the Red River Valley under the Dakota Water Resources Act of 2000 cited in the paragraph immediately preceding the one to which Reclamation chose to respond.

Fourth, although Comment 16-33 clearly refers specifically to "the precedent that [Reclamation's] preferred Missouri River and Groundwater Alternative would establish for **other diversions of Missouri River water into the Hudson Bay Basin in North Dakota and for out-of basin diversions by other states**, and how those future diversions could affect other uses of the **Missouri River**" (emphasis added), Reclamation's response cites "many major across basin water transfers in the U. S. and Canada," only one of which involves the Missouri River Basin, and that one - the Saint Mary's River Project built 100 years ago at the extreme southwest corner of the Hudson Bay Basin in northwestern Montana - "transfers water **from** the Hudson Bay Basin **to** the Missouri River Basin" (emphasis added).

Reclamation's response embarrassingly fails to recognize that the Chicago Sanitary and Ship Canal, built 115 years ago linking Lake Michigan to the Mississippi River Basin, has become the subject of such major concern for transferring Asian carp and other invasive biota from the Mississippi River into the Great Lakes that consideration is being given to closing the canal.

Reclamation's response cites the Churchill River Project, which transfers water from the Churchill River Basin to the Nelson River Basin, and the Lake Saint Joseph Project, which transfers water from the James Basin to the Nelson River Basin, as examples of "major across basin transfers," but fails to note that the Churchill River Basin, the Nelson River Basin and the James Basin all are located within the Hudson Bay Basin.

Comment 16-34:

> *"The Draft SEIS also does not address how the State of North Dakota's vested interest in using the NAWS Project to establish a precedent for the Red River Valley Water Supply Project and other Missouri River diversions into the Hudson Bay Basin has contributed to the failure to develop objective information on in-basin groundwater resources and to the failure of the Draft SEIS to evaluate in-basin groundwater alternatives substantively, and how the State's statutory mandate to pursue Missouri River diversion has influenced the State Water Commission's and the Bureau of Reclamation's selection of a Missouri River and Groundwater Preferred Alternative."* (Comments p. 38)

Reclamation's Response 16-34:

"Data and information for both inbasin and Missouri River water sources (surface water and groundwater) were evaluated in an objective manner as disclosed in the Water Resources section of the Affected Environment chapter, the Water Resources section of the Environmental Impacts chapter, as well as in Appendix J - *Appraisal Level Engineering Design Report*. The Project would not set a precedent for any future actions involving water withdrawals from the Missouri River.

The comment also states that Reclamation has selected the Missouri River and Groundwater Preferred Alternative. This is not accurate. No decision or selection has been made at this time. The identification of a preferred alternative in the Draft SEIS is permissible under the Council of [sic] Environmental Quality regulations for implementing the procedural provisions of NEPA, and is encouraged in Reclamation's NEPA handbook [section 8.6.4] (Reclamation 2012b). The intent of identifying a preferred alternative is to let the public know what the agency is considering. Public comments, new information or other considerations may result in a change in the preferred alternative. Here, the preferred alternative Biota WTP option was changed in response to comments regarding potential issues with Safe Drinking Water Act compliance. The Record of Decision will document Reclamation's selection of an alternative for implementation."

Reply 16-34:

4-38

The first paragraph of Reclamation's response demonstrates a remarkable denial of both reality and documented facts to avoid addressing the point of the comment, which is the State of North Dakota's admitted vested interest in using the NAWS Project to establish a precedent for the Red River Valley Water Supply Project and other Missouri River diversions into the Hudson Bay Basin (Comments p. 38; Reply 16-33), how that vested interest in promoting Missouri River diversion has contributed to the failure to develop objective information on in-basin groundwater resources and to the failure of the Draft SEIS to evaluate in-basin groundwater resources substantively (Comments pp. 26-38; Replies 16-20 to 16-32), and how the State's statutory mandate to pursue Missouri River diversion has influenced the State Water Commission's and the Bureau of Reclamation's identification of a Missouri River and Groundwater Preferred Alternative (Reply 16-20).

The second paragraph of Reclamation's response then quibbles over semantics to create the impression that it is responding to the comment while diverting attention further from the important issue that it refuses to address in the two-sentence first paragraph of its response. Reclamation says that, "The comment also states that Reclamation has selected the Missouri River and Groundwater Preferred Alternative. This is not accurate." Reclamation then attempts to equate the selection of a "Preferred Alternative" with the "selection of an alternative for implementation."

The Draft SEIS states that:

> "Reclamation has chosen to identify a preferred alternative in this SEIS." (Draft SEIS p. 2-60)

and:

"Appendix C provides the detailed rationale for Reclamation's identification of the preferred alternative. Based on this information, the preferred alternative for the Project has been identified as the Missouri River and Groundwater Alternative." (Draft SEIS p. 2-60)

4-38 Cont.

It should be noted, therefore, that Comment 16-34 refers to Reclamation's "selection of a Missouri River and Groundwater **Preferred Alternative**" (emphasis added). It does not refer to Reclamation's selection of the Missouri River and Ground Water Alternative as the "alternative for implementation." In quibbling over semantics in an attempt to avoid addressing the comment, Reclamation ignores its own definitions and attempts to discredit the comment with a distinction without a difference.

Risk of Biota Transfer

Comment 16-35:

"Although the Draft SEIS acknowledges that the risk of transfer of invasive species is proportional to the volume of water transferred (Draft SEIS p. 4-97), it does not address the cumulative impacts on the risk of invasive species transfer by the NAWS Project posed by other Missouri River diversions such as the Bureau of Reclamation's proposed Red River Valley Water Supply Project (Draft SEIS pp. 3-48-3-49, 4-110) which would deliver an estimated 810,450 acre-feet of Missouri River Water to the Hudson Bay Basin during the 10-year course of a 1930s-type drought (Pearson 2007)." (Comments p. 39)

Reclamation's Response 16-35:

"This comment is inaccurate. The volume of water transferred is one factor that affects the risk of transfer and establishment of invasive species, but other factors, including the concentration of potentially invasive microorganisms in the water transferred, the location of the transfer, and the availability of suitable habitat (including susceptible hosts for pathogens and parasites) have much greater effects on the risk as stated in Aquatic Invasive Species-Pathways for Introduction of Aquatic Invasive Species of Concern section of Chapter 4. The SEIS does not state or infer that the risk is proportional to the volume of water that would be transferred under Missouri River alternatives as the commenter asserts. The *Transbasin Effect Analysis* includes an analysis of the cumulative risk of biota transfer pathways starting on page 39 of Appendix E). The proposed Red River Valley Water Supply Project is one of several pathways identified, and was considered in Reclamation's analysis of potential cumulative effects of the Project as described in the AIS section of Chapter 4 of the SEIS."

Reply 16-35:

4-39

As is pointed out on page 13 of the Comments:

"The Draft SEIS states that:

'Conveyance risk is different for water diversion projects than for the pathways described above. For instance, large, untreated diversions characterized by **high** flow rates and annual **volume** transfers are

4-39 Cont.

> expected to be **greater AIS** [Aquatic Invasive Species] **transfer risk than** those with **lower volumes** and equipped with biota treatment facilities and sophisticated control and response systems, such as the Missouri River alternatives being considered in this SEIS.' [Emphasis added] (Draft SEIS p, 4-97)

thus acknowledging that the risk of biota transfer is a function of the volume of water and the level of treatment provided."

In fact, if the risks of biota transfer were not proportional to the volume of water transferred for a given level of treatment, the Draft SEIS would simply have stated that the risk of transfer of invasive species is greater for untreated transfers than for transfers with biota treatment facilities. Therefore, the Draft SEIS clearly does imply that the risk of biota transfer is proportional to the volume of water that would be transferred under the Missouri River alternatives considered in the SEIS.

The discussion of "Cumulative Effects" in Chapter 4 of the Draft SEIS consists of two paragraphs that do not mention the Red River Valley Water Supply Project and simply states that:

> "AIS biota transfer pathways associated with Missouri River alternatives would contribute to the existing and reasonably foreseeable non-Project biota transfer pathways to **result in a potentially cumulative risk of transferring AIS between the Missouri River and Hudson Bay basins**. . ." (Emphasis added) (Draft SEIS p. 4-111)

with no attempt to describe, quantify or qualify that "potentially cumulative risk," except to say that:

> ". . . the cumulative risk posed by the Project would be negligible." (Draft SEIS p. 4-112)

The "Risk Assessment" section of the *Transbasin Effect Analysis* in Draft SEIS Appendix E does not mention the Red River Valley Water Supply Project, nor does it provide any discussion of the cumulative risks of biota transfer posed by the NAWS Project and other proposed diversions of Missouri River water to the Hudson Bay Basin.

Indian Water Rights

Comment 16-36:

"In comments on the 2008 NAWS Project Draft EIS on Water Treatment, the National Wildlife Federation noted that:

> . . .
>
> *'Obviously, **the Corps** is going to operate the Missouri River Mainstem Reservoir System using the water in the system. What the* [2007] *Draft EIS* [on Water Treatment] *fails to address is the **Secretary of the Interior's** responsibility under the Winters Doctrine to protect and preserve Tribal water rights to the Missouri River, or to consider that the Federal Government has had to make very*

substantial financial compensation payments to Tribes when the Secretary has failed to fulfill that responsibility in the past. Consequently, the Draft EIS does not address the fact that the Bureau and the State of North Dakota are deliberately proceeding with a Northwest Area Water Supply Project with full knowledge that it (1) disregards Tribal water rights to the Missouri River established under the Winters Doctrine, (2) violates the Secretary of the Interior's responsibility to protect Tribal water rights, and (3) could cost additional millions of dollars in compensation to the Tribes for Missouri River water used by the NAWS Project. The DEIS also does not discuss how the costs of compensation to the Tribes could affect the costs to water users and the economic feasibility of the project, nor does it consider alternatives that would avoid this objectionable feature of the Project.' (Pearson and Conrad 2009, Attachment 4)" (Comments p. 41)

Reclamation's Response 16-36:

"All federal agencies, including Reclamation have trust obligations to federally recognized tribes. Trust responsibility is defined by treaties, statutes, Executive Order, and other federal law. The procedures for the Department of the Interior agencies to meet their trust responsibilities are described in Secretarial Order No. 3215, *Principles for the Discharge of the Secretary's Trust Responsibility*. Reclamation exercises its trust responsibility through consultations with tribes in conjunction with the NEPA process.

The SEIS addressed treaty right and ITAs in the Affected Environment, Environmental Impacts and Consultation and Coordination chapters. The SEIS, however, does not attempt to determine, regulate, or quantify ITAs or any currently unquantified rights that tribes are, or may be, entitled to by treaty or law, nor would it be appropriate for an SEIS for the stated purpose and need of this proposed action attempt to do so. Determination and quantification of water rights is the province of jurisdictional determination by courts and/or legislative action by Congress.

As stated in the SEIS chapter four, the depletion analysis of Missouri River resources included all future tribal depletions documented in written plans and tribal reserved rights that have been quantified. Reclamation also recognizes that several tribes with reserved rights to Missouri River have not quantified that right and at such time in the future, should they choose to do, the volume of water available for other users in the basin may be affected. The question of compensation to the Tribes could only be approached if tribal water rights were quantified, and the Project was shown to be impacting the availability of those water rights to the Tribes. See also Response 16-37."

Reply 16-36: 4-40

Reclamation acknowledges that, ". . . several tribes with reserved rights to Missouri River resources have not quantified that right and at such time in the future, should they choose to do so, the volume of water available for other users in the basin could be affected," but it does not address the statement by the former North Dakota State Engineer cited immediately prior to Comment 16-36 that if the 27 Tribes in the Missouri River Basin were to quantifiy their Missouri River water rights, "they would tie up a chunk of water, if not all of it." (Comments p. 40)

Comment 16-37:

"However, instead of addressing Reclamation's responsibilities under the Winters Doctrine and the requirements of the National Environmental Policy Act regarding the impacts of the NAWS Project on Indian water rights, the Draft SEIS continues to evade the issue with irrelevant information about the U. S. Army Corps of Engineers' responsibility for operation of the Missouri River's Mainstem Reservoir System. Consequently, despite acknowledging that Indian water rights are a matter of Federal law, that the amount reserved must be enough to meet future needs, that the rights are not lost through non-use, that the Corps recognizes Indian water rights irrespective of whether they are quantified, and that quantification of Indian water rights to the Missouri River could affect the amount of water available to other users, the Draft SEIS deals only with tribal water rights that have been quantified and the water has been put 'to beneficial use,' or future depletions that have been 'documented in written plans,' or tribal water rights that have been quantified or involve 'reserved tribal water right settlements.' (Draft SEIS pp. 4-170, 4-171)" (Comments p. 42)

Reclamation's Response 16-37:

"As the trustee, the United States appreciates the Missouri River Basin tribes' position with respect to water rights pursuant to the Winters Doctrine. The tribes in western states, where the prior appropriation doctrine's 'first in time, first in right' applies, understand the priority date of one's water right is central. In time shortage, the junior (most recent) water rights holders must curtail their usage before senior users. Most Indian tribes benefit from this aspect of western water law given their long histories in their respective territories pre-European settlement and expansion westward. Thus, Indian tribes enjoy a priority date no later than the date of their reservation's establishment. Winters rights are based on what is needed to accomplish the reservation's purposes for both the present and the future, not on initial or even current use of water. Winters rights also cannot be lost for non-use under state-law concepts such as abandonment or forfeiture.

Reclamation has followed the court's directive and taken a hard look at the cumulative impacts of water withdrawals on the Missouri River. As stated in the draft SEIS (page 3-105 to- 106) all tribal reserved water rights that have been quantified or are being quantified were included in the Missouri River depletions analysis. Reasonably foreseeable tribal water supply and irrigation projects were included as noted in Appendix D, Table D-6. NEPA does not require the agency to consider speculative actions when examining impacts. At this time, including unquantified reserved tribal water rights would be highly speculative. It is impossible to consider how possible depletions of an unknown quantity could possibly affect the future water supply and navigation of the Missouri River basin. This is particularly difficult given that the climate change modeling for the basin indicates it will generally be wetter in the long-term.

At any time in the future reserved tribal water rights are quantified, or tribes enter into Indian Water Rights Settlements, the volume of water available for other (junior) users in the basin may, indeed, be affected. This statement recognizes and discloses both the potential quantification and exercise of Indian water rights and the potential effect that any such quantification and exercise could have on the amount of water available for other users in the Missouri River Basin."

Reply 16-37:

4-41

Neither the discussion of Water Rights on Draft SEIS pages 3-105 and 3-106 nor in Draft SEIS Appendix E, Missouri River Depletions, Table 6, mentions the Northwest Area Water Supply Project.

Reclamation's abstract and theoretical response does not address the statement by the North Dakota State Engineer that quantification of Indian water rights could tie up most of the water in the Missouri River and it does not address substantively the issues raised in Comment 16-36, which are that Reclamation and the State of North Dakota are deliberately proceeding with a Northwest Area Water Supply Project with full knowledge that it (1) disregards Tribal water rights to the Missouri River established under the Winters Doctrine, (2) violates the Secretary of the Interior's responsibility to protect Tribal water rights, and (3) could cost additional millions of dollars in compensation to the Tribes for Missouri River water used by the NAWS Project, nor does it address how the costs of compensation to the Tribes could affect the costs to water users and the economic feasibility of the project.

Comment 16-38:

"The Draft SEIS does not address the probability that more tribes will be quantifying their rights to Missouri River water over the 60-year planning period for the NAWS Project, and that the quantification of those water rights could affect the cost and the amount of water available for the NAWS Project, and that, as former North Dakota State Engineer Dale Frink pointed out in 2007, quantification of Indian water rights 'certainly could quantify a huge amount of water.'" (Comments p. 43)

Reclamation's Response 16-38:

"See Response 16-37."

Reply 16-38:

4-42

See Replies 16-36 and 16-37.

Comment 16-39:

"Not only does the Bureau not address the potential impacts of the quantification of Indian water rights to the Missouri River on the future costs and availability of water for the NAWS Project, but it does not consider that the adoption of an in-basin groundwater alternative would insulate the NAWS Project from those potential impacts and assure a reliable source of water for the Project into the future." (Comments p. 43)

Reclamation's Response 16-39:

"NEPA is an environmental disclosure law and as noted in the Response 16-37 the SEIS acknowledges Reclamation's trust obligations to federally recognized tribes and discloses that Indian water rights exist on the Missouri River under the *Winters Doctrine*. It was further disclosed that there is an adjudication process to account for those water rights. Reclamation is not aware of any adjudication process for Missouri River tribes beyond those already documented in the SEIS. Therefore, the potential water rights of all

Missouri River Tribes referred to by the commenter are not reasonably foreseeable. At any time in the future should additional reserved tribal water rights be quantified, or tribes enter into Indian Water Rights Settlements, the volume of water available for other (junior) users in the basin may, indeed, be affected. To speculate further is unreasonable considering the endless number of variables leading to adjudication of tribal water rights. Inbasin groundwater sources were thoroughly analyzed in the SEIS, and information on the quantity of water available from these sources, their reliability, and the potential impacts associated with the use of groundwater are discussed throughout the SEIS. Based on those analyses, Reclamation identified a preferred alternative that would use a combination of Missouri River water and inbasin ground water. The alternatives that would use only inbasin water were found to be much less reliable than the Missouri River alternatives. Reclamation evaluated and considered all alternatives and their potential affects [sic]."

Reply 16-39:

4-43

The response would have the reader believe that it was Reclamation that initiated disclosure of the Indian water rights issue under the NAWS Project's NEPA process. However, the first time of which I am aware of Indian water rights being mentioned in a public document associated with the NAWS Project's 29-year NEPA process was my July 12, 2001, Notice of Appeal of Decision of Bureau of Reclamation Area Manager to Prepare an Environmental Assessment and Sign a Finding of No Significant Impact Instead of Initiating a National Environmental Policy Act Environmental Impact Statement for the Northwest Area Water Supply Project in North Dakota where I pointed out that:

> "The Environmental Assessment for the NAWS project does not provide the detailed discussion of the cumulative impacts of the NAWS project and other existing and proposed water withdrawals from the Missouri River on. . . unquantified Indian Missouri River water rights. . . that is required by the National Environmental Policy Act in order to resolve conflicts." (Pearson, 2001)

Reclamation's approach to the potentially significant ramifications of Indian water rights on NAWS Project Missouri River alternatives is simply to dismiss them because they haven't been quantified.

Reclamation's response does not address the fact that the SEIS analysis of groundwater resources in the NAWS Project area is unsupported by credible scientific data and is refuted by the available scientific evidence, including information contained in the Draft SEIS and its appendices (Comments pp. 26-39, Replies 16-20 to 16-32).

The Boundary Waters Treaty of 1909

Comment 16-40:

"Consequently, although the Garrison Diversion Unit Reformulation Act of 1986 and the Dakota Water Resources Act of 2000 prohibit construction or operation of Garrison Diversion Unit municipal, rural and industrial water supply projects delivering Missouri River water into the Hudson Bay Basin prior to a determination of the Secretary of the

Interior, in consultation with the Secretary of State and the Administrator of the Environmental Protection Agency, that adequate treatment can be provided to meet the requirements of the Boundary Waters Treaty of 1909, neither act exempts the Northwest Area Water Supply Project or the Secretary of the Interior, the Secretary of State or the Administrator of the Environmental Protection Agency from the International Joint Commission's 1997 recommendation that construction of portions of the Garrison Diversion Unit which could affect waters flowing into Canada be undertaken only:

> *'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 no longer to be a matter of concern.' (International Joint Commission 1977)"* (Comments p. 48)

Reclamation's Response 16-40:

"Reclamation has and will continue to comply with federal laws authorizing the Project as noted in the comment. The International Joint Commission's 1977 recommendations regarding construction of the Garrison Diversion Unit were related to the much larger Garrison program and not specific to the Project as the comment infers. The International Joint Commission has the authority to study and recommend solutions to transboudary issues when asked to do so by the national governments. However, please note there is a difference between the authority/provisions granted by federal law versus a recommendation made by a committee established under a treaty. As acknowledged by the International Joint Committee [sic] itself, their recommendations are not binding (http://www.ijc.org)."

Reply 16-40:

4-44

Reclamation's response ignores the five pages of comments preceding Comment 16-40 (to which it selectively chose to respond) that discuss and document in detail that the NAWS Project is a component of the Garrison Diversion Unit (Comments pp. 43-48) under the joint U.S. Government/Government of Canada reference to the Commission.

Reclamation's response also erroneously claims that the International Joint Commission's 1977 recommendations related only to the "the much larger Garrison program" and were "not specific to the Project." The explicit language of the International Joint Commission's 1977 first recommendation regarding the Garrison Diversion Unit is that:

> ". . . those **portions** of the Garrison Diversion Unit **which could affect waters flowing in to Canada** not be built at this time." (Emphasis added)

The International Joint Commission made no distinction in its recommendation between the irrigation components of the Garrison Diversion Unit and smaller components such as municipal water supply projects like the NAWS Project.

The 1984 U. S. Garrison Diversion Unit Commission, which was appointed by the Secretary of the Department of the Interior to "review the controversy surrounding the authorized Initial Stage of the Garrison Diversion Unit. . . and to make recommendations" (Garrison Diversion Unit Commission 1984), also recognized that the International Joint Commission's recommendation applies to municipal water supplies projects such as the NAWS Project. For example:

"The Commission recommends that the terms and conditions of the Boundary Waters Treaty be honored. The concerns of the Provincial and National Governments of Manitoba and Canada are appreciated and must be recognized. Missouri River waters conveyed into the Hudson Bay drainage as part of the Commission Plan shall be treated in a manner determined **acceptable pursuant to United States-Canadian consultations**. . ." (Emphasis added) (Garrison Diversion Unit Commission 1984)

For Municipal, Rural, and Industrial Water Systems, the Commission specifically stated:

"For those municipal and industrial systems that will deliver Missouri River water to communities in the Hudson Bay drainage, it is recommended that **the United States consult with the Government of Canada on plans and methodologies before implementation**." (Emphasis added) (Garrison Diversion Unit Commission 1984)

Reclamation's response does not address the comment immediately following Comment 16-40 that: 4-44 Cont.

"The Government of Canada has not agreed that methods have been proven that will eliminate the risk of biota transfer by the Northwest Area Water Supply Project nor has it agreed that the question of biota transfer no longer is a matter of concern with the project." (Comments p. 49)

Reclamation says that the recommendations of the International Joint Commission are not binding, but it does not address the fact that the October 22, 1975, joint reference of the Garrison Diversion Unit matter to the International Joint Commission by the Secretary of State for External Affairs for the Government of Canada and the Secretary of State for the Government of the United States specifically noted that:

"Both the United States and Canada ascribe particular importance to the views of the Commission on this matter."

Reclamation also does not address the fact that neither the Garrison Diversion Unit Reformulation Act of 1986 nor the Dakota Water Resources Act of 2000 authorizes or directs the Secretary of the Interior or the Secretary of State to disregard the recommendations of the International Joint Commission and the Garrison Diversion Unit Commission.

Consequently, Reclamation needs to explain upon what authority it has chosen to disregard the recommendations of both the International Joint Commission (based on a referral by the Secretary of State) and the Garrison Diversion Unit Commission (appointed by the Secretary of the Department of the Interior) regarding municipal water projects such as the NAWS Project that would transfer Missouri River water into the Hudson Bay Basin.

Comment 16-41:

"The Northwest Area Water Supply Project is a conceptual and statutory component of the Garrison Diversion Unit subject to the International Joint Commission's 1977

recommendations regarding achieving compliance of the Garrison Diversion Unit with the provisions of Section IV of the Boundary Waters Treaty of 1909. The Draft SEIS claims that its analysis 'fulfills the directives of the Boundary Waters Treaty' (Draft SEIS pp. 4-1, 4-2), but it does not address the recommendation of the International Joint Commission, made in response to a joint Reference by the Government of Canada and the Government of the United States, regarding the construction of those portions of the Garrison Diversion Unit which could affect waters flowing into Canada." (Comments p. 49)

Reclamation's Response 16-41:

"See Response 16-40."

Reply 16-41:

4-45

See Reply 16-40.

Epilogue

Comment 16-42:

"However, the Bureau of Reclamation's Draft SEIS and its selection of a Missouri River and Groundwater Alternative as the preferred alternative for the Northwest Area Water Supply Project brazenly violate literally every tenet of the agency's stated mission." (Comments p. 49)

Reclamation's Response 16-42:

"Reclamation would like to correct a misstatement in the comment. Reclamation identified a preferred alternative in the Draft SEIS but no selection has been made. A response to this comment is not required under NEPA because the comment does not raise a significant environmental issue (NEPA Regulations 40 CFR 1530.4). The author expressed personal opinions which are not appropriately addressed as part of the NEPA process."

Reply 16-42:

4-46

Reclamation's response again quibbles with semantics to fabricate a distinction without a difference. The comment clearly and explicitly refers to Reclamation's "selection of a Missouri River and Groundwater Alternative as the **preferred alternative**" (emphasis added). But Reclamation attempts to misconstrue the statement to imply that the comment claims that Reclamation has selected the Missouri River and Groundwater Alternative for implementation. See Reply 16-34.

The comment was made specifically in response to Reclamation's Mission Statement, which Reclamation chose to use as the frontispiece of the Draft (and Final) SEIS. The comment is based upon 47 pages of extensively documented comments on the Draft SEIS, only one of which Reclamation has responded to substantively and forthrightly: Reclamation's Response 16-2 agreed with Comment 16-2 that the Preferred Missouri River and Groundwater Alternative identified in the Draft SEIS has not been changed in any substantive way from the Preferred Alternative identified in the 2009 NAWS Project

Final Environmental Impact Statement on Water Treatment to reduce the **risk** of transfer of invasive species from the Missouri River Basin to the Hudson Bay Basin by the NAWS Project.

Comment 16-43:

"They do not contribute to the management, development or protection of water or related resources in an environmentally or economically sound manner. Instead they promote shameful mismanagement of water and related resources, the Federal subsidization of potentially severe environmental degradation, and a profligate expenditure of public tax revenues on a project for which far better and less costly alternatives are readily available. They do not serve the interests of the communities and rural water systems in the NAWS Project area where the development of a sound and sensible water supply project has been delayed for 17 years by the Bureau's repeated failures to carry out its mission in a responsible manner. Moreover, they display a shameful lack of professional competence and integrity and an astonishing disregard for Federal laws, the Federal courts, the International Boundary Waters Treaty, Native Americas and the people - including First Nations - and the governments of Canada and the Province of Manitoba." (Comments p. 49)

Reclamation's Response 16-43:

"See Response 16-42."

Reply 16-43:

4-47

It certainly is Reclamation's prerogative not to address the comment even when it is based on 47 pages of extensively documented comments on the Draft SEIS (Pearson 2014) and now by another 54 pages of thoroughly documented Replies to Reclamation's Responses to those comments.

Comment 16-44:

"Reiterating the recommendation of the National Wildlife Federation in its comments on Reclamation's 2008 Northwest Area Water Supply Project Final Environmental Impact Statement on Water Treatment, the Secretary of the Interior should withdraw the NAWS Project Draft SEIS, remove the Bureau of Reclamation from the NEPA process and appoint an independent, professional entity to begin the NEPA process anew to produce a credible and complete EIS for the NAWS project that complies with the requirements of the National Environmental Policy Act, Council on Environmental Quality regulations, the Winters Doctrine, the Boundary Waters Treaty of 1909 and other Federal laws." (Comments p. 49)

Reclamation's Response 16-44:

"A response to this comment is not required under NEPA because the comment does not raise a significant environmental issue (NEPA Regulations 40 CFR Part 1503.4). The author expresses personal opinions which are not appropriately addressed as part of the NEPA process."

Reply 16-44:

4-48

Reclamation's consistent failure to respond substantively, factually and forthrightly to comments on the Draft SEIS severs only to confirm further the validity of the National Wildlife Federation's recommendation

CONCLUSION

Reclamation's failure to address substantively, objectively and forthrightly the compelling evidence demonstrating that an in-basin water supply alternative for the NAWS Project would not only be feasible and would avoid the potentially serious environmental impacts of a Missouri River diversion, but also would cost a fraction of the $244,000,000 for Reclamation's Missouri River and Groundwater Preferred Alternative with the Conventional Treatment Option (Final SEIS p. 2-65), is one of the most significant and stunning revelations in the 29-year Northwest Area Water Supply Project National Environmental Policy Act environmental impact analysis process.

REFERENCES

Bach, Maryanne. 2000. Briefing for the Secretary. From Eluid L. Martinez, Commissioner, Bureau of Reclamation. Subject: Northwest Area Water Supply (NAWS) Peoject. Garrison Diversion Unit, North Dakota. October 20. 3 pp.

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Pearson, Gary L. 2014. Comments on the U. S. Department of the Interior, Bureau of Reclamation, July 2014, Northwest Area Water Supply Project Draft Supplemental Environmental Impact Statement. 52 pp.

Ryan, Michael J. 2015. Letter from Regional Director, United States Department of the the Interior, Bureau of Reclamation, Great Plains Region, Billings, Montana, to Dear Interested Party. Subject: Distribution of the *Final Supplemental Environmental Impact Statement for the Northwest Area Water Supply Project.* April 7. 1 p.

Response 4-1 In Chapter 1 (page 1-10) of the Final SEIS Reclamation identified the primary changes from the Draft SEIS made in response to comments received during the public review period. Reclamation also complied with the CEQ Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act by waiting a minimum of 30 days after publication of the notice in the *Federal Register* to make a decision on the proposed action (40 CFR1506.10).

Response 4-2 The section of the Draft SEIS quoted by the commenter is accurate and consistent with the authorizing legislation (Garrison Diversion Reformulation Act of 1986[P.L. 99-294] and the Dakota Water Resources Act of 2000 [P.L. 106-554]). Section 7 (a)(2) of the authorizing legislation states "All planning, design, construction and operation of the municipal, rural and industrial water systems authorized by this section shall be undertaken in accordance with a cooperative agreement between the Secretary and the State of North Dakota." Section 7(3) states that upon execution of the cooperative agreement, "…the Secretary is authorized to convey to the State of North Dakota, on a nonreimburseable basis, the funds authorized…" This section goes on to state that the "non-federal share of the cost of operation, maintenance, and replacement of each municipal rural and industrial water system funded by this section shall be 100 percent". This information is clearly stated in the SEIS. The Northwest Area Water Supply Project is specifically identified in this section as one of several projects eligible for funding under this authorization. The commenter may not agree with how this municipal, rural and industrial program is set up or funded; however Reclamation is following the direction provided in the authorizing legislation.

Response 4-3 Reclamation has complied with the CEQ implementing regulations in the preparation of the previous NEPA documents prepared for the Project, as well as the Final SEIS. The commenter suggests Reclamation was in error by allowing the project sponsor or applicant to prepare the 2001 Environmental Assessment and quotes sections of the CEQ implementing regulations. Reclamation notes that the language quoted from the CEQ implementing regulations is from 40 CFR 1506.5(c) *Environmental impact statements* which speaks to the lead agency responsibilities in preparing an environmental impact statement not an environmental assessment. Reclamation points the commenter to 40 CFR 1506.5(b) *Environmental assessments* which states an agency may permit an applicant to prepare an environmental assessment as long as the agency "makes its own evaluation of the environmental issues and takes responsibility for the scope and content of the environmental assessment". The commenter also implies the North Dakota State Water Commission has improperly limited the analysis in the 2001 Environmental Assessment but Reclamation disagrees. It should be noted that the Final SEIS supplements the previous NEPA completed for the proposed Project, in addition to re-examining and updating all prior NEPA analyses completed in connection with this proposed Project (see Introduction section of Chapter 1).

Response 4-4 Reclamation has taken a 'hard look' at the consequences of biota transfer in Canada consistent with the Court's order as demonstrated by the *Transbasin Effect Analysis Technical Report* (Appendix E) which underwent an independent technical peer review. The *Transbasin Effects Analysis Technical Report* was summarized in the SEIS and comments pertaining to this analysis were responded to in Appendix K of the Final SEIS. Reclamation's evaluation of this controversial issue and disclosure the information to the public in the SEIS was

acknowledge by the Government of Canada in its comment letter (Letter #5) on the Final SEIS which states "…we note that the Final SEIS took 'a hard look' at possible environmental impacts within the Canadian environment – an action vitally important from the perspective of the Canadian government…"

Response 4-5 Reclamation's response to Comment 16-2 on the Draft SEIS was accurate. This comment on the Final SEIS is inaccurate and fails to recognize the range of Biota WTP options that have been evaluated since the Court's 2005 opinion. Both the Biota WTP option included in the Preferred Alternative in the 2008 *Final EIS on Water Treatment* and the Biota WTP option included in the Final SEIS pose a lower risk than the Biota WTP option proposed in the 2001 Environmental Assessment and Finding of No Significant Impact that was the subject of the Court's 2005 opinion. The Conventional Treatment Biota WTP option included in the preferred alternative of the Final SEIS is a multi-barrier treatment system which includes chemical disinfection, ultra violet irradiation and media filtration The inclusion of this Biota WTP option has been recognized by the Province of Manitoba, Canada (see comment letter #2) as the Biota WTP option that "..represents the most sensible, and most protective, course of action". Another statement from comment letter #2 acknowledges that should Reclamation ultimately select a Missouri River alternative, "…the Bureau's preferred alternative for the Biota WTP is the right choice."

Response 4-6 Reclamation's original response (see Appendix K – Response 16-3) explains the limitations Reclamation imposed to provide a reasonable boundary for the geographic range of impacts analyzed in this SEIS. Furthermore, case law acknowledges that in NEPA lead federal agencies have the discretion to determine the geographic scope of the analysis.

Friends of the Wild Swan v. Weber, 767 F.3d 936, 943 (9th 2014) has summarized the law in the following paragraph:

> "[A]n agency has the discretion to determine the physical scope used for measuring environmental impacts." *Idaho Sporting Congress v. Rittenhouse*, 305 F.3d 957, 973 (9th Cir. 2002). Identifying the appropriate geographic scope "is a task assigned to the special competency of the appropriate agenc[y]," *Kleppe v. Sierra Club*, 427 U.S. 390, 414, 96 S. Ct. 2718, 49 L. Ed. 2d 576 (1976), and the agency must balance need for a comprehensive analysis versus considerations of practicality, while also keeping in mind that use of a larger analysis area can dilute the apparent magnitude of environmental impacts. *See Selkirk Conservation Alliance v. Forsgren*, 336 F.3d 944, 958-59 (9th Cir. 2003).

Response 4-7 The commenter has provided no new or additional information, therefore there is nothing warranting Reclamation reconsidering or amending its original response (see Appendix K – Response 16-4). The comment misrepresents information presented in the Affected Environment chapter. Discussion in this chapter describes the affected environment within the Hudson Bay Basin as stated in the response. The description of the three ecoregions on pages 3-1 through 3-3 and Figure 3.1 are identified as the ecoregions covered by the Project Area and not intended to identify the scope of all the environmental analyses as inferred by the commenter. The SEIS does not need to describe or analyze all of the ecosystems within the Hudson Bay Basin , as the commenter claims, but only the parts of the basin that will be affected; in other

words, specifically affected resources. Some resources, such as air quality and visual landscape would be affected primarily by construction activities within the Project Area, while the affected environment for other resources would be much broader. For example, the potential impact from AIS extends into Canada, but Reclamation's analysis does not comprehensively carry Canadian analysis throughout the entire watershed downstream from Lake Winnipeg because such an exercise would be extraneous.

Contrary to the commenter's opinion, Reclamation has taken a 'hard look' at the consequences of biota transfer in Canada consistent with the Court's order as demonstrated by the *Transbasin Effect Analysis Technical Report* (Appendix E) which underwent an independent technical peer review. The commenter incorrectly states that the entire Hudson Bay Basin comprises a single ecosystem. There are many ecosystems within the Hudson Bay Basin, most of which do not form part of the affected environment for the Project. Reclamation's effort to evaluate this controversial issue and disclose the information to the public in the SEIS was acknowledge by the Government of Canada in their comment letter (Letter #5) on the Final SEIS which states "…we note that the Final SEIS took 'a hard look' at possible environmental impacts within the Canadian environment – an action vitally important from the perspective of the Canadian government…"

Response 4-8 Reclamation respectfully disagrees with the commenter's opinion that the rescission of the 'water transfer rule' is a reasonably foreseeable Federal action that should have been considered in the SEIS. Pending decisions from an appellate court are not reasonably foreseeable; therefore there is nothing warranting Reclamation reconsidering or amending its original response (see Appendix K – Response 16-5). If in the future EPA's Water Transfer Rule requires the Project to apply and secure a permit, further NEPA analysis would be conducted as necessary to obtain a permit. It may be possible that modifications or other conditions could be written into that permit. However, at this time, any attempt to analyze such possible future requirements is purely speculative.

Response 4-9 For clarification, the 2008 *Final EIS on Water Treatment* did not evaluate the effects of Missouri River depletions. Because of this, neither monthly nor annual Missouri River withdrawals were specifically estimated in the 2008 *Final EIS on Water Treatment*. Missouri River depletions were determined to be outside the scope of that analysis; therefore specific withdrawal amounts were not germane to the analyses presented in that document. The commenter cites a single reference from the 2008 *Final EIS on Water Treatment* that references Biota WTP design capacities and incorrectly assumes that it is an estimate of projected Missouri River withdrawals. Each of the Biota WTP options evaluated in the 2008 *Final EIS on Water Treatment* was designed to produce an average of 10.5 mgd (11,760 acre-feet/year), with a maximum capacity of 26 mgd. The amount of water withdrawn from the Missouri River would vary slightly among the biota water treatment options, but these differences were not estimated. For the SEIS, estimates of monthly withdrawals from the Missouri River were used to evaluate effects of Project depletions on Missouri River resources. Summing these monthly withdrawals yields an annual withdrawal of 13,600 acre-feet, which is based on the estimated water need plus 20 percent for losses associated with treatment processes at the Biota WTP as stated in Appendix K – Response 16-6.

As noted in the Introduction section of Chapter 1, the SEIS supplements the *Final Environmental Impact Statement on Water Treatment* (Reclamation 2008) in addition to re-examining and updating all prior NEPA analyses that have been completed in connection with the proposed Project. In the effort to update the Project information and take a "hard look" at impacts based on current conditions, the SEIS documents how the future water needs of the Project were estimated as described in the *Water Needs Assessment Technical Report* (Reclamation 2012), and summarized in Chapter 2. Appendix J – *Draft Appraisal Level Design Engineering Report* contains detailed information on the treatment processes evaluated for the Biota WTP options.

The 15,000 acre-feet per year figure cited by the commenter is the amount of water reserved under the Project's water permit issued by the State of North Dakota (see Appendix K – Response 16-6). This water right was established prior to the 2012 water needs assessment for the Project. The permitted amount is not an estimate of maximum annual Project withdrawals as the commenter contends. Reclamation also notes that the previous risk analysis (USGS 2007) was not based upon a 12,000 acre-feet/year transfer as the commenter contends. The volume of water transferred was not integral to any of the analyses presented in USGS (2007).

The maximum possible withdrawal simulation (29,100 acre-feet per year) was evaluated solely to provide an upper bound to the maximum possible withdrawal as part of the impact analysis as stated in the Methods section of Chapter 4 (see page 4-66). The commenter contends that the annual withdrawal could be increased to this amount by simply increasing the allocation under the Project's water permit. While it is true that the allocation could be increased, the commenter fails to recognize that withdrawals are dictated by water needs, not by allocated amounts, and the statutory mandates cited by the commenter have no effect on future water needs.

Response 4-10 Previous responses above address the commenter's statements regarding the amount of water needed for the Project. Therefore this response focuses on the statements regarding the relationship between the volume of water and transfer risk, as well as statements inferring that drinking water standards are sufficient to prevent human illness from waterborne pathogens and protect public health, but they are not sufficient to prevent AIS from being transferred and becoming established in the Hudson Bay Basin.

First, Reclamation has never stated that the Project's control system would always be 100 percent effective (i.e., zero risk). However, analyses conducted for the 2008 *Final EIS on Water Treatment* and the Final SEIS demonstrate that the Project-related risk of transfer is much lower than the risk from competing non-Project pathways. As a result, the incremental risk of the Project is very low, and the overall risk is similar with or without the Project.

Second, the volume of water transferred is one of several factors that influences the risk of transfer and establishment of invasive species. Other factors include the concentration of potentially invasive microorganisms in the water transferred, the location of the transfer, and the availability of suitable habitat (including susceptible hosts for pathogens and parasites). These other factors have a much greater influence on the risk and potential consequences of transfer (see Appendix E – *Transbasin Effects Analysis Technical Report* and Appendix K – Response 23-17). This is particularly true given that the transferred water would meet all Safe Drinking Water Act standards under the alternative selected in this decision document.

Third, the commenter opines that water treatment for the prevention of AIS transfer is a higher priority or more important than established drinking water regulations for the health and well-being of human beings. The U.S. government has established drinking water regulations to reduce the risks of disease transmission to an acceptable level. However there are no established standards for treatment of interbasin water transfers to reduce the risks of AIS transfer to an acceptable level. The EPA has published a final rule in the *Federal Register* (73 FR 33694) which generally exempts interbasin water transfers from regulations under the National Pollutant Discharge Elimination System permitting program. This is discussed in Chapters 2 and 4 of the Final SEIS. The discussion in Chapter 2 discloses that the drinking water regulations and associated research provides the best available information to compare treatment capabilities as part of the analysis in support of this NEPA process.

In this decision document, the treatment processes to be implemented at the biota WTP located within the Missouri River Basin uses a multi-barrier approach. The system is designed to inactivate and remove biota from the raw water. Table 2-23 in Chapter 2 presents information on the effectiveness of each process within the treatment train.

As stated above, the U.S. government has not established standards for treatment of interbasin water transfers and Reclamation also notes the Province of Manitoba, Canada has acknowledge in their comment letter on the Final SEIS (see letter #2) that the Conventional Treatment Biota WTP option is the type of treatment they have been advocating and it is the 'right choice' for the Biota WTP.

Response 4-11 The commenter has provided no new or additional information therefore there is nothing warranting Reclamation reconsidering or amending its original response (see Appendix K – Response 16-8 and Response 16-6).

Response 4-12 During review of the commenter's letter on the Draft SEIS, Reclamation considered the quotes and intermittent statements by the commenter included under the heading '*Risk Assessment'* and identified the subsequent five paragraphs following these quotations as comments and provided responses to each of them (see Appendix K - Responses 16-9 through 16-13). Reclamation disagrees that the failure to respond to these statements "constitutes tacit acknowledgement of this important fundamental conceptual flaw in the biota transfer risk assessment" as stated in the comment letter on the Final SEIS. As stated in Response 4-4 above, Reclamation has taken a 'hard look' at the risks and consequences of biota transfer in Canada which is documented in the *Transbasin Effect Analysis Technical Report* (Appendix E) which underwent an independent technical peer review. The technical report contains discussion regarding previous risk studies, other relevant risk studies and the risk assessment undertaken in support of the SEIS for this Project (see pages 2-10). The report goes on to describe the conceptual risk model used in the analysis, describes the potential biota transfer pathways, and the ecological receptors of concern (see pages 36-51) which are relative to evaluating the risks. The *Transbasin Effects Analysis Technical Report* was summarized in the SEIS and comments pertaining to this analysis were responded to in Appendix K of the Final SEIS. Reclamation's effort to evaluate this controversial issue and disclose the information to the public in the SEIS was acknowledge by the Government of Canada as a positive element in their comment letter (Letter #5) on the Final SEIS.

Response 4-13 The comment provides the same opinions as previously included in the comments on the Draft SEIS, to which Reclamation responded (see Appendix K – Response 16-9). The commenter has provided no new or additional information, therefore there is nothing warranting Reclamation reconsidering or amending its original response. The comment also suggests that information presented in the original response (see Appendix K – Response 16-9) is based on incomplete data; however no specifics are provided as a basis of this statement therefore Reclamation cannot respond. The SEIS and Appendix E – *Transbasin Effects Analysis Technical Report* provide detailed information on *Myxobolus cerebralis.* In addition to the scientific literature this analysis is based on, Reclamation also notes that the Canadian government in their comments on the Red River Valley Water Supply Project EIS (April 5, 2006), "… there are very few water bodies in the Canadian portion of the area of concern where there are self-supporting populations of rainbow trout *Oncorhynchus mykiss* and those salmonids that are resident in the area of concern are relatively unaffected by the presence of *M. cerebralis*". Also the Canadian Food Inspection Agency does not list either lake trout or lake whitefish as species that are susceptible to whirling disease (http://www.inspection.gc.ca/animals/aquatic-animals/diseases/reportable/whirling-disease/fact-sheet/eng/1336686597267/1336686806593, accessed June 22, 2015). Finally, both lake trout and lake whitefish occur in the Missouri River system in Montana, with no evidence of whirling disease.

Response 4-14 Reclamation must clarify misinterpretations of the SEIS analyses. Results of the analyses completed for the SEIS have never concluded that interbasin transfer of AIS through natural pathways is inevitable as stated in the comment. As documented in Appendix E – *Transbasin Effects Analysis Technical Report*, for some of the AIS evaluated, the risk of transfer and establishment is low for both Project-related and non-Project pathways. After extensive analysis, Reclamation has concluded that non-Project pathways (both natural and anthropogenic) pose a much greater risk than the Project. As new invasive species occur in the Missouri River Basin, the risk of transfer to the Hudson Bay Basin will increase for all pathways, not just for the Project as the commenter infers.

As stated in the Aquatic Invasive Species section of Chapter 3, Dick et al. (2001) reported only two out of 44 parasites documented to occur in the Missouri River that have not also been reported in the Red River drainage or other Manitoba waters. Furthermore, they noted that the parasite communities from fish species that are common to both drainages are similar. Thus, the commenter's assertion that the Hudson Bay Basin and the Missouri River Basin have maintained distinct differences in their flora and fauna for 10,000 years is unsupported for fish pathogens and parasites, the primary AIS of concern for the Project.

Chapter 3 of the SEIS also addresses interbasin connection in the Aquatic Invasive Species section (page 3-66). The discussion states basin divides may overflow naturally during flood conditions (Davies et al. 1992; Spading 2000), providing a potential conduit for biota movement to neighboring drainages. Basin divides, including continental divides, are not necessarily a formidable barrier. For example, near Browns Valley, Minnesota, the Little Minnesota River (within the Mississippi-Missouri River basin) passes within approximately 800 yards of Lake Traverse (within the Hudson Bay basin). At this location, the left bank of the Little Minnesota River forms the divide between the two major drainage basins. Breakout flows overtopping the

basin divide have a recurrence interval of approximately 10 years, providing a relatively frequent natural connection between the basins (Spading 2000). The boundaries between hydrologic basins in much of the Project area are poorly defined due to low relief of the land and lack of geographic features that would otherwise provide discrete drainage separations. The basins have not been completely separated since the retreat of the Wisconsin Glacier as the commenter asserts.

Response 4-15 The commenter has provided no new or additional information, therefore there is nothing warranting Reclamation reconsidering or amending its original response (see Appendix K – Response 16-11).

Response 4-16 The commenter has provided no new or additional information, therefore there is nothing warranting Reclamation reconsidering or amending its original response (see Appendix K – Response 16-12).

Response 4-17 Reclamation has evaluated the risks and consequences of AIS associated with the proposed action and existing interbasin water transfers as documented in Chapters 3 and 4 of the SEIS, the *Transbasin Effects Analysis Technical Report* (Appendix E) and the independent technical peer review of that Technical Report which is a supporting document to the Final SEIS. The analysis conducted and disclosure of the information to the public meets the intent of NEPA in that the public and decision maker shall be informed of the potential impacts to the human environment.

Response 4-18 Reclamation has evaluated the risks and consequences of AIS associated with the proposed action and existing interbasin water transfers as documented in the SEIS (Chapters 3 and 4), the *Transbasin Effects Analysis Technical Report* (Appendix E) and the independent technical peer review of that Technical Report and acknowledges and discloses the potential impacts of AIS establishment in the Hudson Bay Basin regardless of the transfer pathway. The commenter has provided no new or additional information, therefore there is nothing warranting Reclamation reconsidering or amending its original response (see Appendix K – Response 16-14).

Response 4-19 The commenter has provided no new or additional information, therefore there is nothing warranting Reclamation reconsidering or amending its original response (see Appendix K – Response 16-15). Reclamation took a 'hard look' at the potential risks and consequences of both Project-related and non-Project transfer of AIS as disclosed in the SEIS, Appendix E and supporting documents. The SEIS and related documents disclose the uncertainty in this analysis as required under the CEQ implementing regulations (40 CFR 1502.22). The level of analysis was acknowledged by the Canadian federal government in their comment letter on the Final SEIS (see Letter #5) which states "…we note that the Final SEIS took "a hard look" at possible environmental impacts within the Canadian environment – an action vitally important from the perspective of the Canadian government…"

Response 4-20 With the release of the Final SEIS, Reclamation provided a supporting document titled, *Reclamation Response to Comments and Recommendations in: Peer Review Report on Draft Transbasin Effects Technical Report* (2012). In this supporting document Reclamation identifies comments provided by the peer reviewers, as well as Reclamation's

response to each comment and the action taken to address the comment. This supporting document clearly denotes the suggested additions/changes recommended by the peer reviewers and precisely how these were incorporated into the final version of the *Transbasin Effects Analysis Technical Report*. In a few instances Reclamation and its experts did not fully agree with the peer reviewer's comment and provided an explanation as to why a suggested change was not made in the Technical Report.

Contrary to the commenter's opinion, Reclamation's effort to evaluate this controversial issue and disclose the information to the public in the SEIS and supporting documents was acknowledge as a positive element by the Government of Canada in their comment letter (Letter #5) on the Final SEIS.

Response 4-21 The commenter has provided no new or additional information, therefore there is nothing warranting Reclamation reconsidering or amending its original response (see Appendix K – Response 16-17).

Response 4-22 Reclamation does not contend that water treatment is 'infallible' as the comment states and Reclamation has made commitments in the Record of Decision to include appropriate monitoring during operation and maintenance activities at the Biota WTP that minimize human error; which was also a factor in each outbreak referenced in the Reply.

In the commenter's Reply several waterborne disease outbreaks related to treatment failures are listed. Reclamation points out that several of these instances occurred in the distant past when treatment technologies evaluated in the SEIS, and more specifically the preferred alternative of the Final SEIS, were not available or were not as advanced as they are today in the 21st century. For instance, the Logsdon (2006) study referenced in the Reply points to the 1976 Camas, Washington Giardiasis outbreak. The treatment process employed at the Camas treatment plant used injection of pretreatment chemicals before the water entered the pressure filters. Neither flocculation nor sedimentation process was included. Flocculation is a process included in the Biota WTP option of the Final SEIS preferred alternative. The McKeesport, Pennsylvania Giardiasis outbreak in 1984 also referenced occurred at treatment plants built in 1907 and 1908. These types of filtration plants designed more than 100 years ago did not have techniques that are available now in the 21st century to effectively clean the media. In the Carrolton, Georgia 1987 Cryptosporidiosis outbreak, a factor in this event included the lack of on-line turbidity meters for each filter so the plant operators were not aware of high turbidity levels. The *Campylobacter jejuni* outbreak in Walkerton, Ontario in 2000 may not have occurred if continuous chlorine residual monitors had been in place according to O'Connor (2002) as cited in Logsdon 2006. Another factor in this outbreak is the fact that the Province of Ontario, Canada did not have a legal requirement that treatment plants report adverse drinking water sample results to public health and regulatory authorities in a timely manner. Public health officials were misled to believe there were no problems. Advances in treatment technologies, monitoring capabilities and current regulatory requirements are means of ensuring that water treatment is effective at an acceptable level of risk.

A new point raised by the commenter in this Reply states concerns about AIS consequences as a result of pipeline leakage between the biota WTP and the Minot WTP. Reclamation addressed

these potential risks and consequences in the SEIS (see Aquatic Invasive Species section of Chapter 4, Appendix A, and Appendix E) as well as in several responses to comments on the Draft SEIS (see Responses 16-9, 20-11, 23-2, 23-5, 23-16, 23-25, 23-26, 23-27, 23-28, 23-29, 23-32, 23-33, 24-3, and 25-4) In this decision document, Reclamation has selected the Conventional Treatment Biota WTP option which is a multi-barrier treatment that greatly reduces the risk of an AIS and in addition to this treatment, the segment of transmission pipeline referenced in the Reply was constructed with additional control systems as discussed in the Previously Constructed Project Components section of Chapter 2 and Appendix A – *Constructed Project Components* of the SEIS. The safeguards constructed in the existing pipeline, along with the natural terrain that generally lacks surface drainage, provides a very low risk of a failure in a pipeline resulting in the transfer and establishment of AIS. See Appendix K – Response 16-18 for Reclamation's original response.

Response 4-23 The commenter has provided no new or additional information, therefore there is nothing warranting Reclamation reconsidering or amending its original response. Reclamation took a hard look at the potential risks and consequences of both Project-related and non-Project transfer of AIS as disclosed in the SEIS, Appendix E and supporting documents. The SEIS and related documents disclose the uncertainty in this analysis as required under the CEQ implementing fegulations (40 CFR 1502.22). The level of analysis was acknowledged by the Canadian federal government in their comment letter on the Final SEIS (see Letter #5) which states "…we note that the Final SEIS took "a hard look" at possible environmental impacts within the Canadian environment – an action vitally important from the perspective of the Canadian government…" See Appendix K – Response 16-19 for Reclamation's original response.

Response 4-24 Reclamation invited several federal, state and local entities to participate as cooperating agencies in the development of the SEIS. The commenter suggests Reclamation failed in the analysis of the inbasin alternatives as a result of undue influence by the North Dakota State Water Commission who served as a member of the cooperating agency team. Reclamation responded to this comment when it was provided on the Draft SEIS (see Appendix K – Response 16-20). In establishing the cooperating agency team Reclamation followed CEQ regulations (40 CFR 1501.6) which directs the lead agency to invite other agencies with jurisdiction by law or an agency(s) with special expertise with respect to any environmental issue. In accordance with 40 CFR 1506.5(c), Reclamation entered into an agreement with a third party to assist in the preparation the SEIS. In compliance with the regulations, the contractor was selected by Reclamation. Reclamation's goal in working with a third party in this effort was threefold: (1) provide technical expertise in whatever needed i.e. aquatic invasive species, (2) provide a 'fresh' look at the proposed action and associated issues to inform the analysis and identify data gaps and (3) provide independent and objective input and feedback throughout the NEPA process.

For clarification, Reclamation's statement in the SEIS regarding the responsibilities of the North Dakota State Water Commission was included to provide the reader with general understanding of the State Water Commission duties as described on the State Water Commission website at www.swc.state.nd.us under the tab "About the SWC".

Reclamation assumes the sections of the North Dakota Century Code cited by the commenter are accurate. However, the commenter does not provide technical information to indicate analysis which should have been completed or was omitted from the No Action alternative. The No Action alternative, as well as each of the action alternatives, is required by NEPA to consider all reasonably foreseeable future projects in the cumulative impact analysis. Because several of the communities in the proposed service area have no plans for future alternative sources of water, other than their current supply systems, Reclamation could not consider individual community plans, as none exist. The action alternatives in the SEIS did fully analyze two inbasin alternatives.

Reclamation does not respond to the comment pertaining to sections of the North Dakota Century Code and their implementation by the state of North Dakota. As a federal agency, Reclamation is not in a position to make remarks regarding the State's implementation of its own statutes.

Response 4-25 In a series of comments under the heading of "In-Basin Groundwater Alternatives", the commenter reiterates statements of concern regarding the analysis of the inbasin alternatives in the SEIS. The commenter suggests that inbasin groundwater sources are sufficient to meet the future project water needs; however no new or additional information is provided, therefore there is nothing warranting Reclamation reconsidering or amending its original response. These comments were provided on the Draft SEIS and Reclamation responded (see Appendix K – Response 16-21, 16-22, 16-23, 16-24, 16-25, 16-28, 16-29, 16-31, 16-32, and 16-34). The groundwater quality and quantity analysis included in the SEIS and supported by the information in Appendix J – *Draft Appraisal-Level Design and Engineering Report* was based on the best available information on the groundwater sources. The commenter provides general information about the Sundre aquifer and references statements in a Pettyjohn 1970 report in which the author concluded that water within the aquifer could be available for more than 50 years based on the assumptions of this particular study. More than 40 years have passed since this Pettyjohn analysis was completed. In planning for a water supply project to meet the needs of people through the year 2060, which would be 90 years beyond the publication date of the Pettyjohn study, Reclamation conducted analyses in support of the SEIS based on current scientific data and evaluation methodology to assess the water quantity and quality of groundwater sources. Additionally, the SEIS provides supporting documentation that the aquifers have been declining at current withdrawal rates, and hence the current withdrawals are unsustainable (See Appendix A of Appendix J pages 7-2 through 7-12).

Response 4-26 This statement is inaccurate, please refer to Appendix K -Response 6-22 where Reclamation points the commenter to the State Water Commission website which lists the well data used for this analysis.

Response 4-27 Although the comment reasserts that the declining water levels of the Sundre and Minot Aquifer levels is not due to withdrawals, no technical or supporting information is provided, or could be found by Reclamation to suggest otherwise. The commenter provided no new or additional information, therefore there is nothing warranting Reclamation reconsidering or amending its original response, see Appendix K - Response 16-23. The Final SEIS presents information on the Sundre and Minot aquifers based on the scientific data available and

additional information and analysis of these aquifers is provided in Appendix J – *Draft Appraisal-Level Design and Engineering Report*. The engineering report provides information on these aquifers and additional information on the aquifer modeling efforts conducted as part of the alternative analysis is include in Appendix A – *Inbasin Alternatives Supporting Analysis* of the engineering report.

Response 4-28 As stated above, the SEIS presents information on the Sundre and Minot aquifers based on the scientific data available and additional information and analysis of these aquifers is provided in Appendix J – *Draft Appraisal-Level Design and Engineering Report*. The engineering report provides information on these aquifers and additional information on the aquifer modeling efforts conducted as part of the alternative analysis is include in Appendix A – *Inbasin Alternatives Supporting Analysis* of the engineering report. Information in the SEIS specifically addresses the increased groundwater levels in both aquifers in 2011, as noted by the commenter. The spike in the aquifer levels this particular year was the result of a flood of record in the Souris River. The commenter has provided no new or additional information, therefore there is nothing warranting Reclamation reconsidering or amending its original response (see Appendix K - Response 16-24).

Contrary to the commenter's opinion on the adequacy of the analysis of the groundwater alternatives, Reclamation conducted a thorough analysis of the groundwater sources within the Project area. As described in the SEIS and Appendix J - *Draft Appraisal-Level Design and Engineering Report*, Reclamation employed scientifically sound methodologies and used the best available information to assess the availability of groundwater sources within the project area and based on the analysis results, fully evaluated two inbasin alternatives. Reclamation points to the full context of the discussion regarding the groundwater sources on page 2-6 of the SEIS where Reclamation discloses that based on the most recent data on the sustainable yield for the Minot aquifer and the continuing downward trend in the aquifer's level, the Minot aquifer cannot sustain the current level of withdrawals or support additional withdrawals. The SEIS also explains that studies undertaken by the State Water Commission and the U.S. Geological Survey of the Sundre aquifer have been unable to determine the sustainable yield of the Sundre aquifer. In the *Appraisal Level Engineering and Design Report* (Appendix J) Reclamation provides further description of the hydrogeology of the Minot and Sundre aquifers. Another section of this engineering report describes the water balance spreadsheet model that was developed as a means of estimating the quantity of water that would be needed to recharge the aquifers to offset groundwater withdrawals to meet projected needs while maintaining stable aquifer water levels.

See also Responses 4-25, 4-26, and 4-27 for more information.

Response 4-29 Reclamation's evaluation of the groundwater sources in the SIES was comprehensive and it did not reject inbasin alternatives as the commenter states. The comment repeats, at length, previous assertions and opinions on the groundwater analyses that are addressed by Responses 4-25 through 4-28. The commenter has provided no new or additional information, therefore there is nothing warranting Reclamation reconsidering or amending its original response (see Appendix K - Response 16-25).

Response 4-30 Reclamation's response included in Appendix K – Response 16-26 of the Draft SEIS regarding the use of peaking wells in the preferred alternative is accurate. The preferred alternative, Missouri River and Groundwater Alternative, does not include two additional peaking wells in the Sundre aquifer. In the Reply, the commenter references Draft SEIS Appendix J, Subappendix A, p. 8-9 in support of the comment. For further clarification Reclamation points out that the title of subappendix A is "**Inbasin Alternatives Supporting Analysis**" and the first paragraph on page 1-1 of this appendix states "The purpose of the Inbasin Alternatives Supporting Analysis (Inbasin Analysis) is to develop an appraisal-level design for Alternative 1, Groundwater with Recharge and Alternative 2, Groundwater with Recharge and the Souris River". The statements quoted by the commenter are not relative to the Missouri River alternatives evaluated in the SEIS. Response 4-29 above provides clarification to suggestions by the commenter on the adequacy of the groundwater modeling analyses presented in the SEIS and associated appendices.

Response 4-31 The commenter has provided no new or additional information, therefore there is nothing warranting Reclamation reconsidering or amending its original response (See Appendix K – Response 16-27). Additionally, water supply projects throughout the United States are dynamic systems. Engineers design these types of systems use average numbers and peaking factors to estimate the amount of water a system would use on daily, annual, and maximum basis. The amounts included in the SEIS are Reclamation's best estimate of the projected annual demand for the water service area.

Response 4-32 The commenter has provided no new or additional information, therefore there is nothing warranting Reclamation reconsidering or amending its original response (See Appendix K – Response 16-28). See also Response 4-25 and Response 4-29 regarding the Inbasin Alternatives analyses and groundwater modeling analyses presented in the SEIS and associated appendices.

Response 4-33 The commenter has provided no new or additional information, therefore there is nothing warranting Reclamation reconsidering or amending its original response (See Appendix K – Response 16-29).

Response 4-34 The commenter restates the original comment without additional information. Reclamation disagrees with statements in the comment that it continued construction of Project components within the Missouri River Basin in 2010 after the District Court prohibited such construction. Reclamation notes that construction on certain Project components began prior to litigation in this matter. All Project construction activities undertaken since that time have been specifically approved by the court (see Previously Constructed Components section of Chapter 2 and Appendix A – *Constructed Project Components*). The commenter provides no specifics as to when/where this activity occurred therefore Reclamation cannot respond further. The commenter also asserts that Reclamation and the project sponsor have 'pushed on relentlessly with construction of the NAWS project" and again it should be noted that only construction projects approved by the Court have been initiated. See Appendix K – Response 16-30 for Reclamation's original response.

The commenter notes the inbasin groundwater alternatives should consider and include in the Project costs a reimbursement by the state of North Dakota to the federal government for the costs of the completed bulk water distribution pipeline. The authorizing legislation for the Project requires a 75/25 % cost share between the federal government and the state. The state is well ahead of its mandated contributions to the costs of the Project. Furthermore, Reclamation does not have existing authority to accept such a reimbursement from the state.

Lastly, Reclamation acknowledges the myriad opinions held pertaining to the best use of federal and state resources, and that for some, the risk of the Project will continue to be objectionable. However, Reclamation has used the best available information to objectively evaluate a reasonable range of alternatives, and has made a decision in this document that, it believes, will best serve the water users in the Project service area, and meet the statutory mandate of the Dakota Water Resources Act of 2000 as well as comply with NEPA for analyzing and disclosing the potential impacts to the human environment.

Response 4-35 The commenter provided no new or additional information, therefore there is nothing warranting Reclamation reconsidering or amending its original response (See Appendix K – Response 16-31). See also Response 4-25 and 4-29 regarding the Inbasin Alternatives analyses and groundwater modeling analyses presented in the SEIS and associated appendices.

Response 4-36 The commenter provided no new or additional information, therefore there is nothing warranting Reclamation reconsidering or amending its original response (See Appendix K – Response 16-32).

Response 4-37 In response to a comment provided on the Draft SEIS, Reclamation addressed the precedence-setting potential of the Project for interbasin diversions (see Appendix K – Response 16-33). Reclamation considered precedence as defined under NEPA (1508.27(b)(6)) and determined the preferred alternative would not set precedence. Although the commenter appears to have great concerns about using the State Water Commission as a source of information about other interbasin diversions within the United States and Canada, one cannot argue that these interbasin diversions exist, regardless of what the information source is. The commenter quotes statements by a former Reclamation Great Plains Regional Director regarding precedence and Reclamation would clarify that this statement was made relative to the 'first Executive Branch application of the 1986 GDU provision" would likely set a precedent" which is not the same context as determining precedence under NEPA.

Response 4-38 At the time of the original response (See Appendix K – Response 16-34), Reclamation had not selected an alternative. With this Record of Decision document, Reclamation has selected the Missouri River and Groundwater Alternative as the alternative to fully implement for the Project. While the commenter continues to object to the North Dakota State Water Commission's participation in the NEPA process, the authorizing legislation for the Project makes the Project's connection to the state clear through the federal/state cost-sharing program. See also Response 4-25 regarding the Inbasin Alternatives analyses presented in the SEIS and associated appendices and Responses 4-2 and 4-24 regarding Reclamation's authority to work with the State of North Dakota in the development of municipal, rural and industrial projects such as the proposed action.

Response 4-39 The commenter repeats statements included in comments on the Draft SEIS, contending that the cumulative impacts of AIS were not adequately addressed because other potential projects were not included in the analysis. Reclamation thoroughly responded to this comment (see Appendix K – Response 16-35). The commenter has provided no new or additional information, therefore there is nothing warranting Reclamation reconsidering or amending its original response.

Response 4-40 Reclamation's original response (See Appendix K – Response 16-36) addresses the potential changes to water use in the future should any of the federally recognized tribes in the Missouri River basin chose to quantify their Missouri River water rights. In addition to Reclamation's original response (See Appendix K – Response 16-36), Reclamation notes the recent case *Navajo Nation v. U.S. Dept. of the Interior*, 34 F.Supp. 3d 1019 (D. Ariz. 2014) states:

> the United States owes a general trust responsibility to Indian tribes, "unless there is a specific duty that has been placed on the government with respect to Indians, [the government's general trust obligation] is discharged by [the government's] compliance with general regulations and statutes not specifically aimed at protecting Indian tribes." Gros Ventre Tribe v. United States, 469 F.3d 801, 810 (9th Cir. 2006) (quoting Morongo Band of Mission Indians v. FAA, 161 F.3d 569, 574 (9th Cir. 1998)).

With regard to the Project, tribes within the Project Area were each consulted as discussed in the SEIS. At the onset of the SEIS (August 2010) Reclamation contacted each tribe within the Project area and those with interests in the Souris River Basin and the Missouri River Basin tribes downstream of the Project Area inviting them to participate in the scoping process. In February 2012 and again in February 2104, Reclamation reached out to each of these tribes again specifically requesting assistance in identifying Indian Trust Assets within the Souris River Basin and/or the Missouri River Basin area of potential affect. With regard to Missouri River Basin tribes who reside downstream from the Project Area and may have *Winters* waters rights in the Missouri River, the United States is fulfilling its trust obligations to those tribes by disclosing their potential future unquantified rights within this NEPA analysis and noting that at some time in the future, those rights may become quantified and affect other water users in the system.

Response 4-41 Reclamation's original response (See Appendix K – Response 16-37) addresses the potential changes to water use in the future should any of the federally recognized tribes in the Missouri River basin chose to quantify their Missouri River water rights. The commenter has provided no new or additional information, therefore there is nothing warranting Reclamation reconsidering or amending its original response. See also Response 4-41 above.

Response 4-42 The commenter has provided no new or additional information therefore there is nothing warranting Reclamation reconsidering or amending its original response (see Appendix K – Responses 16-36 and 16-37).

Response 4-43 The commenter has provided no new or additional information therefore there is nothing warranting Reclamation reconsidering or amending its original response (see Appendix K – Response 16-39).

Response 4-44 The commenter has provided no new or additional information therefore there is nothing warranting Reclamation reconsidering or amending its original response (see Appendix K – Response 16-40). Reclamation's evaluation of this controversial issue and disclosure the information to the public in the SEIS was acknowledge by the Government of Canada in its comment letter (Letter #5) on the Final SEIS which states "…we note that the Final SEIS took 'a hard look' at possible environmental impacts within the Canadian environment – an action vitally important from the perspective of the Canadian government…"

Response 4-45 The commenter has provided no new or additional information therefore there is nothing warranting Reclamation reconsidering or amending its original response (see Appendix K – Response 16-41). See also Response 4-44 above.

Response 4-46 Reclamation respectfully disagrees with the commenter's statement that the agency is not acting in accord with its Mission Statement. The three part mission statement directs agency staff to "manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public." This SEIS has demonstrated a need for the Project to *develop* a reliable and high quality source of drinking water for communities and rural water systems. Water treatment at the Biota WTP and additional safeguards in the main transmission pipeline were designed to *protect* the water related resources in the Hudson Bay basin. The supplemental use of groundwater in the selected alternative was included as a means to *protect* the waters of the Missouri River basin, even while the analysis has shown the Project will have negligible effects on Missouri River system storage, reservoir levels, and dam releases downstream.

Response 4-47 Reclamation respectfully directs the commenter to Response 4-46.

Response 4-48 The commenter has provided no new or additional information, therefore there is nothing warranting Reclamation reconsidering or amending its original response (see Appendix K – Response 16-44).

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May 8, 2015

Ms. Alicia Waters,
Project Manager
Bureau of Reclamation
P.O. Box 1017
Bismarck, North Dakota 58502

E-mail: awaters@usbr.gov

Dear Ms. Waters:

On behalf of the Government of Canada, I would like to thank you for the opportunity to provide comments on the Final Supplemental Environmental Impact Statement (SEIS) for the Northwest Area Water Supply Project (NAWS). The Government of Canada has followed developments with this and other proposed inter-basin water transfer projects in North Dakota for a number of years and has provided comments throughout the process. We have also supported the Province of Manitoba and share its concerns about the potential adverse impacts that inter-basin water transfers could have on Canadian waters, especially in the Hudson Bay basin.

To begin with a positive element, we note that the Final SEIS took "a hard look" at possible environmental impacts within the Canadian environment -- an action vitally important from the perspective of the Canadian government and reflected in its appearances as amicus in U.S. courts. We applaud this move and trust that this will become a standard practice in projects subject to the *National Environmental Policy Act* (NEPA) that have transboundary implications for Canada. 5-1

In addition, the Government of Canada notes that the preferred alternative for NAWS now includes a change in water treatment than that found in the Draft SEIS. This change, which includes conventional water treatment and filtration prior to disinfection and the transfer of water to the Minot water treatment facility, is an improvement to earlier versions of the plan. However, given the potential harm that the transfer of biota could cause Canadian waters, Canada's overall concern for the project remains. 5-2

Following review of the Final SEIS, we would like to reiterate our concerns about the negative impacts of NAWS and the risk of inter-basin water transfers. These concerns stem from the risk posed to Canadian waters from the transfer of water from the Gulf of

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Mexico watershed into the Hudson Bay watershed. Inter-basin water transfers contain the threat of invasive species moving between two watersheds. Although the project is within the State of North Dakota, Canada could face negative impacts, as once harmful invasive biota transfers across the continental divide, Canadian waters and ecosystems would be at risk. The potential risk posed by invasive biota transferring into the Hudson Bay basin could be significant and irreversible.

As noted in our September 10, 2014 letter on the Draft SEIS, the current state of scientific understanding suggests the need for a precautionary approach, particularly in light of the proposed water treatment and performance criteria used. There remains the possibility of lapses or failures in water treatment, which could lead to releases and transfers of biota like harmful microorganisms across watersheds. 5-3

Indeed, although we note proposals to treat inter-basin waters in a positive light, no water treatment option is fail-safe. Apart from the risk of inter-basin transfer to the Hudson Bay basin more broadly, the risks to the fragile ecosystem of Lake Winnipeg, as well as Manitoba drinking water upstream and downstream, remain a key concern of Canada. 5-4

Therefore, due to the risks of unforeseen and unintended consequences that could adversely affect the Hudson Bay basin, Canada continues to urge consideration of other options, such as in-basin alternatives and water conservation, to address the state's water needs. Over the course of a number of years, both in Canada and the United States, we have seen the negative impact from invasive species on our ecosystems and economies. Once established, minimizing and removing the adverse impacts caused by invasive species is difficult and expensive. 5-5

We would also like to take this opportunity to once again note that, along with NAWS, the State of North Dakota continues to consider other inter-basin water transfer projects, such as the Red River Valley Water Supply project. NAWS cannot be looked at in isolation. If the other projects move forward, the cumulative impacts of these projects potentially increase the risk to Canada and these transboundary impacts must be considered. 5-6

Finally, to reiterate, Canada's concerns with proposals for inter-basin water transfer projects in North Dakota date back more than forty years. Canada opposed the Garrison Diversion project in the 1970s due to the risk it posed to Canada's ecosystem. Canada has 5-7

consistently emphasized that the *Boundary Waters Treaty* be respected and that transboundary implications of the projects be part of the decision-making criteria. Thank you for the opportunity to comment on the Final SEIS.

Yours sincerely,

Martin Benjamin
Director General
North America Strategy Bureau
Foreign Affairs, Trade and Development Canada

cc: Gary Doer, Ambassador of Canada to the United States
Jamshed Merchant, Consul General of Canada, Minneapolis
Catherine Stewart, Director General, Americas, Environment Canada

Response 5-1 Thank you for your comments, they are included in the Project record.

Response 5-2 Thank you for your comments, they are included in the Project record.

Response 5-3 The control system proposed for the Project demonstrates that Reclamation is taking a precautionary approach as recommended in the comment. Reclamation agrees that no one can guarantee a water treatment process is fail-safe; however, the water treatment technologies included in the Biota WTP are very effective and have a well-documented history of safe and reliable operations as discussed in the SEIS, Chapter 2. Furthermore, the lack of evidence for the occurrence of microorganisms in Lake Sakakawea that do not exist in the Hudson Bay Basin and would have adverse impacts if transferred, the number of improbable events that would have to occur for a Project-related transfer and successful establishment of an invasive species, and the much higher risk of microorganism transfer through non-Project pathways supports the conclusion that the Project poses minimal risk. Reclamation used the best available information to develop a reasonable range of alternatives and objectively evaluate the impacts and disclosed this in the Final SEIS. Reclamation believes the decision made in this document best meets the purpose and need, as well as complies with NEPA for analyzing and disclosing the potential impacts to the human environment.

Response 5-4 Reclamation agrees that no one can guarantee a water treatment process is fail-safe; however, the decision made in this document includes water treatment processes within the Biota WTP and pipeline system safeguards that reduce the risk of a Project-related transfer of AIS to a minimal level, substantively lower than potential transfer through other pathways as evaluated in the SEIS (Chapter 4) and Appendix E – *Transbasin Effects Analysis Technical Report*. This treated water will be blended with local groundwater at the Minot WTP and treated to meet Safe Drinking Water Act regulations before being distributed to project members virtually eliminating any potential risk to drinking water upstream and downstream in Manitoba.

The SEIS evaluated the risks and consequences of interbasin transfers, with specific attention to the potential impact on Lake Winnipeg as recommended during public scoping, early on in this NEPA process.

Reclamation notes that the City of Winnipeg recently completed construction of a water treatment plant that is very similar to the Biota WTP included in the Preferred Alternative, and the city states that the plant "virtually eliminates the risk of waterborne disease" which should go a long way in addressing the commenter's concern about the treatment processes of the Project somehow being of concern with respect to Manitoba drinking water systems upstream and downstream of Lake Winnipeg (http://www.winnipeg.ca/waterandwaste/water/treatment/default.stm#wtp) accessed June 19, 2015).

Response 5-5 Reclamation worked diligently with the cooperating agency team to identify and evaluate surface water and groundwater sources within the Souris River basin as potential water sources which could be used to meet future water needs. Reclamation also completed a site specific water conservation analysis for the Project area and presented this information in the *Water Needs Technical Assessment Report* which is a supporting document to the SEIS. The

commenter has provided no new or additional information, therefore there is nothing warranting Reclamation reconsidering or amending its original response (see Appendix K – Response 25-1).

Response 5-6 In considering cumulative impacts under NEPA, Reclamation evaluated the proposed action in relation to other past, present and reasonably foreseeable future actions as described in the Aquatic Invasive Species section of Chapters 3 and 4, as well as the comprehensive analysis included in Appendix E - *Transbasin Effects Analysis Technical Report*. This analysis considered the Red River Valley Supply Project and the Devils Lake outlets. The commenter has provided no new or additional information, therefore there is nothing warranting Reclamation reconsidering or amending its original response (see Appendix K – Response 25-5).

Response 5-7 Reclamation is aware of the United States' obligation under the Boundary Waters Treaty, specifically Article IV, as well as the agency's responsibility under NEPA to evaluate cumulative impacts. Reclamation evaluated cumulative impacts in the SEIS with respect to the risk and consequences of AIS. The commenter has provided no new or additional information, therefore there is nothing warranting Reclamation reconsidering or amending its original response (see Appendix K – Response 25-5).

6

STATE OF MISSOURI

Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director

DEPARTMENT OF NATURAL RESOURCES

www.dnr.mo.gov

May 11, 2015

U.S. Bureau of Reclamation, Great Plains Region
Michael J. Ryan, P.E., Regional Director
2021 4th Avenue North
P.O. Box 36900
Billings, MT 59107-6900

Subject: Request for Delay of the Record of Decision for the Final Supplemental EIS for the Northwest Area Water Supply (NAWS) Project

Dear Mr. Ryan:

The attached comments convey the concerns raised by my agency, the Missouri Department of Natural Resources (Department), regarding the Northwest Area Water Supply project (NAWS), which would supply municipal, rural, and industrial water in northwest North Dakota. I am concerned about the deficiencies in the process that the Bureau of Reclamation (Bureau) used to develop the Supplemental Environmental Impact Statement (SEIS) for this project. Soon you will be presented with a request from your staff for approval of the Record of Decision for the NAWS project. I ask that you reconsider the issuance of the Record of Decision for this project unless the shortcomings of the process and our concerns have been addressed.

Congress intended that NEPA provide a transparent process by which environmental impacts for a project be assessed and communicated. In numerous efforts, including the Department's 2010 SEIS scoping comments and 2014 comments on the Draft SEIS, we requested to be informed of and invited to all meetings, including Cooperating Agency Team (CAT) meetings, between the Bureau and other agencies regarding this project. However, the State received no response or acknowledgment of these requests. Had the Department been permitted involvement, the serious concerns and deficiencies inherent in this project may have been addressed. 6-1

From 2001 to 2014, the Department submitted comments and concerns to the Bureau regarding the impact the NAWS project will have on our State and the environment, but the Bureau has neither adequately addressed these concerns, nor fully assessed the cumulative impacts. As a result, the SEIS contains fundamental flaws because it does not address the concerns identified by the State as contained in our attached comments. This is despite U.S. District Judge Collyer's order that the Bureau take a hard look at the issue of cumulative impacts of water withdrawals from the Missouri River, which was the very issue that the State raised in court. 6-2

As a result of the aforementioned concerns, and those stated in the attached comments, I request that the project be reconsidered and a meeting between the Bureau and the Department be held to discuss and address the State of Missouri's long-held concerns regarding the serious impacts of this project. 6-3

Sincerely,

DEPARTMENT OF NATURAL RESOURCES

Sara Parker Pauley

Sara Parker Pauley
Director

c: Ms. Alicia Waters, Dakota Area Office

Missouri Department of Natural Resources Comments to the

Final Supplemental Impacts Statement for the

Northwest Area Water Supply Project

On behalf of the State of Missouri, the Missouri Department of Natural Resources (Department) submits these comments on the Final Supplemental Environmental Impact Statement (Final SEIS) for the Northwest Area Water Supply Project (NAWS). As the lead agency for the State of Missouri on all water quality and quantity issues, the Department is keenly aware of the impact the proposed NAWS Project will have on the State.

The Department strongly opposes the proposed out-of-basin water transfer from the Missouri River to the Hudson Bay drainage. The Missouri River has already been substantially depleted by in-basin uses. According to the Final SEIS, the Missouri River has an average of 7.7 million acre-feet (MAF) of present level depletions (including reservoir evaporation) above Garrison Dam. For comparison, this totals just under half of the average annual volume for the Missouri River at Bismarck, North Dakota. Specifically, the NAWS project would harm Missouri interests and would create a precedent-setting transfer of water to the Hudson Bay drainage basin. 6-4

The Final SEIS, like its predecessors, fails to fulfill the basic requirements of National Environmental Policy Act (NEPA). NEPA requires that an EIS "…will not be used to rationalize or justify decisions already made" (40 CFR 1502.5). The Bureau's selected Preferred Alternative suggests a predetermined outcome. It appears that the Bureau exaggerates the need for the project, by over-estimating the cost of in-basin alternatives, and narrowly scoping the analysis to fit their needs. This is evidenced by the Bureau building components of the proposed project in the Missouri River basin, until a federal judge prohibited construction pending completion and approval of a full EIS (Judge Collyer's March 1, 2013 Order). We believe that the Bureau was not an impartial evaluator of this project and their analysis attempts to justify decisions already made. In addition, the Cooperative Agency Team (CAT), North Dakota State Water Commission, and the Garrison Diversion Conservancy District are stakeholders that made recommendations to the Bureau, and are not objective participants because they have a direct interest in advancing of out-of basin alternatives. 6-5

Not an Open or Inclusive Process

From 2001 to 2014, the Department submitted comments and concerns to the Bureau regarding the impact the NAWS project could have on our State and the environment. In both the Department's 2010 SEIS scoping comments and 2014 comments on the Draft SEIS, we formally requested to be informed of and invited to all meetings between the Bureau and other agencies regarding this project. However, the State received no response or acknowledgment of these requests. Furthermore, we understand that a Cooperating Agency Team (CAT) was assembled to assist in the development of the SEIS, while Missouri was neither notified nor invited to participate in these CAT meetings. As a result, the SEIS contains fundamental flaws and does not address the concerns identified by the State. 6-6

Cumulative Impacts Not Properly Identified

The Final SEIS fails to assess the impact of foreseeable water supply allocations. Even though water supply is one of eight authorized uses for the reservoir system, the Missouri River Mainstem Reservoir System does not contain storage specifically dedicated, or 'allocated,' for Municipal and Industrial (M&I) water supply. However, over the years, the Corps of Engineers (Corps) has allowed easements to access reservoir water without a water supply contract. To correct this oversight, the Corps has been working for several years to establish and provide temporary M&I water supply allocations (referred to as "Surplus Water") by applying Section 6 of the 1944 Flood Control Act, and has developed Surplus Water reports for each of the mainstem reservoirs. Although there has been much debate about the Corps' authority to establish M&I water supply retroactively, our main concern is how this newly established storage allocation impacts downstream authorized purposes. To provide for the existing M&I water supply, which included NAWS, the Corps would need to set aside over 727,000 acre-feet of storage in the reservoir system. 6-7

The expense associated with a dedicated M&I water supply allocation in Corps reservoirs is not included in the Final SEIS. The Preferred Alternative proposes transferring between 13,600 to 29,100 acre-feet of water per year out of basin. To supply this yield, the Corps would require approximately 35,000 to 74,800 acre-feet of storage be set aside in the reservoir (storage yield ratio of 2.57). According to the Surplus Water reports, this storage would cost between $284,550 and $1,648,592 per year depending on the Corps' approach; this is $8.13 per acre-foot of storage for Lake Sakakawea, or $20.04 (the average of all Surplus Water storage across Missouri River reservoirs). This expense was not included in the annual cost estimates for the Missouri River out-of-basin transfer alternatives, and thus is misleading.

It is important to understand and consider how the Missouri River Mainstem Reservoir System operates to meet downstream flow needs. Downstream flow support from the System is dependent on System storage on March 15 and July 1. On March 15 of each year, the Corps determines if there will be reservoir flow support based on total System storage. As System storage decreases, so does downstream flow support (*See Attachment A*). If total storage is below 31 million acre-feet (MAF) (Navigation Preclude), the Corps will not provide downstream flow support during the navigation season, and instead, cuts system releases to provide only minimum releases the Corps considers "applicable" until reservoir storage rebounds. During years without flow support, impacts to users in the lower Missouri River basin would be severe (i.e. water intake access issues, water quality problems, thermal power efficiencies losses, and fisheries issues, etc.). 6-8

Another System storage check is made on July 1 to determine service level for the remainder of the navigation season and to determine flow support season length. As with the March 15 storage check, the more water that exists in reservoir storage, the more downstream flow support is available. For full service navigation flow support to be provided during the second half of the navigation season, the July 1 storage amount must be 57 MAF or greater. Currently, the top of the Carryover Pool is 56.1 MAF. Therefore, any depletion from the reservoir system impacts downstream flow support since releases are incrementally reduced even while the Carryover Pool is completely full. Reductions to navigation season length further curtail flow support when the Carryover Pool has more than 88% of water remaining (below 51.5 MAF). The

reservoir system flow support benefits all other uses that rely on the Missouri River in the State of Missouri, including water supply, cooling water for thermal power, and fish and wildlife.

The out-of-basin transfer, as outlined in the Preferred Alternative, guarantees water supply to the recipient basin while the donor basin (the Missouri River basin) is impacted. The Bureau's Preferred Alternative indicates that they intend to construct an intake 5 feet below the top of the Permanent Pool (17.6 MAF). This will occur even after the Navigation Preclude has been triggered, thus significantly curtailing downstream flow support. The NAWS project would be diverting water entirely out of the basin while downstream users are impacted. These reductions to downstream flow support are not properly evaluated by the coarse scale and methods employed in the Final SEIS. The analysis provided inadequately evaluates the impacts to water supply intakes and power plants in the lower Missouri River, and Mississippi River Navigation impacts are completely unassessed and unquantified in the Final SEIS. The Bureau proposes establishing a water right in the Souris River that is, in effect, senior to those in the Missouri River basin because it does not contemplate turning the intake pumps off when downstream impacts occur on the Missouri River. This was not evaluated in the Final SEIS. 6-9

Risks of Invasive Species

With the proposed inter-basin transfer, the Bureau has the responsibility to ensure that the project prevents invasive species transfer. The proposed system, although improved, fails to fulfill that obligation and risk still exists. The proposed system to control invasive species transfer is insufficient to support the claims made in the Final SEIS. This is particularly important considering that a single instance of species transfer may prove to be catastrophic for the receiving watershed. The treatment option identified with the preferred alternative lacks the redundant system necessary to prevent transfer of invasive species between watersheds. Relying on a single system with no redundancies poses an unacceptable risk to the watershed in the event of a system failure. No practicable recovery is available after the water is transferred across the basin divide. It is recommended that a "treat and hold" system be analyzed, as this type of approach would allow water to be retained until treatment has been assured through testing. No system for such assurance testing is presently included in the Final SEIS, resulting in an underestimation of the operational costs of the system and inadequate protection. Therefore, the Department contends that the analysis of environmental impacts is incomplete, and is missing significant cost calculations. 6-10

Purpose and Need Unjustified

The water needs projected for 2060, as detailed in the *Water Needs Assessment Technical Report*, appear inflated and may be misleading. Multiple communities with declining populations are projected to have increasing water use. Most substantial is the All Seasons Water District, which is projected to lose more than half of its population, and yet is projected to triple its water use. The Final SEIS attributes this growth in use to annexation of new connections; however, the projected increase of water use does not seem plausible or well supported. Several other communities detailed in the *Water Needs Assessment Technical Report* are projected to have similar, though less extreme, examples of what appear to be inflated needs. 6-11

The Bureau's population projections for the project area are inconsistent with other projections. The US Census Bureau estimates that the population for the entire state was 672,591 in 2010 will decline to 606,566 people in 2030 and further decline to 507,529 by 2060. These population projections call into question the projected growth of 492 people in the project area from 2010 to 2060 (Table 3-27, Final SEIS). 6-12

Historical data used to estimate population trends are inadequate. The 50-year population trends (2010 – 2060) for the project area were extrapolated from only 20 years of historical data; this is likely to lead to inaccurate projections. The Bureau contends that the "…Water Needs Assessment Technical Report estimates the project population to increase by approximately 4,000 people." However, this population projection is for a "projected service area" of cities which is a subset of the 10-county project area. By restricting the population to a subset of the whole project area, the Bureau is unreasonably biasing the underlying population decline in North Dakota.

Regional vs National Benefits

Impacts for the project are only calculated for North Dakota, but the Missouri River impacts are calculated as total National Economic Development (NED) benefits. It is incongruous to compare the regional benefits of the project against the total NED benefits for the Missouri River. Because of this, the comparison to calculate a benefit-cost ratio of the NAWS project and the impacts on the lower Missouri River is inappropriate. Estimating total NED benefits of Missouri River is not the same as calculating the economic impact of the NAWS project on the lower Missouri River. The Bureau should present the benefit-cost ratios for the NAWS project, based upon the regional economy and the project's economic impact on the lower Missouri River. 6-13

Cost and Affordability

The project construction costs are $244 million, with another $11 million in annual operation and maintenance costs benefiting a net 492 people over 50 years. In other words, the project expenditure is a staggering $1.5 million per person. Because of the high cost per person served, using federal monies to fund the NAWS project does not appear to be a prudent use of tax-payer dollars. The benefits of this project are overstated and are difficult to justify. 6-14

Consideration of Alternatives

The evaluation of reasonable in-basin alternatives in this Final SEIS is incomplete. Reasonable in-basin alternatives are presented, such as Alternative 2C (Centralized Surface Water System with In-Stream Reservoir Storage), which should have been given further consideration and full evaluation in the Final SEIS. The USGS gage on the Souris River above Minot, North Dakota has a contributing drainage of 3,900 square miles and an average annual runoff of 129,249 acre-feet for the time period of 1904-2013. This data suggests that there is substantial water available that can be developed along with sustainable ground water withdrawals to supply the projected 2060 demand of 10.40 million gallons per day, or just under 12,000 acre-feet of demand per year. Unfortunately, Alternative 2C was eliminated as an option in the Final SEIS, "because compared to the other options being considered, the modeling and permitting of an in-stream reservoir and its operations would be a highly complex process, and likely would be longer, less certain of a positive outcome, and costlier than the permitting process for other options." 6-15

Instead, the Bureau carried forward very expensive and highly engineered in-basin alternatives that propose constructing massive intake pumps that capture Souris River water as it flows unimpeded down the Souris River, and a $47 million groundwater recharge basin as more reasonable in-basin alternatives for full evaluation in the Final SEIS.

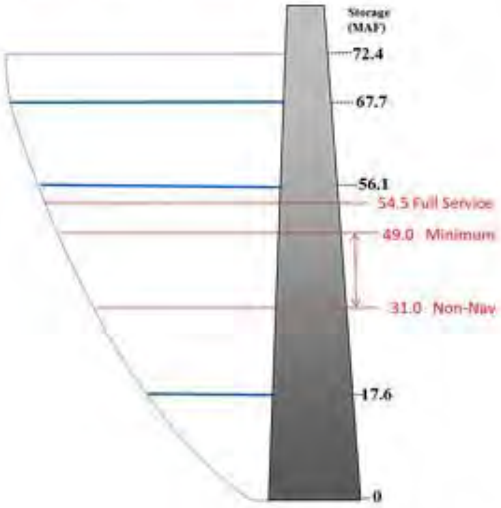
The Bureau should have conducted analyses commensurate with the importance of the impact. It is true that the Missouri River basin is a much larger and more intensively studied system than the Souris River basin, and as such, has significant analytical resources available. However, the Bureau and its cooperating agencies have had the opportunity to develop a comprehensive Souris Basin model in order to conduct a comparative analysis. In order to properly evaluate the in-basin alternatives, modeling of the Souris Basin should have been completed. In fact, the Final SEIS must be considered incomplete in the absence of such an evaluation.

The alternatives that the Bureau evaluated focus on water quantity issues. However, it is apparent in the Final SEIS that the majority of the need in the service area stems from water quality concerns. Development of reverse osmosis units at current community water treatment facilities would bring water quality to necessary standards, is feasible, and merits cost analysis. The Dakota Water Resources Act of 2000 appears to grant authority to the Bureau to issue grants for, or cost share, these treatment plant upgrades. NEPA regulations (40 CFR 1502.14(d)) require agencies to "include reasonable alternatives not within the jurisdiction of the lead agency." An alternative should have been developed to address these water quality concerns for the communities in the service area.

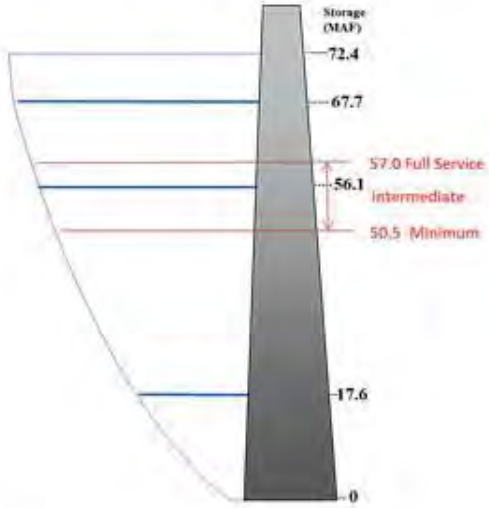
Conclusion

The Final SEIS is incomplete in that the analysis of reasonable alternatives is flawed, justification of the purpose and need for the project is unfulfilled, evaluation of costs are not properly determined, and an examination of cumulative impacts was not appropriately conducted. For these reasons, the Bureau should re-evaluate this project with consideration of all of the aforementioned concerns and not issue the Record of Decision. The Department would appreciate the opportunity to meet with the Bureau to discuss our concerns about the Final SEIS and the impact that the project will have on the State of Missouri. To schedule a meeting or to discuss our concerns please contact Harry Bozoian, State Lead on Missouri and Mississippi River Issues at (573) 526-7949 or harry.bozoian@dnr.mo.gov or Andrea Collier, Water Resources Center Director at (573)751-2867 or at andrea.collier@dnr.mo.gov. Thank you for your consideration.

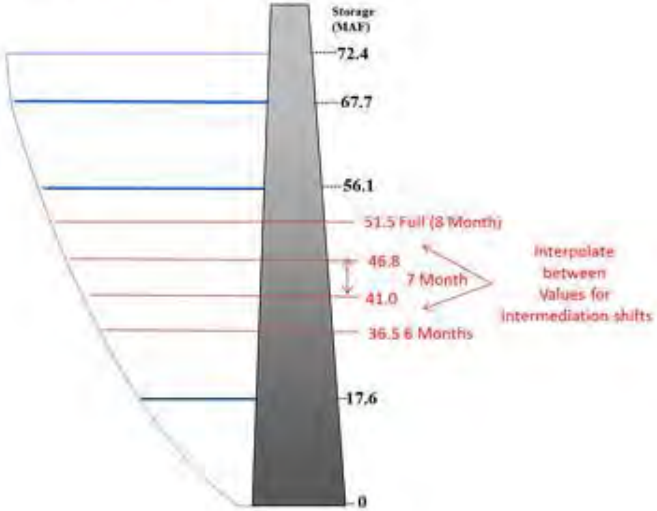
March 15 Service Level Storage Check



July 1 Service Level Storage Check



July 1 Season Length Storage Check



Attachment A

Response 6-1 – The CEQ regulations (40 CFR 1501.6) identify the lead agency's obligations with respect to identifying cooperating agencies. Under the CEQ regulations, Reclamation was not obligated to invite Missouri to be a cooperating agency. While Missouri was not asked to participate as a cooperating agency, Reclamation included representatives from the Missouri Department of Natural Resources (DNR) in all public mailings for the Project and the agency has access to all public notices issued at various milestones in the NEPA process. Missouri DNR also had the opportunity to access the Project website at (http://www.usbr.gov/gp/dkao/naws). Reclamation specifically reached out to Missouri DNR during the NEPA process to discuss the data, methodology, and analytical tools to be used in the depletion analysis in December 2010 and more recently on June 15,2015 to listen to the commenter's ongoing concerns with the Project. This meeting is discussed in more detail in Response 6-3 below.

Response 6-2 – Reclamation has considered and responded to Missouri DNR's comments throughout the planning and environmental analysis associated with this Project. The Final SEIS explicitly considered the cumulative impacts of potential depletions of the Missouri River as discussed in the Water Resources sections of chapters 3 and 4 of the Final SEIS, Appendix D – *Missouri River Basin Depletions*, and two supporting documents of the Final SEIS, *Cumulative Impacts to the Missouri River for the Bureau of Reclamation's Northwest Area Water Supply Project* and the *Missouri River Basin Depletions Database*. Specific responses to comments regarding the cumulative impact analysis of the Final SEIS are provided below.

Response 6-3 – In response to this request, Reclamation representatives traveled to Jefferson City, Missouri to meet with representatives from Missouri Department of Natural Resources (DNR) and the Missouri Attorney General's Office on June 15, 2015. During this meeting Missouri DNR staff gave a presentation summarizing concerns about the Project. A copy of this presentation is included in the Project record. Reclamation compared the presentation slides to formal comments submitted by the Missouri DNR's in its comment letter dated May 11, 2015. Upon its review, Reclamation provides the following additional responses to information from the presentation.

- **Cumulative Impacts** – Missouri DNR believes evaluations conducted in support of the Final SEIS that display results as average monthly differences among simulations make it impossible to assess downstream impacts on the Missouri River. Reclamation does not agree. Reclamation deferred to the expertise of the Army Corps of Engineers (Corps) in evaluating how depletions may affect the routing of flows through the Missouri River Mainstem System (Missouri River System). As noted in the Corps' report - *Cumulative Impacts to the Missouri River Basin for the Bureau of Reclamation's Northwest Area Water Supply Project -2013*; the Daily Routing Model (DRM) was developed to produce daily time-step output data required for several of the impacts models. The DRM provides hydrologic data, navigation service level and season length information, and hydropower data that are used as input data for the impact models. The impact models provide data for the delineation of the relative differences between and among the simulations affecting Missouri River System regulation.

  The DRM also provides the necessary consolidated monthly files that are required for the other resource models used in the SEIS analyses relying on monthly-time step data. The

hydrologic impacts portion of the Corps' cumulative impacts analyses uses the DRM which simulates Missouri River System regulation for an 81-year period of record (1930-2010). As noted in the Corps' report (page 13), each simulation has 81 years of daily data for each node location in the DRM. This means there are more than 29,000 lines of output data for each of the 20 node locations. Graphics programs allow the plotting of data on any basis one desires; however, many of the options do not provide a clear illustration of the differences between two simulations or among three or more simulations. One method used to analyze hydrologic output data was to compute the daily differences between two simulations and sort those differences from most negative to most positive. The magnitude and frequency of differences between the two simulations are indicators of the relative hydrologic effects of the simulations. Also, plotting the sorted differences between a single simulation and more than one of the other four simulations can be used to identify the relative differences among that simulation and the others selected for comparison.

The hydrologic variables evaluated by the Corps' were the differences in the volume of water in Missouri River System storage, reservoir levels, and reservoir releases. As noted on page 13 of the Corps' report, differences in the releases from Gavins Point Dam will be identical to the differences in flows at the DRM node locations on the lower Missouri River downstream; therefore, no plots of differences were developed for the lower Missouri River locations.

The Corps' cumulative impacts analysis used the daily time step model output as input to the economic resource impact models. The economic impact results are displayed for three sections or reaches of the Missouri River (reservoirs, upper river and lower river), allowing the decision maker and interested publics to understand the difference in the reaches of interest to them.

Missouri DNR also expressed concerns that the alternatives were not evaluated in comparison to existing conditions. As explained in the Introduction of Chapter 4 (page 4-2), NEPA requires a comparison of alternatives to the No Action alternative to identify potential impacts. This approach is consistent with CEQ guidance and Reclamation's NEPA Handbook (Reclamation 2012).

In compliance with Section 7 of the Endangered Species Act, Reclamation requested the Corps evaluate the alternatives in comparison to existing conditions. The results of this analysis are presented in the same Corps' report - *Cumulative Impacts to the Missouri River Basin for the Bureau of Reclamation's Northwest Area Water Supply Project -2013.* This comparative evaluation to existing conditions is necessary for the development of the Biological Assessment (Appendix L of the SEIS) in compliance with Section 7 of the Endangered Species Act.

- **Depletions and Future Water Project Development** – Missouri DNR expressed concerns about what it perceives as incomplete water use data in the SEIS with respect to existing depletions and future water use. Throughout the SEIS, appendices and supporting documents, Reclamation identified data and methods used in the depletion analyses to evaluate the proposed alternatives. In addition, Reclamation explained and disclosed the uncertainties or limitations of the data used (see Methods section of Chapter 4 starting on page 4-66, Appendix D – *Missouri River Basin Depletions* and Appendix M – *Summary of Missing and Incomplete Information*, and the methodology sections of the supporting document *Cumulative Impacts to the Missouri River for the Bureau of Reclamation's Northwest Area Water Supply Project* (Corps 2013)). These data were applied appropriately for a relative comparison of alternatives, and are the best available data and analytical approach to use in the SEIS analysis. Reclamation was able to complete thorough analyses and draw informed conclusions from the information available. This meets the intent of CEQ regulations and NEPA (see Appendix K - Response 20-8).

  As an example of its concern regarding water use data, Missouri DNR questions the water use data assigned to the Blackfeet Tribe's water rights in the Missouri River depletions analysis. Reclamation used the best available data at the time the analysis was conducted (2012). Missouri DNR suggests the reasonably foreseeable future water use for the Black Feet Tribe used in the analysis should be the value introduced in Senate Bill 1125, which seeks congressional approval of the Blackfeet Settlement. The Senate Bill 1125 was introduced in May 2015 which is more than a month after the release of the Final SEIS and approximately 3 years after Reclamation finished gathering the depletion data needed for the Corps' analysis.

- **Withdrawals (Yield) for Future Supply** – Missouri DNR presented a table showing estimated values for future water withdrawals from various reaches within the Missouri River System. Values in the table are cited as coming from the Final SEIS (Table D-6 from Appendix D – *Missouri River Basin Depletions*) and what the agency lists as the Corps of Engineers Surplus Water EIS. The values cited from Table D-6 of the SEIS were determined by both Reclamation and the Corps to be appropriate for the cumulative effects analyses. However for clarification purposes, the values presented in Table D-6 were only one part of the future Project withdrawals used in the cumulative effects analyses as explained in Appendix D – *Missouri River Basin Depletions*.

  Reclamation is aware that the Corps has initiated a process for the development of an Integrated Water Supply Storage Reallocation Report and Environmental Impact Statement for Missouri River Municipal and Industrial Storage Reallocation. This environmental impact statement is still in progress; therefore data from it are not publically available. In an effort to

understand the information presented, Reclamation assumed the information presented may have come from a series of Surplus Water Reports prepared by the Corps in 2012. The surplus water reports were prepared for dams within the Missouri River System including; Fort Peck, Garrison, Oahe, Big Bend, Fort Randall, and Gavins Point. Reclamation believes this assumption is correct because the numbers in the Surplus Water EIS column of the table match the amounts of surplus water evaluated by the Corps and determined to be available for annual withdrawal over the next 10 years. The analyses conducted in support of the surplus water reports have a different purpose than the analysis done by the Corps in their *Cumulative Impacts to the Missouri River for the Bureau of Reclamation's Northwest Area Water Supply Project* (Corps 2013). Reclamation's purpose was to identify existing and potential future water withdrawals from the Missouri River and evaluate the potential cumulative impacts of the proposed withdrawals for the Northwest Area Water Supply Project. The purpose of the surplus water reports was to identify and quantify whether surplus water is available temporarily at each of the Missouri River System reservoir areas over a 10-year period.

Reclamation and the Corps were undertaking these two separate analyses at the same time and worked closely together to determine the appropriate data for collection and analysis in each study effort, as well as to ensure there were no redundancies. The Corps' estimated value for the available surplus water within each river reach included the existing withdrawals plus the potential new withdrawals. For the cumulative impact analysis of the Reclamation's SEIS analysis, the agencies determined it was appropriate to use only the potential new withdrawal estimates from the surplus water reports to avoid duplication of the existing withdrawals. Reclamation's *Missouri River Depletions Database* (2012), used in the cumulative analysis, already included the existing withdrawals so using the total values in the Corps' surplus water reports would be duplicative (see Appendix D – *Missouri River Basin Depletions*).

- **Mississippi River Navigation** – Missouri DNR's presentation continues to emphasize the importance of the Missouri River flow contribution to Mississippi River Navigation. As noted in Appendix K - Response 20-14 of the SEIS, Reclamation determined the impacts of additional depletions on the Mississippi River were de minimis and therefore not a substantive issue for analysis (see also Response 6-9). Chapter 4 of the SEIS and the supporting document, *Cumulative Impacts to the Missouri River for the Bureau of Reclamation's Northwest Area Water Supply Project* (Corps 2013) explain that Project depletions from the Missouri River alternatives would have very little effect on dam releases. This includes flows out of Gavins Point dam that support Missouri River navigation.

  Furthermore, the Corps operates the Missouri River System in accordance with its authorized project purposes, which only include purposes related to the Missouri River, including water

supply. While Congress recognized that operating for the authorized Missouri River System project purposes would incidentally benefit the Mississippi River, it did not authorize the Corps to operate the Missouri River System for the benefit of the Mississippi River. Thus, there are no provisions in the Missouri River System Master Water Control Manual (Master Manual) that cover operations for the Mississippi River.

Response 6-4 - The commenter suggests the Missouri River is substantially depleted by inbasin uses. Reclamation explicitly considered depletions of the Missouri River in numerous locations throughout the Final SEIS, appendices and supporting documents, information and analyses of Missouri River depletions is disclosed (see Water Resources sections of chapters 3 and 4, Appendix D and Appendix K and the supporting reports prepared by the Corps (*Cumulative Impacts to the Missouri River Basin for the Bureau of Reclamation's Northwest Area Water Supply Project* -2013) and Reclamation (*Missouri River Basin Depletions Database* 2012). Results of the analyses conducted in support of the Final SEIS are contrary to the suggestion in this comment that the Missouri River is substantially depleted. Reclamation responded to a similar comment from Missouri DNR on the Draft SEIS (see Appendix K – Response 20-9). Because Missouri DNR has provided no new or additional information, there is nothing warranting Reclamation reconsidering or amending its original response.

Reclamation has expertise in calculating Missouri River depletions, and the Corps has exclusive experience and expertise in operating and regulating the Missouri River mainstem system. Through a collaborative effort in support of the SEIS, each agency used the best available information to conduct the Missouri River depletion analyses. Furthermore water withdrawals on the Missouri River are regulated by individual state and tribal water rights programs either through western water law or riparian water law. Reclamation is not aware of any instance in which authorized water withdrawals from the Missouri River have been restricted because of excessive depletions.

Reclamation would like to respond to an incorrect inference in the comment regarding present level depletions as presented in the Final SEIS. The comment references the Final SEIS as indicating the Missouri River has an average of 7.7 million acre-feet of present level depletions (including evaporation) above Garrison Dam and then makes a comparison of this volume to the average annual flows of the river at Bismarck, N.D. This present level depletion number is not presented in the Final SEIS and Reclamation cannot duplicate it based on the information provided in the comment; therefore it cannot respond further. For clarification, Reclamation does report on page 3-45, Table 3-16 that the Missouri River average annual present-level depletion (2010) above Fort Peck is 2,209 kAF, and in the Fort Peck to Garrison Reach is 3,352 kAF, for a total average annual present-level depletion above Garrison Dam of 5,551 kAF (5.55 million acre feet). Reservoir evaporation is accounted for in the Corps' operational models, but is not part of the present level depletion estimates presented in Table 3-16. By comparison, the estimated annual Project depletion would be 13.6 kAF, which would increase the average annual depletion above Garrison Dam by approximately 0.2 percent. The analysis presented in the Final SEIS demonstrates that the Project would have negligible effects on Missouri River flows, and would not harm Missouri interests.

In response to the statement that the Project would create a precedent setting transfer of water to Hudson Bay drainage basin, Reclamation refers the commenter to Appendix K - Response 16-33 and Response 22-4 in which it has previously responded to comments regarding a precedent setting action.

Response 6-5 – The NEPA process is intended to inform the decision maker and the public of the potential environmental impacts associated with a proposed federal action. Reclamation has accomplished this through the analyses and results presented in the Final SEIS, appendices and supporting documents. In preparing the Final SEIS, and incompliance with NEPA, Reclamation held public scoping meetings to gather public input on the Project. Reclamation also conducted new studies to supplement the 2008 *Final EIS on Water Treatment* in addition to re-examining and updating all prior NEPA analyses completed for the proposed project as stated in Chapter 1. This included reevaluating the need for the Project which was confirmed by the *Water Needs Assessment Technical Report* which is a supporting document to the Final SEIS and summarized in Chapter 2. Reclamation then evaluated a full range of reasonable alternatives, and in compliance with NEPA briefly described other alternatives that were considered but eliminated (see Chapter 2 and Appendix C). The costs of inbasin alternatives are documented in the SEIS.

Due to the lack of data to support the commenter's opinions that the Project need is exaggerated and the inbasin cost estimates are over-estimated; reconsidering or amending previous responses to similar comments is not warranted (see Appendix K – Responses 20-1, 20-4 and 20-16).

Reclamation disagrees with the commenter's statements that it narrowly scoped analysis for the Project to fit its needs as evidenced by Reclamation constructing Project components in the Missouri River basin until a federal judge prohibited it. Reclamation notes that construction on certain Project components began prior to litigation in this matter. All Project construction activities undertaken since that time have been specifically approved by the court (see Chapter 2, Previously Constructed Components section and Appendix A – *Constructed Project Components*). Moreover, all reasonable alternatives were considered, regardless of whether the alternative would have used a previously constructed Project component. The fact that such components were already constructed did not narrow the scope of Reclamation's analysis.

As stated in Response 6-1, Reclamation complied with 40 CFR 1501.6 in establishing the cooperating agency team, as well as the authorizing legislation for the Project (Garrison Diversion Reformulation Act of 1986[P.L. 99-294] and the Dakota Water Resources Act of 2000 [P.L. 106-554]). Section 7 (a)(2) of the authorizing legislation states "All planning, design, construction and operation of the municipal, rural and industrial water systems authorized by this section shall be undertaken in accordance with a cooperative agreement between the Secretary and the State of North Dakota". As directed, Reclamation works with the State Water Commission and the Garrison Diversion Conservancy District in the implementation of the municipal, rural and industrial water supply grant program. Reclamation relied on the expertise of its own technical experts, independent peer reviewers, cooperating agencies, and its environmental consultant in the preparation of the Draft SEIS. The Draft SEIS was released for public review and Reclamation considered input received from federal, state and local agencies and members of the public and made appropriate changes in response to comments which culminated in the development of the Final SEIS.

Response 6-6 – Reclamation complied with the CEQ regulations and Reclamation's NEPA Handbook throughout the NEPA process with respect to informing the public at various milestones as well as establishing a cooperating agency team. In the scoping process, as directed by 40 CFR 1501.7, Reclamation published a notice of intent in the *Federal Register* inviting participation of affected federal, state, and local agencies, any affected Indian tribe, the proponent of the action and other interested persons in the NEPA process.

Reclamation maintains a distribution list of agencies and persons who have expressed an interest in the proposed Project, and throughout the NEPA process various types of information were disseminated to everyone on this distribution list, including representatives from Missouri DNR. Information provided to those on the distribution list included a newsletter published in August 2010 containing information about the public involvement process and details regarding the public scoping meetings that were held. Another newsletter was distributed in October 2011 containing information on various SEIS analyses being conducted. The public was notified about the release of the Draft SEIS and Final SEIS by a Notice of Availability published in the *Federal Register* for each document, and those on the distribution list received the Draft SEIS and/or Final SEIS in the mail. Information regarding the public hearing held after the release of the Draft SEIS was included in the Notice of Availability and the documents mailed to the distribution list. Missouri DNR and other public entities could also be informed on the happenings in the SEIS process by logging onto the project website (http://www.usbr.gov/gp/dkao/naws). These are appropriate avenues to keep the public informed about the NEPA process, as stated in the CEQ regulations and Reclamation's NEPA handbook.

As stated in Response 6-1 and immediately above, Reclamation complied with 40 CFR 1501.6 in establishing the cooperating agency team and inviting agencies with special expertise or jurisdiction. Reclamation had no obligation to invite Missouri DNR to be a cooperating agency. However, even though it was not required to, Reclamation made specific additional efforts to communicate with the State of Missouri and Missouri DNR during the NEPA process. For instance, on December 10, 2010 Reclamation organized a meeting between Missouri DNR, the Corps and Reclamation. The purpose of this meeting was to discuss the data, methodology, and analytical tools to be used in the depletion analysis and provide Missouri DNR an opportunity to understand the depletion analysis. At this meeting, both Reclamation and the Corps' Missouri River Control Center staff explained step-by-step the data and analyses that would be used in the SEIS depletion analysis. These include the Missouri River Basin Depletions database that is maintained and updated by Reclamation and the Corps' Daily Routing Model. In addition, on June 15, 2015 Reclamation representatives traveled to Jefferson City, Missouri to meet with representatives from Missouri DNR and the Missouri Attorney General's Office to discuss the commenter's ongoing concerns with the Project. More specific information regarding this meeting is provided in Response 6-3 above.

To the extent Reclamation has been made aware of the commenter's concerns, it has considered and responded to those concerns throughout the NEPA process.

Response 6-7 - The cumulative effects of reasonably foreseeable actions, especially depletions, are thoroughly evaluated in the SEIS. Cumulative effects from potential changes in water supply allocations by the Corps were considered but not evaluated. The reason for this was because the Corps has not made a decision on their proposed *Integrated Water Supply Storage Reallocation Report* and *Environmental Impact Statement for Missouri River Municipal and Industrial Storage Reallocation*. The proposal has been put on hold indefinitely. For these reasons it is not a reasonably foreseeable action. Furthermore, according to the Corps, the storage allocation itself would not affect the guidelines in the Master Manual and would not change authorized flows for downstream purposes as suggested by the commenter. Thus, reallocation would not affect potential cumulative impacts from depletions.

As explained in Response 6-5, this proposed Project is authorized by the Garrison Diversion Reformulation Act of 1986[P.L. 99-294] and the Dakota Water Resources Act of 2000 [P.L. 106-554]. A water supply agreement with the Corps is not required when Reclamation has independent Congressional authority to construct, or direct the construction of, water supply projects and withdraw Reclamation-related project water from the Missouri River. The Corps confirms this in the *Final Garrison Dam/Lake Sakakawea Project, North Dakota Surplus Water Report, Volume 1, Appendix A-Environmental Assessment* (2011). Pursuant to a Memorandum of Agreement between the Corps and Reclamation entered into in 2014, the Northwest Area Water Supply Project does not require a water supply agreement with the Corps. Because a water supply agreement is not required, there are no expenses associated with water storage in Lake Sakakawea as the commenter contends. The cost estimates, as stated in the Final SEIS, are correct.

Reconsidering or amending Reclamation's original response to a similar comment is not warranted (see Appendix K – Response 20-15).

Response 6-8 – The cumulative impacts of Project depletions on Missouri River resources, including downstream flow support, were thoroughly analyzed in the Final SEIS as discussed in the Water Resources section of Chapter 4, Appendix D and supporting documents. Project depletions will have a negligible effect on the Missouri River. In these paragraphs marked as the comment, the commenter provides its understanding of Missouri River System operations. Following Reclamation's consultation with the Corps on this text, the following paragraphs provide necessary clarification regarding operations of the Missouri River System, especially during a non-navigation year.

Section 9 of the 1944 Flood Control Act authorized the Missouri River System to be operated for the purposes of flood control, navigation, irrigation, power, water supply, water quality control, recreation, and fish and wildlife. In addition, operation of the Missouri River System must also comply with other applicable Federal statutory and regulatory requirements. Furthermore, to achieve the multi-purpose benefits for which they were authorized and constructed, the six Missouri River System reservoirs must be operated as a hydraulically and electrically integrated system. The water control plan includes criteria for the management of the Missouri River System covering the full spectrum of anticipated runoff conditions that could be expected to occur. The Master Manual also considers other factors within the basin, such as a significant reduction in the availability of water (changes in depletions of water within and downstream

from the Missouri River System), which may also require a revision of the water control plan included in the Master Manual.

According to the Master Manual (section 7-11.1),when storage levels within the Missouri River System are low enough to eliminate the navigation season there would be impacts on this authorized purpose; however, water releases would still occur from Missouri River System reservoirs for the purposes of water supply and water quality.

As for the statement about the March 15 storage level included in the comment, the guide curves in the Master Manual dictate the service level, and more water does not always equate to more flow support (full service above 57million acre-feet).

Response 6-9 – The commenter's suggestion that the Preferred Alternative would guarantee water supply to the recipient basin, or create a 'de facto' water right is incorrect. Reclamation addressed a similar comment (see Appendix K – Response 20-12) and this comment does not warrant reconsidering or amending the previous response.

The commenter suggests the analyses completed to assess the impacts of Missouri River depletions were inadequate in evaluating impacts to power plants and water supply intakes in the lower Missouri River. Early on in the NEPA process, Reclamation invited the Corps to participate as a cooperating agency because of its jurisdiction and expert knowledge of the Missouri River System and its operation of this integrated system. As discussed in numerous locations throughout the SEIS, Appendices and supporting documents, Reclamation collaborated with the Corps to evaluate the cumulative impacts of water withdrawals from Lake Sakakawea. The data, methods and results of the analyses are summarized in the Water Resources sections of chapter 3 and 4 of the Final SEIS. Appendix D – *Missouri River Basin Depletions* of the Final SEIS provides a summary of the step by step process followed by Reclamation and the Corps in conducting the depletions analysis. Should the SEIS reader be interested in the data and technical evaluations which are the basis for the analysis presented in the SEIS and Appendix D, two supporting documents provided with the Final SEIS, the *Missouri River Basin Depletions Database* (Reclamation 2012) and the *Cumulative Impacts to the Missouri River for the Bureau of Reclamation's Northwest Area Water Supply Project* (Corps 2013) contain such information. Contrary to the commenter's statement, the SEIS analysis does include power plants that rely on once-through cooling and water supply intakes on the lower Missouri River as documented in the Corps' report on pages 14 and 65-66 - *Cumulative Impacts to the Missouri River Basin for the Bureau of Reclamation's Northwest Area Water Supply Project*. Reclamation previously considered and responded to similar comments received on the Draft SEIS; therefore reconsidering or amending previous responses is not warranted (see Appendix K – Responses 20-8, 20-9, 20-10, 20-15 and 20-16).

This Corps analysis evaluated impacts to Mississippi Navigation (see *Cumulative Impacts to the Missouri River for the Bureau of Reclamation's Northwest Area Water Supply Project* (Corps 2013 pages 14 and 61) contrary to commenter's conclusion. Reclamation determined the impacts of additional depletions on the Mississippi River were de minimis and therefore not a substantive issue for analysis in the SEIS as stated in Appendix K – Response 20-14 to a similar comment provided on the Draft SEIS. Following consultation with the Corps on the issue of

impacts to Mississippi River navigation, the following explanation was provided and is shared here to provide additional context on the operations of the Missouri River under the Master Manual. The Corps operates the Missouri River System in accordance with its authorized project purposes, which only include purposes related to the Missouri River. While Congress recognized that operating for the authorized Missouri River System project purposes would incidentally benefit the Mississippi River, it did not authorize the Corps to operate the Missouri River System for the benefit of the Mississippi River. Thus, there are no provisions in the Master Manual that cover operations for the Mississippi River.

Response 6-10 The Conventional Treatment Biota WTP option included in the Preferred Alternative is a multi-barrier treatment system which includes chemical disinfection, ultra violet irradiation and media filtration. This is not a 'single system with no redundancies" as stated in the comment; in fact this is a sophisticated, multi-barrier system includes filtration to remove biota of concern should they exist in the source water. Additional redundancy is provided by transmission of the treated water through a buried pipeline which was constructed with additional safeguard features (see Chapter 2 page 2-13) and subsequent treatment at the Minot WTP prior to distribution to Project members. The inclusion of the Conventional Treatment Biota WTP option has been recognized by the Province of Manitoba, Canada (see comment Letter #2) as the Biota WTP option that "..represents the most sensible, and most protective, course of action". Another statement from this same comment letter acknowledges that should Reclamation ultimately select a Missouri River alternative, "…the Bureau's preferred alternative for the Biota WTP is the right choice." Reclamation previously considered and responded to similar comments received on the Draft SEIS; therefore reconsidering or amending previous responses is not warranted (see Appendix K – Response 20-11).

Response 6-11 – The *Water Needs Assessment Technical Report* (Reclamation 2012) established the projected water needs for the Project area using the available data from the U.S. Census Bureau as well as projected needs identified by the water users within the service area. Chapter 2 of the Final SEIS includes a detailed description of each Project member's system and the information their individual water needs projections were based on. The All Season's Water Users District section explains the increase in their projected water use is due to the connection of additional users currently not served by the system. Future water use projections are not based solely on population projections within the service area; therefore one cannot make a direct comparison. The methods used to estimate the future water need of the service area through 2060 are discussed in the *Water Needs Assessment Technical Report*. Reclamation has not identified any additional or more reliable data that warrants reconsidering or amending the analysis of the SEIS.

Response 6-12 – The population projections completed for the Project are based on the U.S. Census Bureau 2010 data cited in Chapter 2 of the SEIS and the supporting document, *Water Needs Assessment Technical Report*. As stated in section 5.0 of this technical report, the water needs and population projections for the Project Area and Water Service Area were developed using methods based on the American Water Works Association guidelines as explained in *Forecasting Urban Water Demand (*Billings and Jones, 2008). Elements of both the American Water Works Association "standard" and "pragmatic" approaches were employed in the

projections. The report discloses that city-level or county-level population data were used in the analysis.

The commenter provides population estimates for the entire state of North Dakota and suggests these data call into question the outcome of the Project-specific analysis. Reclamation disagrees. In planning a regional water system, it is not appropriate to use state-wide population projections as a means of establishing the water need.

As described in detail in the *Water Needs Assessment Technical Report,* Appendix B-*Community/Water Systems Data* and on pages 2-4 through 2-7 of Chapter 2, increases in water demand for the Project area are not only a result of a population increase but also expansion of rural water systems to users that are currently not served by a public system and have private wells and are experiencing water quality and/or water quantity issues.

Response 6-13 – Reclamation's economic evaluation for this Project is sufficient for purposes of NEPA and a relative comparison among alternatives. In the Final SEIS Chapters 3 and 4, Appendix D – *Missouri River Basin Depletions*, Appendix H – *Socioeconomic Resources,* and supporting documents, Reclamation described the two-pronged approach used in the socioeconomic analyses. The scope of the analyses included a regional economic evaluation of the direct, indirect and induced economic effects of construction and operations of the Project, in addition to a specific analysis of the economic effects associated with the Missouri River, which is a broader scope. As stated in the Final SEIS, appendices and supporting documents as well as the previous response (see Appendix K - Response 20-14), the Regional Input-Output Modeling System (RIMS II) economic model was used to evaluate the regional economic effects and the Corps' Total National Economic Development Benefits model was used to evaluate the economic effects within the Missouri River System as well as the lower Missouri River (see Final SEIS Socioeconomic sections of Chapters 3 and 4 and the supporting document *Cumulative Impacts to the Missouri River Basin for the Bureau of Reclamation's Northwest Area Water Supply Project* pages 14-15 and 54-73). These analyses determined two distinct economic effects and were not intended to represent a benefit cost analysis as inferred by the commenter. Reclamation does not prepare benefit cost analyses for congressionally authorized projects; rather this type of analysis is typically done when projects are seeking congressional authorization.

The commenter has provided no new or additional information, therefore there is nothing warranting Reclamation reconsidering or amending its original response (see Appendix K, Response 20-14).

Response 6-14 – The commenter incorrectly states that the Project will benefit of only 492 people. The Project benefits an estimated 82,400 people throughout northwestern North Dakota over the course of almost five decades. Reclamation would also like to clarify how costs associated with project construction and operation are distributed. The authorizing legislation for this Project (Garrison Diversion Reformulation Act of 1986[P.L. 99-294] and the Dakota Water Resources Act of 2000 [P.L. 106-554]) provides funding through an MR&I grant program in which planning and construction costs are shared with the state of North Dakota; 75% being federal funds and 25% being state/local funds. The State/project sponsor is responsible for the

annual OM&R costs of the Project, with the exception of the OM&R of the biota WTP which is a federal responsibility associated with Boundary Waters Treaty compliance.

The NEPA process is meant to disclose the possible and likely impacts to the human environment as a result of the decision maker carrying out a specific course of action. Neither the NEPA nor its implementing regulations require the action agency to choose either the most environmentally protective or the most cost effective alternative. The commenter misstates the purpose of the statute and wrongly interprets well settled law as to the act's requirements. There is no reference to the efficient use of the tax payer dollar in the stated policy goals of the NEPA. There is not a requirement to "adopt [a] particular internal decision-making structure." *Baltimore Gas & Electric v. NRDC* 462 U.S. 87, 100 (1983). There is no statutorily defined threshold value at which an action is no longer prudent. It is within the agency discretion and as such a project benefiting the northwest region of North Dakota was deemed prudent in light of the identified costs.

Response 6-15 – The Final SEIS evaluated a reasonable range of alternatives utilizing inbasin groundwater and surface water sources, as well as water from the Missouri River. During the initial formulation of alternatives, Reclamation worked with the cooperating agencies to evaluate potential water sources and ways to utilize the available water. Through a deliberative process, a reasonable range of alternatives was identified for detailed evaluation in the SEIS. Reclamation complied with 40 CFR 1502.14 by providing the justification of why some alternatives were considered but eliminated. This regulation states the lead agency, in disclosing those alternatives considered but eliminated from further study, should 'briefly discuss the reasons for their having been eliminated." The commenter provides only part of Reclamation's reasoning for eliminating this alternative from further evaluation. In addition to the rationale quoted in the comment, other factors were considered in the elimination of this alternative which were the potential impacts on upstream and downstream riparian and aquatic ecosystems, and the potential impacts to threatened piping plovers which may forage along beaches in the rivers in this region (Final SEIS, Appendix C, page C1-6).

Evaluations completed in support of the SEIS were conducted using the best available information and analytical tools. As discussed in Chapter 4 of the SEIS (Water Resources section, pages 4-22 through 4-64) the potential impacts of the proposed alternatives on the changes in quantity and timing of Souris River flows, changes in Souris River water quality, and changes in geomorphic processes on the Souris River were evaluated using two types of hydrologic analyses of the historic flow data. These were (1) time series analysis and trend analysis with subsequent hydrologic statistics and graphical comparisons; and (2) the Indicators of Hydrologic Alteration model. The results of these analyses showed that during certain periods of time there is sufficient water supply in the Souris River, but at other times and for extended periods of time, there would not be enough water within the Souris River to provide the area with a reliable water supply. The changes in the quantity and timing of Souris River flows, water quality and geomorphic process of the Souris River also triggered significant effects on other water related resources in the basin. The data and hydrologic analysis techniques used in the analysis are appropriate for this NEPA analysis. The commenter has provided no new or additional information, therefore there is nothing warranting Reclamation reconsidering or amending its original response (see Appendix K – Responses 20-6 and 20-7).

The comment "[a]n alternative should have been developed to address these water quality concerns of the communities in the service area" is without basis. Reclamation specifically considered and addressed water quality concerns of the communities in the service area in the SEIS. Each of the alternatives designed and rigorously evaluated in the Final SEIS were done so with the intent of meeting the purpose and need for the proposed action. As discussed in chapter 1 (page 1-6), "The purpose of the proposed action (i.e. the Project) is to provide a reliable, high-quality water supply to communities and rural water systems…The water provided by the Project would need to meet the primary drinking water standards established by the Safe Drinking Water Act." The next paragraph goes on to explain the existing water sources for these communities and rural water systems are not of sufficient quality or quantity to reliably meet current needs or project needs through 2060. The Needs Assessment section in Chapter 2 (pages 2-4 through 2-7) provides information received from the water users on the water quantity and quality issues associated with their current water sources. Several appendices also contain information which demonstrates Reclamation's recognition and attention to the water quality concerns of water users within the Project Area (see Appendix B – *Community/Water Systems Data*, Appendix C – *Alternatives Formulation*, and Appendix J – *Draft Appraisal Level Design Engineering Report*).

As disclosed in Chapter 2 and Appendix C -1 – *Alternatives Development Process*, during the public scoping process Reclamation received numerous comments on the scope of analysis for the SEIS, which included the use of the reverse osmosis treatment process. Under NEPA, the range of alternatives required to be evaluated by an environmental impact statement is governed by the rule of reason, which requires an environmental impact statement to set forth only those alternatives necessary to permit a reasoned choice. Alternatives must be feasible and consistent with the statement of purpose and need. Feasible alternatives are those that can be carried out based on technical, economic, and environmental factors, as well as common sense (40 CFR 1502.14; Forty Most Asked Questions Concerning the Council on Environmental Quality NEPA Regulations No. 2a [Federal Register 18026, March 23, 1981; as amended, 51 Federal Register 15618, April 25, 1986]). Reclamation considered this treatment process as part of the enhancement of existing groundwater systems option. This reverse osmosis option was eliminated for several reasons as disclosed in Appendix C. The use of reverse osmosis treatment in this option was economically in-feasible for the size of communities being served and in addition, water managers within the Project area expressed concern regarding their ability to hire and maintain staff with the skill level required to operate a reverse osmosis treatment facility. Qualified individuals are difficult for small communities to reasonably attain.

North Dakota State Water Commission

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7

June 5, 2015

Ms. Alicia Waters
Bureau of Reclamation
P.O. Box 1017
Bismarck, ND 58502

RE: Comments on the Final Supplemental Environmental Impact Statement for the Northwest Area Water Supply Project

Dear Alicia,

I write on behalf of the State of North Dakota regarding the Final Supplemental Environmental Impact Statement ("FSEIS") for the Northwest Area Water Supply ("NAWS") Project. North Dakota has reviewed the FSEIS, including the change to the preferred alternative identified by the Bureau of Reclamation. As a Project sponsor, North Dakota wanted to take this opportunity, before issuance of the Record of Decision, to make clear that it supports the selection of the revised preferred alternative identified in the FSEIS. North Dakota is responsible for ensuring that water delivered by the NAWS Project meets drinking water standards. While not necessary for biota treatment, the change to the preferred alternative identified in the FSEIS would provide greater operational flexibility to address issues raised by biota treatment, potential changes in raw water quality, and future changes in Safe Drinking Water Act Standards. This operational flexibility ensures the Project would be able to meet all applicable standards, meet the needs of the region, and deliver the highest water quality possible while posing minimal, if any, threat to the environment. Consistent with prior agreements with Reclamation if the Project moves forward, the State remains committed to the cooperative development and implementation of the revised preferred alternative and adaptive management plan contemplated in the FSEIS through all administrative, technical, and financial means at our disposal to serve the citizens of our state.

7-1

Sincerely,

Todd Sando, PE
Chief Engineer/Secretary

TSS:TJF/0237-04

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INFO. COPY TO:

DATE	INITIAL	TO
6/10	[illegible]	Alicia

CLASSIFICATION
PROJECT
CONTROL NO.
FOLDER ID

Response 7-1 - Thank you for your comments, they are included in the Project record.