

RESPONSE TO COMMENTS FOR THE DEVILS LAKE OUTLET PROJECT

June 2003

Comment: If the outlet originates from the West Bay of Devils Lake instead of the eastern part of the lake (Stump Lake or East Devils Lake), the water quality in Devils Lake will deteriorate and not be capable of supporting a fishery.

Response: Water quality in Devils Lake has varied substantially in the past 12 years and even more prior to that. As of May 2003, West Bay had a total dissolved solids (TDS) of 1360 mg/L and Main Bay had a TDS of 1440 mg/L. In 1992, the TDS of Main Bay was over 4000 mg/L. A viable fishery existed in 1992. Due to the uncertain future about Devils Lake elevations, changes in water quality must also be predicted in general terms. If the outlet was operated at anticipated flows, TDS increases in Main Bay over a 30-year period would be above the base condition but substantially below the level necessary to maintain an excellent sport fishery.

Comment: Why isn't the outlet located in Stump Lake or East Devils Lake?

Response: TDS is much higher at these locations. Operating the discharge with the same constraints of 300 mg/L sulfates would result in substantially reduced discharge rates and flood protection. Several treatment technologies were reviewed to determine the feasibility of treating the water prior to discharge from an east end outlet. These were rejected due to prohibitive costs.

Comment: The Devils Lake Outlet will violate water quality standards.

Response: North Dakota and Minnesota each have water quality standards. Water quality standards have three elements. These are: (1) the designated use of the water, (2) the criteria necessary to support/maintain that use, and (3) antidegradation procedures. Water quality modeling for the Devils Lake Outlet, which was based on three hydrologic conditions, shows that there were no exceedances of sulfate standards in the Sheyenne River or the Red River of the North. Furthermore, a review of other constituents indicated compliance with all numeric criteria for aquatic life and human health values. The Minnesota Pollution Control Agency, in its May 21, 2003 comment letter, stated that there would not be a violation of Minnesota Water Quality Standards.

One important factor in water quality standards determination is maintaining the beneficial use of the water. The Devils Lake Outlet is modeled to have a marginal or no effect on beneficial uses, and the slight increase in the TDS concentration is well within historical ranges.

Comment: The proposed outlet would violate Minnesota’s Antidegradation Rule.

Response: The May 21, 2003 letter from the Minnesota Pollution Control Agency made no mention of the outlet violating Minnesota’s Antidegradation Rule.

Comment: Drinking water supplies are not adequately protected by the permit and the Devils Lake Outlet will seriously affect drinking water in Valley City.

Response: The models predict that water from the Devils Lake Outlet will not result in additional exceedances of human health values. Sulfate will not exceed 250 mg/l, which is the recommendation for treated drinking water. However, sulfate concentrations will increase above the base condition.

The impact of the proposed discharge on the treatment of water for public water systems was gauged on the projected change in sulfate and TDS. The sulfate concentration of the proposed discharge presents the greatest potential to violate the chemical criteria for the Sheyenne River under the state’s water quality standards. The permit would restrict the discharge to a sulfate level in the river of 300 mg/l or less (The water quality standard is 450 mg/l.). Provided in Figure (1) below is a sample of the water quality modeling output generated to evaluate changes in water chemistry due to the operation of the proposed outlet.

Figure (1)

Moderate Future Max Lake Level 1455 ft at Valley City						
Percent of Time Exceeded						
(Years 2005 - 2014)						
TDS	BASE	SWC100		SO4	BASE	SWC100
>400	90	92		>100	93	95
>500	34	62		>150	14	55
>600	8	23		>200	0	10
>700	0	7		>250	0	0
>800	0	0		>300	0	0
>900	0	0		>350	0	0
>1000	0	0		>400	0	0
>1100	0	0		>450	0	0
Moderate Future Max Lake Level 1455 ft at Halstad						
Percent of Time Exceeded						
(Years 2005 - 2014)						
TDS	BASE	SWC100		SO4	BASE	SWC100
>400	64	69		>100	25	32
>500	4	5		>150	1	1
>600	1	1		>200	0	0
>700	0	0		>250	0	0
>800	0	0		>300	0	0
>900	0	0		>350	0	0
>1000	0	0		>400	0	0
>1100	0	0		>450	0	0

The permit holder has indicated that they will monitor the water treatment situation at Valley City and mitigate treatment impacts as necessary.

Comment: Question 9 on the antidegradation review worksheet did not adequately evaluate or demonstrate reasonable alternatives to allowing the degradation.

Response: Appendix IV of the North Dakota Water Quality Standards specifies the procedures the Department of Health uses to determine compliance with antidegradation criteria. Specifically, a Category 1 review determines if reasonable non-degrading or less-degrading alternatives are available.

The applicants submitted supporting documentation describing several alternatives, including reduction in scale, operating plan scenarios, water treatment, advanced treatment, alternate discharge locations and upper basin water management. The 100-cfs outlet, constrained to 300 mg/L sulfate, meets the reasonableness test when compared to the costs of the alternatives which are significantly higher.

Comment: The permit application uses water quality modeling from the US Army Corps of Engineers' Environmental Impact Statement (EIS) to predict water quality in the Sheyenne River.

Response: Water quality modeling results for the state's outlet project are different from those presented in the Corps' EIS. The primary difference is the state project discharges substantially less water than the Corps' project, and therefore, impacts are quickly reduced as the discharge travels downstream. This results in a commensurate reduction in projected impacts and subsequent reduction or elimination of mitigation concerns.

Comment: An environmental impact statement has not been completed for this project. This is a requirement under the National Environmental Policy Act (NEPA).

Response: North Dakota state law does not require the preparation of an environmental impact statement, and NEPA requirements do not apply to this state funded project.

Comment: Water quality objectives established by the International Joint Commission at the International Boundary will be exceeded at a greater frequency than in the past, thereby impacting important water uses in Manitoba and likely constituting a violation of the Boundary Water Treaty of 1909.

Response: The International Joint Commission (IJC) adopted five specific water quality objectives applicable to the Red River at the International Boundary: (1) fecal coliforms at 200 per 100 ml, (2) chlorides at 100 mg/L, (3) sulfates at 250 mg/L, (4) dissolved oxygen of not less than 5 mg/L and (5) total dissolved solids (TDS) at 500 mg/L. Of the five objectives, only TDS concentrations appear to be near the threshold level for the base condition as a result of the proposed Devils Lake discharge. Water quality modeling presented in the Corps' EIS is different from the model outputs presented for the state outlet. Because the state's outlet has substantially less volume, water quality as measured by TDS is comparable to the base condition. Modeling results for a moderate scenario of a 1450-foot Devils Lake elevation predicted the outlet would result in a TDS higher than 500 mg/L (from 9 percent for the base condition to 11 percent). For a moderate 1455-foot elevation scenario, the base condition of 11 percent rises to 12 percent with the outlet. For the wet future, the base condition of 8 percent rises to 10 percent with the outlet. Other scenarios would result in different predictions for percent exceedances.

The slight difference between the base and modeled numbers is lost when considering other variables used for model inputs. Furthermore, the analytical method for determining TDS concentration has a 95-percent confidence interval of 10 percent. In other words, when TDS results are reported as 500 mg/L, it really means the value is likely between 450 mg/L and 550 mg/L.

Nevertheless, exceedances of an IJC objective of 500 mg/L TDS is intended to prompt the appropriate agencies to take necessary actions to mitigate a problem and minimize future recurrences. The models are a predictor of future events and are not “absolute evaluation of water quality in the receiving stream, and, therefore, should not be used for enforcement activities. As a result, the Department of Health interprets the IJC agreement to mean that actual exceedances must be based on empirical data and, therefore, no action is appropriate at this time. If an exceedance of 500 mg/L TDS at Emerson, Manitoba can be attributed to the Devils Lake discharge at some time in the future, the department will take appropriate actions to investigate and minimize future occurrences. This could include, but not be restricted to, implementing adaptive management practices, timing discharges from lakes, timing discharges from point sources, additional treating of permitted discharges and reducing natural background levels.

Representatives from both North Dakota and Minnesota have stated that the Devils Lake permit, if issued, will not violate their water quality standards. It is reasonable to expect the same compliance with downstream jurisdictions, especially since the numeric criteria for protecting beneficial uses are based on the same science.

Comment: Increased nutrient loading to the Sheyenne and Red Rivers will cause water quality problems and eutrophication.

Response: West Bay of Devils Lake has an extensive water quality database. Total phosphorus concentrations average approximately 0.27 mg/L, and nitrate nitrogen is usually very low or below detection levels. The amount of phosphorus and nitrogen discharged from Devils Lake is expected to be variable. Generally, the nutrient load from Devils Lake will increase when flows in the Sheyenne River increase, because that is when the discharge volume will likely increase. In other words, the annual phosphorus load will increase; however, its impact on the Sheyenne River and Lake Ashtabula will likely be minimal. Primary productivity is largely controlled by a limiting substance which, in this situation, is likely to be nitrogen. Therefore, any increase in available nitrogen will increase algal growth, whereas an increase of phosphorus will not. Because Lake Ashtabula will trap a significant portion of the phosphorus, downstream reaches of the Sheyenne River should experience nearly base conditions. Phosphorus concentrations in the Red River will be near base conditions, and therefore, no changes in trophic condition or response are expected.

Comment: The proposed outlet would continue the trend of increased nutrient loading and be contrary to the Lake Winnipeg Action Plan.

Response: The province of Manitoba should be commended for addressing an important and very difficult problem. The state of North Dakota also has major initiatives directed to abate/delay eutrophication of water resources. One reasonable approach to solving the eutrophication problem is development of a nutrient budget for the target lake. It is my understanding that this is an ongoing effort in Manitoba. This process quantifies all sources of

nutrients to the lake and subsequently prioritizes control strategies that can be directed to significant sources of the target chemical which, in this case, appears to be phosphorus. A Devils Lake outlet would export an approximate average of 8,000 lbs. of phosphorus a year. If phosphorus was treated as a conservative constituent, which it isn't, and if it is assumed that the entire load crosses the border, it represents a fraction of 1 percent of the load at Emerson, Manitoba. Since it is the effect of phosphorus in Lake Winnipeg and not at the border that is the issue, all other supplies of phosphorus must be quantified in order to put the Devils Lake contribution into proper perspective (e.g., additional phosphorus loading from the Assiniboine River, the Winnipeg River, dozens of tributaries, internal loading and municipal sources).

A similar relative contribution also applies to nitrogen. The total nitrogen concentration in West Bay averages approximately 1.5 mg/L. This represents an export of 40,000 lbs. of nitrogen if the entire load reached the border, or less than 1 percent of the load to Lake Winnipeg.

The North Dakota Department of Health will continue to work with interested parties to develop and update an effective nutrient control strategy based on realistic expectations of successfully reaching established goals in an appropriate time frame.

Comment: The permit does not address or limit increased nutrient (phosphorus and nitrogen) loading.

Response: Limits for phosphorus and nitrogen were considered in development of the permit from the aspect of concentration expected downstream of the discharge. Considering the flow proportions of discharge to river flow, a conflict with water quality standards for the Sheyenne was not anticipated. The total mass loading throughout the system was not considered for limiting. The effect of mass loading and limiting of the proposed discharge to the Sheyenne and to the entire Red River basin requires further review to determine appropriate limitations.

Comment: There is a reasonable expectation that mercury concentrations in migratory fish in the Red River will increase. This should require a detailed assessment response.

Response: We disagree there is a reasonable expectation that mercury concentrations will increase in migratory fish in the Red River. Mercury concentrations in water are substantially lower in West Bay of Devils Lake compared to the Sheyenne River and the Red River of the North. The data suggest there is a substantial loss of mercury load below Lake Ashtabula, indicating that Lake Ashtabula is a sink. There is additional information that suggests higher sulfate concentrations under certain conditions might inhibit mercury methylation.

Certainly, there are many unknowns and uncertainties about the behavior of mercury in aquatic environments. The data strongly suggests there are significantly greater sources of mercury to the Red River than a Devils Lake outlet would contribute. We are not aware of reliable predictive protocols for accurate determination of inorganic mercury conversion to methyl

mercury.

Comment: The North Dakota Department of Health may not issue an NDPDES permit because the project would violate the state's water policy, and it would violate the Department of Health's Administrative Rules.

Response: If issued, the permit will be in compliance with the Department of Health Administrative Rules and be consistent with state water policy.

Comment: The significant, unique and high-quality characteristics of the Sheyenne River clearly constitute an outstanding state resource water which, under North Dakota Administrative Code, shall be maintained and protected.

Response: The Sheyenne River is not a designated outstanding state resource water as defined in Appendix IV procedures for Category 3 Waters of the North Dakota Water Quality Standards. This section delineates the specific process which must be followed for a water body to be designated as outstanding.

Comment: If the permit is approved, what will happen to reproduction of mussels?

Response: Water quality in the Sheyenne River will meet water quality standards for acute and chronic aquatic life values. Resource agencies responsible for managing mussels did not identify negative impacts to mussels resulting from the discharge.

Comment: The project will not accommodate important social or economic development in the area of Devils Lake.

Response: *North Dakota State Water Quality Standards* require the Health Department to determine if the change in water quality is necessary to accommodate important economic or social development.

The applicant is required to demonstrate the social and economic importance of the proposed activity. In making a preliminary determination on socio-economic importance, the division will rely primarily on the demonstration made by the applicant. The factors considered include, but are not limited to, employment (increasing, maintaining or avoiding a reduction in employment); improved community tax base; housing; correction of an environmental or public health problem, etc.

The applicant has submitted the following information related to the social and economic importance of the proposed activity: Rising lake levels have placed many homes, roads, and

other structures in harms way. Since 1993, an estimated \$400 million has been spent to keep ahead of the rising lake level. If Devils Lake continues to rise to its natural spill elevation of 1459, it is estimated that an additional \$900 million will be needed to raise roads and protect communities. This number does not include protecting communities downstream of Devils Lake.

Under a wet scenario, if a state 100-cfs outlet project were to operate for 10 years, it will remove approximately 171,000 acre-feet of water.

Additional supporting information regarding the socio-economic importance of this project can be found in the U.S. Army Corps of Engineers *Integrated Planning Report and Environmental Impact Statement for Devils Lake* (April 2003).

It is assumed that by removing water from Devils Lake, some of the socio-economic impacts incurred since the lake first started rising in 1993 (e.g., transportation, housing, infrastructure, recreation, business, mental health, public health, public safety) could be delayed, reduced or eliminated.

Comment: Channel A should be closed, which would force water into the chain of lakes, increasing evaporation and absorption in the soil.

Response: Closing Channel A and re-routing the water to its historical pattern would likely result in reduced flows to Devils Lake and an improvement in water quality.

Comment: The increased flow in the Sheyenne and Red Rivers resulting from the Devils Lake Outlet will increase erosion.

Response: The state's outlet project will increase the flow in the Sheyenne and Red Rivers between 5 to 100 cfs, depending on the water quality in the Sheyenne River and Devils Lake and the base flow in the Sheyenne River. The project will not be operated when the base flow in the Sheyenne River is above the 600-cfs channel capacity. This will limit the amount of water that will flow out of the banks, when the outlet project is in operation upstream of Lake Ashtabula. Since flood flows in the Sheyenne frequently exceed the channel capacity of 600 cfs without the project, the amount of erosion caused by the increased flow from the state's outlet project will be considerably less than what already occurs naturally along the Sheyenne River. Flows downstream of Lake Ashtabula will be controlled by the operation of Baldhill Dam. Impacts due to erosion more than likely will need to be evaluated based upon the operation of the dam.

Comment: How will the Devils Lake Outlet affect irrigation?

Response: There are two primary water quality factors to consider in determining if water is

suitable for irrigation. The two factors are the Total Dissolved Solids (TDS) and Sodium Absorption Ratio (SAR) of the irrigation water.

As part of its Environmental Impact Statement (EIS) for the Corps of Engineers outlet project, Peterson Environmental Consulting Inc. conducted a study on the potential impacts that a Devils Lake outlet project could have on irrigation along the Sheyenne and Red Rivers. Their analysis concluded that the predicted TDS and SAR values for a 300-cfs constrained outlet were quite similar and were uniformly below 1000 mg/L TDS and an SAR of 4. The analysis examined the potential impacts from a 300-cfs outlet project because that is the alternative the Corps of Engineers determined to be its preferred alternative. In this analysis, the Corps outlet project was constrained to 450 mg/L sulfate at the insertion point; however, the state outlet would be constrained to 300 mg/L sulfate at the insertion point. This would further reduce the impacts to irrigation, as sulfate is a major component of the TDS.

The report also concluded that the irrigation-induced salinity hazards for the 300-cfs outlet alternative were found to be low for the entire project, which includes both the Sheyenne and Red Rivers. Under the outlet scenario, more than 95 percent of the 12,903 irrigated acres fell in the none/slight category for salinity hazards, and all of the irrigated acreage fell in the none/slight category for sodicity hazards.

These results seem to indicate that, on an entire project basis, TDS and SAR values for irrigation water with a 300-cfs outlet (constrained to 450 mg/L sulfate at the insertion point) are higher than baseline conditions but low enough in most areas to permit ongoing irrigation under appropriate management of salinity or sodicity. The values for TDS and SAR would be even lower for the state outlet that is constrained to 300 mg/L sulfate at the insertion point.

Comment: The Statement of Basis and Permit describes the outlet as a temporary intermittent discharge of surface water diverted from the West Bay of Devils Lake to the Sheyenne River. This statement is misleading and confusing.

Response: The Department of Health chose to identify the source of the discharge as West Bay as it would be the ultimate source of water to be discharged. At the elevations the outlet pump would be operated, the residence time in Round Lake would be short, and Devils and Round Lakes would be connected. We believe water quality trend information for West Bay is more complete and provides a better indication of quality expected from the proposed discharge.

The words “temporary intermittent discharge” are used in the description of discharge point 001. Since the Devils Lake discharge does not meet the federal definition of a continuous discharge, we consider it to be intermittent. The department also views this discharge as temporary, based on the extended periods of time during the year when no discharge will occur, in addition to times of no discharge if the lake falls below the 1445-foot elevation msl.

Comment: The reference to the proposed discharge outlet as a “temporary outlet” is misleading because all physical infrastructure will be of a permanent nature.

Response: See response to previous comment. The Corps and Water Commission reports on the proposed project identify the outlet as “temporary” which are used to describe the discharge point.

Comment: The State Water Commission (permittee) should not be allowed to do self-monitoring.

Response: All dischargers under the NDPDES Permit Program are obligated to provide routine self-monitoring of their discharges. This is a federal and state requirement of all NPDES permits. Permits must specify the required monitoring type, intervals and frequency sufficient to yield data representative of the activity. The requirement that dischargers provide monitoring is not unique to North Dakota and is part of the national program rules. The federal rules, 40 CFR 122.44(i) require permittees to monitor pollutant mass (or other applicable units of measure) and effluent volume, provide other measurements (as appropriate) and utilize the test methods established at 40 CFR 136. The federal regulations at 40 CFR 122.48 state that all permits must specify requirements concerning the proper use, maintenance and installation of monitoring equipment or methods. The state rules (NDAC 33-16-01) apply the same requirements.

If the permittee does not fulfill the specified sampling requirements or falsifies sample records or reports, it is a violation of the Clean Water Act and the state’s water pollution law NDCC 61-28, and the permittee will be subject to monetary fines and/or jail time.

All permittees are subject to inspection by the department. Such inspections may include review of records documenting: (1) sampling procedures, (2) dates of sampling, (3) chain of custody records for sample transport to laboratories and (4) maintenance and calibration records for equipment. The department also conducts sampling to verify compliance with discharge limits.

Comment: In the press release and public notice for the permit, the specific language “hearings to solicit comments prior to finalizing permit conditions” is inappropriate and suggests issuance of the permit is a certainty.

Response: The language referenced above is standard language the department uses in public notices and press releases. We apologize for giving the impression that the permit was a “foregone conclusion.” Prior to issuing a permit under the NDPDES program, the department must consider all comments on the draft permit, then make adjustments or provide explanation for issues raised. While a permit can normally be adjusted to resolve such issues, we are aware that in some instances a permit may need to be redrafted or denied. The intent of the notice was to notify individuals potentially affected by the discharge and provide for them an opportunity to

voice their concerns and provide additional information. In this particular instance when the comments on the permit have been compiled and addressed, they, along with related information, will be submitted to the State Health Officer for the final decision on the NPDES permit.

Comment: Several comments relate to the stated purpose of the project which would not be achieved if the permit was issued.

Response: The Statement of Basis does mention that the purpose of the project is to remove water from Devils Lake, reduce damages around the lake, reduce the risk of a natural overflow and maintain North Dakota water quality standards. This was part of the general background information in the permit application submitted to the department. The stated purpose of the project is not a permit condition, nor is it required as part of the permitting process. It has no direct relevance on whether a permit should be denied or issued.

Comment: Several comments relate to the 300-cfs flow (Corps outlet proposal) that the state project will be designed to handle and what procedure the Health Department intends to follow to deal with a request to increase discharge flow. Several individuals also requested that any modification to increase discharge flow rate or effluent limitation be subject to public notice and comment requirements.

Response: The Devils Lake outlet permit is written for a 100-cfs discharge into the Sheyenne River. Prior to an increase of the discharge to 200 or 300 cfs, the Department would have to receive a formal request for modification of the NDPDES permit. This would be a major permit modification which would require formal public comment on the proposed changes. If requested, a public hearing would be held to solicit additional comments.

In Part I.A.10, the permit specifies that the applicant must notify the department if it desires to increase the outlet capacity. The permit also specifies that an increase to any limitation defined in the permit is considered a major modification requiring a public notice and comment period. Any request to increase the maximum flow rate of the discharge beyond 100 cfs would thus be considered a major permit modification.

The intent of Part I.A.10 of the permit appears to have been obscured by the condition preceding it. Part I.A.9 was intended to inform the applicant that limitations and monitoring requirements are subject to adjustment by the department to evaluate or protect water quality. Such a request would be effective upon notice by the department and not be delayed pending the completion of a public comment period. The condition could be more correctly stated as: “The department may make certain adjustments to effluent limitations and monitoring requirements, *not qualifying as major modifications under 40 CFR 122.62*, without providing a public notice and comment period.”

Comment: It was requested that representatives from Minnesota and Manitoba be added to the committee overseeing outlet operation (referred to in the Process Control Monitoring section of the permit).

Response: The outlet management committee referred to in the permit fact sheet is an existing body and would not be created or administered by the permit. The committee was noted in the process control monitoring requirements as an existing resource for evaluating operation of the proposed discharge. This request will be forwarded to the committee for its consideration.

Comment: The permit fails to contain sufficient and clear documentation for measuring discharges to the Sheyenne River.

Response: The permit specifies that the flow rate of the discharge shall be monitored and recorded on a continuous basis. Continuous recording gauges are required at several locations on the Sheyenne. See response to comment regarding self-monitoring.

Comment: The wording of subsections under “Compliance Responsibilities” (part II. A of the permit) are so vague as to be meaningless. Specific references were made regarding Duty to Provide Information (Part II.A.4), Noncompliance Notification (Part II.A.7) and Duty to Mitigate (Part II.A.10).

Response: The conditions listed in part II of the permit are the standard conditions that apply to all NPDES permits as specified in 40 CFR 122.41. The preestablished conditions must be incorporated into all discharge permits, either expressly or by reference. The conditions outline the legal, administrative and procedural requirements applicable to all permits.

Comment: The outlet will create a direct hydraulic linkage between Devils Lake and the Sheyenne River, thereby potentially introducing non-native biota to the Red River and Canada.

Response: There is no provision or requirement in the NDPDES rules to include non-native species as a controlled parameter when permitting discharges.

Devils Lake is part of the Red River basin. There have been several papers published on known surface water connections that have occurred in the past several thousand years. There is also anecdotal and observed evidence for interbasin water flow between two areas in the Devils Lake basin: Rock Lake and Billings Lake, and the Pembina River basin which drains into the Red River and Lake Winnipeg. Additionally, there are numerous other means by which aquatic organisms could be transferred outside the Devils Lake basin including, but not limited to: the bait bucket effect, physically attached to water craft and their trailers, meteorological events, fish stocking, and in or on other organisms capable of traveling across basin boundaries. Aquatic

organisms in the Devils Lake basin already have numerous pathways to the Red River basin and Lake Winnipeg available to them.

To date no information has been presented to the Department regarding the presence of an aquatic organism of concern in the Devils Lake basin that does not currently exist in the Red River or Lake Winnipeg.

Comment: Several comments relate to the draft NDPDES permit not addressing the potential biota transfer from Devils Lake to the Sheyenne and Red Rivers. In addition, these comments reference the Clean Water Act citizen suit alleging discharges of pollutants in violation of the Act (U.S. Public Interest Research Group v. Atlantic Salmon of Maine, LLC).

Response: (See biota transfer comments.) The federal court case mentioned above did conclude “fish that do not naturally occur in a water, ... fall within the term ‘biological material’ and are pollutants under the Clean Water Act. Other pollutants mentioned in the court case were copper from the fish nets being released into the environment, excess feed negatively affecting the environment, viruses and parasites that were associated with the raised salmon, antibiotics and fish wastes and the escaped fish themselves. In the summary judgement, the court required that Atlantic Salmon of Maine obtain an MEPDES permit from the state of Maine or an NPDES from the EPA in order to lawfully discharge pollutants into Machias Bay or Pleasant Bay. It is the Department’s understanding that the court case did not eliminate the discharge or operation rather it required the operation to obtain a NPDES discharge permit. Although biological materials are mentioned in the federal rules, EPA has not made a formal determination of what constitutes biological materials.

Section J (page 32) of the EPA draft ballast water report states this about the issue of invasive species as pollutants: “The NPDES program regulates discharges of pollutants. A pollutant is broadly defined in CWA Section 502(6) to include “dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. Several types of materials are expressly excluded from the definition, including sewage from vessels, discharges incidental to the normal operation of a vessel of the Armed Forces and certain materials related to oil or gas production. Different biological organisms, such as bacteria (e.g., fecal coliform), algae, dead fish, live fish, fish remains and plant materials have been considered pollutants under this definition by various courts. Although some ballast water ANS (aquatic nuisance species) may be pollutants, EPA has not determined whether all ANS meet this definition.” The report has not been finalized and can be found at http://www.epa.gov/owow/invasive_species/ballast_report/.

Biota Transfer: General areas of concern raised by respondents that are related to biota

transfer are listed below, followed by our response.

Concern: Increased connectivity between the Devils Lake basin and the Red River and Hudson Bay basins.

Response: There have been several papers published on known surface water connections that have occurred in the past several thousand years. There is also anecdotal and observed evidence for interbasin water flow between two areas in the Devils Lake basin, Rock Lake and Billings Lake, and the Pembina River basin, which eventually feeds into the Red River and Lake Winnipeg. Additionally, there are numerous other means by which aquatic organisms could be transferred outside the Devils Lake basin, including but not limited to; the bait bucket effect, physically attached to watercraft and their trailers, meteorological events, fish stocking, and in or on other organisms that are capable of traveling across basin boundaries. Aquatic organisms in the Devils Lake basin already have numerous pathways to the Red River basin and Lake Winnipeg available to them.

Concern: Increased risk to the fisheries of the Red River and Lake Winnipeg.

Response: There is a high degree of connectivity that already exists between the Devils Lake basin, and the previously mentioned watersheds, and the numerous anthropogenic connections that have been documented to exist between the Hudson Bay, Missouri River, Mississippi River, and Great Lakes basins, via numerous already completed water diversions in both the United States and Canada. Given that connectivity, it is highly unlikely that a Devils Lake outlet would increase the risk to the fisheries of the Red River or Lake Winnipeg.

Concern: The risk of transfer of striped bass to the Hudson Bay basin (*Morone saxatilis*.)

Response: Striped bass were stocked in Devils Lake in 1977. The last specimen, an adult, was caught in 1994. There is no hard scientific evidence that this species has been breeding in the lake, as the only individuals captured are adults leftover from the original stocking. Range maps for the continental United States, show that striped bass are already found in the Canadian provinces of Quebec, Nova Scotia, and New Brunswick. Given these facts, if striped bass could successfully propagate in the Hudson Bay basin, they would in all likelihood already be there.

Concern: Disease transfer from fish in the Devils Lake basin to the Red River and Lake Winnipeg.

Response: A recent study conducted by the United States Fish and Wildlife Service (Peters, 2002) found that fish sampled from Devils Lake were suffering from no pathogens.

Concern: Insufficient study of aquatic species composition of the Devils Lake basin.

Response: There have been a total of four studies or literature reviews (Devils Lake Working Group Report, 1997; Leitch and Tenamoc, 2001; Earth Tech, Inc., 2002; Peters, 2002) that have examined the potential for biota transfer associated with the movement of water from Devils Lake into the Red River drainage. Except for the striped bass, which were discussed earlier, all of these studies have found no differences between the aquatic organisms found in the Devils Lake basin and in the Red River basin.

Concern: Connection of Devils Lake emergency outlet with Missouri River inlet.

Response: Consideration of a potential Missouri River inlet into Devils Lake is beyond the scope of this permit.

Works Cited:

Earth Tech, Inc. 2002. Final Aquatic Impact Analysis Report. Prepared by Earth Tech, Inc., Ecological Specialists, Inc. (St. Peters, Missouri), Entrix (Atlanta, Georgia), Watershed Systems Group, Inc. (Logan, Utah), EA Engineering Science and Technology (Deerfield, Illinois), Short Elliot Hendrickson, Inc. (St. Paul, Minnesota). Prepared for: U.S. Army Corps of Engineers, St. Paul District. DACW37-00-D-0003 T.O. 0004 Project No. 46391 (ESI Project # 01-018). Minneapolis, Minnesota. 843pp.

Devils Lake Working Group Report For The Garrison Joint Technical Committee. 1997. Preliminary Assessment Of The Environmental Effects With International Implications Of A Transfer Of Water From Devils Lake To The Hudson Bay Drainage. Garrison Joint Technical Committee. 19pp and Appendix.

Leitch, J.A., and M.J. Tenamoc. 2001. Science and policy: Interbasin water transfer of aquatic biota. Institute for Regional Studies, North Dakota State University. Fargo, North Dakota. 145pp.

Peters, K.K. 2002. Survey of Specific Fish Pathogens in Free-ranging Fish from Devils Lake and the Sheyenne and Red Rivers in North Dakota. United States Fish and Wildlife Service Bozeman Fish Health Center, United States Fish and Wildlife Service Missouri River Fish and Wildlife Management Assistance Office, and United States Army Corps of Engineers. Bozeman, Montana. 13pp.