Writings From Readers

Two outlets better than one

Dear Sir:

The following letter was sent to Senator Byron Dorgan and the US Army Corps of Engineers.

Here are some factors for your consideration on Devils Lake options.

Armoring the Stump Lake Outlet is unacceptable. This would result in a "taking" of prime agricultural land as compared to a natural event wherein the "sand plug" on the Tolna Coulee would be eroded, allowing the lake to stabilize near current levels. The well-developed shoreline indicates long-term historical precedence at current levels.

The Boundary Waters Treaty should be declared obsolete as it relates to Devils Lake as it did not recognize the natural outlet, the high salinity levels nor a natural and inevitable overflow.

Therefore, to mitigate the natural overflow of Devils Lake, the sand plug should be removed and a control structure installed. This could minimize the flooding of 120,000 acres of farmland and destruction of highways, railroads, cities, levies, etc. Instead the control structure would prevent catastrophic drainage downstream with controlled release of water to minimize (but not eliminate) adverse effects due to water quantity and quality. For example, relatively small releases from the east will allow freshening at the west end for increased pumping there. A modification could utilize a canal along the west shore of Stump Lake to its inlet to obtain better quality water out of east Devils Lake.

In summary, the operation of the two outlets would allow flexibility for long-term improvement in water quality for increased use of both outlets over time. This would be a fraction of the cost of the other options, any of which may never need to be used if the wet cycle ends.

Also, Devils Lake could be used as a reservoir for water supply downstream.

Ardon Herman
Minnewaukan, ND 58351
Long-term lake study committee member

Published April 9, 2008; Grand Forks Herald (ND); by Kevin Bonham
Cooperstown addresses Devils Lake Basin issue

COOPERSTOWN, N.D. — A $5 million flood risk management study of the Devils Lake Basin likely will include a closer examination of potential water storage in the lake's upper basin.

That probability surfaced from a public meeting conducted by the U.S. Army Corps of Engineers Tuesday in Cooperstown.

It was one of three meetings held Monday and Tuesday to gather public comments about potential courses of action if the lake continues to rise. Other meetings were held in the city of Devils Lake and on the Spirit Lake Reservation.

The elevation of Devils Lake has risen about 25 feet in the past 15 years, hitting a peak of about 1,449.2 feet above sea level in 2006. In 2007, the elevations of Devils Lake and neighboring Stump Lake in Nelson County equalized. The combined lake now sits at an elevation of about 1,447 feet.

"What's real clear is the idea of looking at upper basin storage being part of the plan. We'll certainly consider that," said Kevin Bluhm, public outreach specialist for the Corps' St. Paul District.

The comment was a reaction to suggestions made during Tuesday's meeting that not enough has been done to hold water back from areas that drain into Devils Lake.

Much of the discussion in Cooperstown was generated by members of the People to Save the Sheyenne, a Valley City, N.D.-based group that opposed a $28 million Devils Lake outlet that drains water into the Sheyenne River. The outlet has been largely ineffective since it began operating in 2005.

The group contends that some 25,000 agricultural drains have emptied more than 250,000 acres of wetlands in the Upper Basin.

Upper basin storage

While engineers at the meeting disputed the amount of wetland drainage, they agreed that upper basin storage programs warrant further study.

Geologists project a 72 percent probability that Devils Lake will keep rising for the next 10 years and a 37 percent chance that it will continue to rise for another 30 years. They say the combined lake would overflow naturally into the Sheyenne River Basin at an elevation of about 1,459 feet.

Federal, state and local governments have spent more than $500 million in the past 15 years to repair and raise roads, move homes and make other improvements to protect people and property in the basin.

The Corps also estimates that it could cost another $500 million or more to protect the Devils Lake Basin from flooding over the next decade.

The Corps study initially was funded to calculate the potential need to raise levees protecting the city of Devils Lake, should the lake continue to rise. But it has been expanded to include a basin-wide examination, with primary attention on the city of Minnewaukan, Spirit Lake Nation and Nelson County.

The Corps is requesting public comments until April 30. By June, it plans to complete an initial project outline, which will address what is feasible, what is not feasible and what is environmentally acceptable, according to Bluhm.

Aired April 9, 2008; KFYR-5 (Bismarck ND NBC) Devils Lake Study Expanded

A U.S. Army Corps of Engineers study to determine the potential need of raising the dike that protects the city of Devils Lake has been expanded.

The $5 million study is now looking at potential flood risk management measures throughout the Devils Lake region, including more water storage in the upper part of the basin. The study also now includes the city of Minnewaukan, the Spirit Lake Nation Reservation and Nelson County.

Corps spokesman Kevin Bluhm says the agency is taking public comments until the end of April. The corps plans to complete an initial project outline by June. Bluhm says it will address what is feasible and environmentally acceptable.

Published April 10, 2008; WDAZ-8 (Grand Forks/Devils Lake ABC), KMOT-10 (Bismarck NBC), KXMD-11 (Williston CBS), KXMB-12 (Bismarck CBS), KXMC-13 (Minot CBS), Bismarck Tribune (ND), Dickenson Press (ND), Minot Daily News (ND), Jamestown Sun (ND); Associated Press Devils Lake study expanded

COOPERSTOWN (AP) - A U.S. Army Corps of Engineers study to determine the potential need of raising the dike that protects the city of Devils Lake has been expanded.

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Published April 18, 2008; Grand forks Herald (ND), Jamestown Sun (ND), Valley City Times Record (ND); by Richard Betting, Valley City Letter to the editor: Ditching Tolna Coulee not the fix for high Devils Lake water

In recent letters people have suggested ditching the Tolna Coulee as a way to prevent the high water problem on Devils Lake and as a way to prevent the coulee from washing out. That's a bad idea. Here's why. The U.S. Army Corps of Engineers has already said it would armor (reinforce) the Tolna Coulee if Devils Lake rises to the point of overflowing.

An overflow is highly unlikely, however. The lake is presently at about 1,447 feet mean sea level. That's 19 feet higher than in 1988, but it's 2 feet lower than two years ago. Devils Lake is just over half full. Overflow would require a rise of 12 more feet on the lake. As the lake rises, it will reach a point of equilibrium before it overflows, a point at which evaporation will equal inflows.

In addition, the lake's rise is not "natural." Flows from upper basin drained wetlands to Devils Lake add large amounts of water into the lake. Every year from 1993-1999, for example, 328,000 acre-feet of water flowed into the lake from the upper basin, enough to add 2 feet to the lake annually.

Third, there is no "sand plug" in the coulee, as some believe. North Dakota Geological Survey test bores in the Tolna Coulee indicate rocks, gravel and snail shells at 4 and 5 feet in depth. Thus, the coulee did not wash out during the last overflows. It probably won't next time. Nor has Jerusalem Coulee (between Devils Lake and Stump Lake) washed out yet.

The clincher against ditching the Tolna Coulee comes from the North Dakota Department of Health. Water quality tests show that Stump Lake water contains problematic levels of "total dissolved solids, sulfates, chlorides, copper, lead, arsenic, selenium, boron, ammonia and nutrients. ...

"Furthermore, designated beneficial uses of the Sheyenne River would not be maintained; these include municipal water supplies, aquatic life, irrigation, industrial water supplies and recreation (Letter to NDSWC, August 13, 1999)."

These factors may have influenced the city of Devils Lake to go to the Spiritwood Aquifer for its municipal supply, at a cost of at least $16 million.

The only rational, long-term way of dealing with the causes of higher water on Devils Lake is to prevent some of the water from getting there in the first place. Restoring drained wetlands in the upper basin of Devils Lake should become a priority. Of course, if the lake continues its decline, that can also be postponed.

Richard Betting
Valley City, N.D.

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April 20, 2008

Via Email: keven.w.bluhm@usace.army.mil
cc: bonnie.k.greenleaf@mvp02.usace.army.mil
jon.christensen.col@usace.army.mil

St. Paul District
U. S. Army Corps of Engineers
Sibley Square at Mears Park
190 5th Street East, Suite 401
ATTN: PM-E
St. Paul, Minnesota 55101-1638

Dear Sir:

The March 2008 *Devils Lake Study Newsletter* published by the St. Paul District of the U. S. Army Corps of Engineers and the North Dakota State Water Commission states that:

> ". . . Late 2007, the Corps received $5 million from the 'Emergency Supplemental Appropriations Act, 2007' to analyze the next course of action if the lake continues to rise.
>
> The funding was received for the development of a plan and design for levees in the City of Devils Lake. However, it is desirable to take a lake approach and provide updated information to surrounding communities that could be used in developing a plan of action should Devils Lake continue to rise. . .
>
> This newsletter will provide background on the flooding and information on possible alternatives. . ."

However, the only alternatives mentioned in the newsletter are (1) no further levee extensions constructed and selective infrastructure protection measures implemented for roadways, hardening of the natural outlet to prevent erosion, and some limited levee raises and extensions on an emergency basis, (2) levee construction, extensions or raises as needed to provide protection of the City of Devils Lake, and (3) relocation of structures and facilities.

The current levee, constructed at elevation 1460 feet, provides protection for the City of Devils Lake to a lake elevation of 1454 feet. The recently released U. S. Geological Survey Scientific

Investigations Report 2008-5011 by Aldo V. Vecchia on *Climate Simulation and Flood Risk Analysis for 2008-40 for Devils Lake, North Dakota* determined that:

> ". . . there is about a 1-percent chance of Devils Lake exceeding 1459.9 feet (0.9 foot above the natural spill elevation), a 5-percent chance of exceeding 1455.7 feet, and a 10-percent chance of exceeding 1453.8 feet sometime between 2008 and 2015. . . [and] there is also about a 50-percent chance the lake will not exceed 1450 feet (less than 1 foot above the historical record level of 1449.2 feet set in 2006) during 2008-40."

This means that there is only a 50 percent chance that the lake will rise above the elevations around which is has fluctuated since 1999.

Consequently, the most recent data from the U. S. Geological Survey demonstrate that:

- Because there is only a 1-percent chance of Devils Lake reaching elevation 1459.9 feet by 2015, there is no justification at this time for considering the alternative of hardening the natural outlet.

- Because there is only a 10-percent chance of Devils Lake exceeding elevation 1453.8 feet by 2015, there is no justification at this time for considering the alternative of levee construction/extension.

Because there is no rational justification at this time for wasting the U. S. taxpayers' money analyzing these alternatives, the Corps should focus its current Devils Lake study on developing the information necessary for making sound decisions regarding effective measures that could be implemented in the unlikely event that Devils Lake should resume rising within the next decade.

The attached copy of the statement I submitted to the Subcommittee on Energy and Water Development, U. S. Senate Committee on Appropriations, in conjunction with Subcommittee Chairman Senator Byron Dorgan's March 25, 2008, field hearing on flooding at Devils Lake provides an overview of the issues that should addressed in the Corps current study.

Because there is only a 50-percent chance that Devils Lake will exceed its 1999-2007 elevations within the next 32 years, and because the Corps' April 2003 *Final Devils Lake, North Dakota, Integrated Planning Report and Environmental Impact Statement* has already determined (p. 5-71) that continued infrastructure protection is the "most economically defensible approach to flood damage management" at Devils Lake, these are the only alternatives among those identified in the March 2008 *Devils lake Study Newsletter* that merit further investigation under the Emergency Supplemental Appropriations Act of 2007.

However, because the Governor of North Dakota and the North Dakota Congressional Delegation screened the alternatives considered by the Corps in its *Final Devils Lake, North Dakota, Integrated Planning Report and Environmental Impact Statement* (p. 14-1)—in blatant violation of the National Environmental Policy Act and Council on Environmental Quality Regulations, the Final EIS failed to address adequately and factually other more effective alternatives for dealing with the rise of Devils Lake, most notably restoration of a significant portion of the 358,000 acres of wetlands that have been drained in the Devils Lake Basin. Unlike the alternatives identified in the *Devils Lake Study Newsletter*, including continued infrastructure protection, restoration of wetlands in the Upper Devils Lake Basin could significantly reduce inflows to the lake and **prevent** future flood damages.

The attached *Comments of the National Wildlife Federation on the U. S. Army Corps of Engineers' February 2002 Draft Devils Lake, North Dakota, Integrated Planning Report and Environmental Impact Statement* document (1) the long history of rampant and unregulated wetland drainage in the Devils Lake Basin (pages 26-29), (2) the acreage of drained wetlands in the Devils Lake Basin (pages 29-30), (3) the contribution of wetland drainage in the Devils Lake Basin to the rise of Devils Lake (pages 30-32), (4) the potential for wetland restoration in the Upper Devils Lake Basin to reduce inflows to Devils Lake (pages 32-36), and (5) continued wetland drainage in the Devils Lake Basin at the same time the State of North Dakota is asking that more taxpayer dollars be spent to deal with flooding at the lake (pages 36-38). It should be noted that the Corps did not address any of these issues substantively in its April 2003 *Final Devils Lake, North Dakota, Integrated Planning Report and Environmental Impact Statement* (See *Comments of the National Wildlife Federation on the U. S. Army Corps of Engineers' April 2003 Final Devils Lake, North Dakota, Integrated Planning Report and Environmental Impact Statement*, pages 33-40.).

It is time for the Corps of Engineers to recognize that its constituency is not the Governor of North Dakota or the North Dakota Congressional Delegation, but that its responsibility is to the U. S. taxpayers who pay the Corps' salaries and fund its programs, and to the citizens of the Devils Lake area who should be able to rely on the Corps to provide them with objective, complete, factual and honest information regarding all of the factors contributing to the rise of the lake and all of the alternatives for dealing with it. It is time for the Corps to begin serving the public interest instead of the private agendas of politicians and water development proponents.

Because the Corps already has addressed continued infrastructure protection in its April 2003 *Final Devils Lake, North Dakota, Integrated Planning Report and Environmental Impact Statement*, the bulk of the $5 million it received from the Emergency Supplemental Appropriations Act of 2007 should be devoted to an objective, factual, truthful, and comprehensive **scientific** study of wetland drainage in the Devils Lake Basin, its contribution to the recent rise of Devils Lake, the potential for wetland restoration to reduce and prevent flood damages at Devils Lake, and specific recommendations for implementing and enforcing substantive wetland restoration in the Devils Lake Basin.

Sincerely,

Gary L. Pearson, D.V.M.

OUTSIDE WITNESS TESTIMONY OF GARY L. PEARSON[1] SUBMITTED IN CONJUNCTON WITH THE UNITED STATES SENATE COMMITTEE ON APPROPRIATIONS SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT'S MARCH 25, 2008, FIELD HEARING ON FLOODING AT DEVILS LAKE, NORTH DAKOTA

The following information is submitted to address issues relating to flooding at Devils Lake, North Dakota, that either were not addressed or were incompletely or incorrectly addressed by the invited witnesses at Subcommittee Chairman Senator Byron Dorgan's March 25, 2008, field hearing at Devils Lake.

The Rise of Devils Lake

Two witnesses, Aldo Vecchia of the U. S. Geological Survey, and North Dakota State Engineer Dale Frink, testified at the March 25, 2008, field hearing that Devils Lake has risen 25 feet since 1992, one, Devils Lake Outlet Downstream Acceptance Coordinator Joe Belford, testified that the lake has risen over 25 feet since 1993, and one, Devils Lake Basin Joint Water Resource Board Manager Michael Connor testified that the lake has risen 26 feet since 1993. Mr. Frink testified that Devils Lake currently is at an elevation of approximately 1447 feet.

None of the witnesses mentioned that Devils Lake had been at elevation 1428.8 feet in 1987, before a severe four-year drought (during which the State of North Dakota aggressively advocated for an inlet to deliver Missouri River water to raise the lake) had lowered the level to elevation 1422.74 feet on April 1, 1993. Consequently, none of the witnesses acknowledged in their testimony that the lake actually is only 18.2 feet higher today than it was in 1987.

It should also be noted that none of the witnesses mentioned that the target elevation for Devils Lake where operation of the North Dakota State Water Commission's Devils Lake outlet would be suspended is 1445 feet, which is only two feet below the lake's current elevation. Consequently, none of the witnesses explained why a lake elevation of 1447 feet represents an unacceptable threat when the State's target elevation for the lake is only two feet lower.

Damages Resulting from Flooding at Devils Lake

State Engineer Dale Frink testified that:

> "The City of Churchs Ferry has been bought out by the Federal Emergency Management Agency (FEMA), hundreds of other homes have been destroyed, roads and dikes have been raised, re-routed and, in some cases, abandoned, and utilities have been rerouted."

and Joe Belford testified that:

> "Since 1993, the lake's ever-expanding waters have, in fits and starts, swallowed up homes, roads, private and public land, and utilities. Losing one's home is a tragedy, and sadly, hundreds of homes have been lost, relocated or burned to prevent hazards to the lake."

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Mr. Belford neglected to tell the Subcommittee that his own business, Joe's Corner Market, is built on the bed of Devils Lake below the site where the side-wheel steamer, the Minne H., docked in the mid-1800s. Consequently, neither he nor Mr. Frink told the Subcommittee that much of the 'flooding problem' at Devils Lake is man-made and the result of the imprudent and unregulated encroachment of development on the lake bed.

Neither Mr. Frink nor Mr. Belford told the Subcommittee that, according to the U. S. Army Corps of Engineers, most of the 400 homes affected by the rising level of Devils Lake were not lost, abandoned or burned but were relocated—largely at public expense. For example, by the fall of 1997, the National Flood Insurance Program had paid over $14 million in claims on some 300 homes around Devils Lake that had been relocated and on which the owners had paid insurance premiums totaling only $900,000—a $13.1 million bailout by U. S. taxpayers. In fact, some homeowners filed claims and received payments for moving their homes or businesses twice, because they had not moved them far enough from the lake the first time.

In the spring of 2000, the Federal Emergency Management Agency spent $3.5 million to buy out the town of Churchs Ferry, a small town of 113 people and 43 homes at the northwest side of Devils Lake—equivalent to $31,000 per person. FEMA reportedly paid approximately $45,000 apiece for three 20-year-old mobile homes, plus relocation incentives up to $22,500 and averaging $14,466. One Churchs Ferry resident reportedly exulted:

> "I'm getting into a gorgeous house. . . a step up. There's a lot of excitement . . . I've always dreamed of having a house like this. The (buyout) price we got for our house was great. . . wonderful and that's all I can say about that. But we wouldn't have been able to do this without the buyouts."

Eight years later Churchs Ferry still has not been flooded and people continue to live in the town.

It is not surprising, therefore, that when local officials were seeking $70,000 in Community Development Block Grants and economic development funds in 2000, they were hard pressed to show that the rise of the lake had adversely impacted the area. As Devils Lake Economic Director Jim Dahlen explained:

> "The challenge we have is statistically the (flooding) impact doesn't show up real well in areas of taxable sales and services. Our unemployment rate is very low, well below the national average. And the average wage continues to rise. It's a hard thing to show what impact the flooding's had."

<u>Continuation of the Wet Cycle</u>

Both Mr. Vecchia and Mr. Frink alluded in their testimony to the Devils Lake area being in a wet cycle that began in 1993, and expressed concern about the wet cycle continuing. However, National Weather Service data show that the "wet cycle" in the Devils Lake Basin ended in 2001. In fact, on the day of the March 25, 2008, Subcommittee hearing in Devils Lake, an Associated Press story ran in North Dakota quoting a National Weather Service official as saying:

> "The whole state is still in drought. The western third is under severe drought, the central is moderate drought, and the eastern half is abnormally dry, or the wettest of the dry."

This is reflected in the elevations of Devils Lake, which rose to elevation 1447 feet in 1999 and have fluctuated between 1447 feet and 1449 feet since then. Mr. Belford testified that Devils Lake overflows to Stump Lake at elevation 1447 feet, and that Stump Lake has a volume of 494,000 acre-feet and:

> "Now that Stump Lake is at the same elevation as Devils Lake, there is nothing to prevent the lakes from rising together in the future."

However, according to the Corps of Engineers, inflows to Devils Lake averaged 317,000 acre-feet per year from 1993 to 2000. Consequently, the fact that it has taken nine years since Devils Lake first reached elevation 1447 feet for the overflows to raise Stump Lake to the same elevation simply provides further confirmation that the "wet cycle" had ended by 2001. Moreover, should Devils Lake/Stump Lake continue to rise, increased evaporation (which averages 2.5 feet annually at Devils Lake) from the expanding surface area will soon off-set any increases in current precipitation levels.

Mr. Frink testified that the U. S. Geological Survey report prepared by Mr. Vecchia states that there is a 72 percent chance that the "wet cycle" will last for another 10 years. However, Mr. Vecchia's report also states that:

> "The generated traces were used to compute cumulative flood elevations for 2008-40 by computing the elevations that have a fixed probability of being exceeded sometime between now and a given future year. For example, there is about a 1-percent chance of Devils Lake exceeding 1,459.9 feet (0.9 foot above the natural spill elevation), a 5-percent chance of exceeding 1,455.7 feet, and a 10-percent chance of exceeding 1,453.8 feet sometime between 2008 and 2015. Although the risk of much higher lake levels in future years is relatively high, there also is about a 50-percent chance the lake will not exceed 1,450 feet (less than 1foot above the historical record level of 1,449.2 feet set in 2006) anytime during 2008-40."

Consequently, according to Mr. Vecchia's report, there is a 50 percent chance that the lake will not rise above 1450 feet over the next 32 years, a 90 percent chance that it will not rise above 1453.8 feet, and a 95 percent chance it will not rise above 1,455.7 feet. As he points out, elevation 1450 feet would be less than a foot higher than two years ago, and elevation 1453.8 feet would be only four feet higher.

Measures to Deal With Flooding at Devils Lake

Mr. Frink testified that "over $500 million have been spent fighting the Devils Lake flood." What he did not tell the Subcommittee is that most of that (nearly $400 million by 2004) was Federal funds and that it was an economic bonanza for the Devils Lake area.

Mr. Frink testified that:

> "In-basin water management efforts include the Extended Storage Acreage Program (ESAP), which pays landowners to store water in the basin; the irrigation test project, which uses water in the basin to irrigate crops and increase the evaporation of water in the basin reducing the inflow to Devils Lake; and, storing additional water in Sweetwater and Morrison Lakes. The state's emergency outlet has been completed and will discharge the maximum amount of water allowed by the permits governing its operation."

What Mr. Frink did not tell the Subcommittee is:

- From 1996 to 1999 when inflows to Devils Lake were averaging 317,000 acre-feet per year, the North Dakota State Water Commission's Available Storage Acreage Program (ASAP) stored an average of only 17,345 acre-feet of water annually. By 2005, the revised ESAP was storing an average of only 800 acre-feet per year, and the State Water Commission is ending the program this year.

- Mr. Connor acknowledged in his testimony that the 1000-acre irrigation test project is being financed primarily with Federal taxpayer dollars, and that additional Federal funding will be necessary to pay for the proposed $4,350,000 expansion to a 4000-acre Pilot Project. He said that eight inches of water were applied in 2006 and three inches in 2007, but he neglected to mention that no irrigation water was applied in 2005 because there was too much rain—a common occurrence in years when the lake was rising. If the entire 4000-acre Pilot Project were able to apply eight inches of water, it would utilize a total of 2,668 acre-feet water per year. That would

be equivalent to a 0.019 foot reduction in the level of the 140,000-acre Devils Lake—less than a quarter of an inch. If the Pilot Project were able to apply only three inches of water, it would reduce the level of the lake by 0.086 inch.

- Since operation began in 2005, the State Water Commission's $28 million Devils Lake outlet (with annual operation and maintenance costs of over $250,000) has removed a total of 336.6 acre-feet of water from Devils Lake. This is equivalent to a reduction in the level of the lake of 0.0024 foot or 0.29 inch—less than a tenth of an inch a year. Mr. Frink also neglected to tell the Subcommittee that documents from the Corps of Engineers prove that he knew before the outlet was built that it would be worthless.

Wetland Drainage in the Devils Lake Basin

The 1911-1912 Final Biennial Report of the North Dakota State Engineer pointed out that:

> "The drainage area of Devils Lake is nearly two thousand square miles [subsequently determined to be 3,814 square miles], but the land lies so nearly level, and there are so many marshes, meadows, small ponds and lakes which arrest the flow of water and from which it evaporates that it is not likely that the run-off from more than seven hundred square miles of the total area ever reaches the lake."

Data from the State of North Dakota show that 358,000 acres of the original 569,000 acres of wetlands in the Devils Lake Basin had been drained by 1998. A 1983 report co-authored by now-North Dakota State Engineer Dale Frink determined that natural wetlands in the Devils Lake Basin hold an average of 11.8 inches of water in a 10-year run-off, 15.7 inches in a 50-year run-off, and 18.5 inches in a 100-year runoff. Because wetlands lose water by evaporation (which averages 30 inches per year in the Devils Lake Basin), evapo-transpiration and seepage, much of that storage capacity is renewed and available every year. Consequently, it is clear that much of the average 317,000 acre-feet of inflows to Devils Lake from 1993 to 2000 was the direct result of wetland drainage in the Devils Lake Basin.

Despite the fact that a 1979 U. S. General Accounting Office report to the Congress cited the Devils Lake Basin as a specific example where wetland drainage resulted in severe flooding in lower portions of the watershed, not a single one of the invited witnesses at the March 25, 2008, field hearing even mentioned the rampant and unregulated wetland drainage that has occurred for decades—and continues to occur—in the Devils Lake Basin. Nor did any of them discuss how much past and future flooding and flood damages could have been prevented if some of the $500 million of mostly U. S taxpayer dollars had been used to restore drained wetlands in the Devils Lake Basin.

The argument that wetland restoration would adversely affect the agricultural economy of the area is specious because many of those drained wetland basins cannot be farmed in wet years anyway. Besides, any adverse impact of wetland restoration on the agricultural economy has to be weighed against the adverse impacts of wetland drainage on other components of the economy, including U. S. taxpayers.

Conclusion

The Subcommittee on Energy and Water Development should step forward and fulfill its responsibilities to the Congress and to the public by exposing the fallacies upon which the alleged 'flooding problem' at Devils Lake is based, and it should then take decisive steps to end this 15-year raid on the Federal Treasury that has been carried out under the guise of disaster relief at Devils Lake.

COMMENTS OF

THE NATIONAL WILDLIFE FEDERATION

ON

THE U. S. ARMY CORPS OF ENGINEERS'

FEBRUARY 2002
DRAFT DEVILS LAKE, NORTH DAKOTA, INTEGRATED PLANNING REPORT AND ENVIRONMENTAL IMPACT STATEMENT

Prepared by

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May 6, 2002

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Introduction

Devils Lake in northeastern North Dakota is located in a 3,814 square-mile closed sub-basin of the Red River of the North Basin, which is part of the Hudson Bay Drainage Basin. The Sheyenne River passes eastward near the southern boundary of the basin before looping 400 miles south, east and then north again to join the Red River of the North at Fargo, North Dakota. The Red River of the North then flows north into Canada where it empties into Lake Winnipeg at Winnipeg, Manitoba.

The geologic record shows that, since Devils Lake was formed 10,000 years ago by the Wisconsin Glacier, its level has fluctuated widely over a range of some 65 feet, from dry at 1394 feet above mean sea level (msl) to overflowing to the Sheyenne River at 1459 feet. At elevation 1446.6 feet, Devils Lake overflows to the east through the Jerusalem Spillway to West Stump Lake and East Stump Lake before the combined lakes then rise to overflow from West Stump Lake to the Sheyenne River through the Tolna Coulee. At its overflow elevation of 1459 feet, Devils Lake has a surface area of approximately 300,000 acres.

The lake last was at its current elevation of 1447 feet at the time white settlers arrived in the area in the early 1800s. The lake supported a thriving commercial and sport northern pike fishery and a small side-wheel steamer, the Minnie H, operated between the town of Devils Lake and Churchs Ferry at the northwestern end of the lake. The ferry docked near a large rock that remains near current downtown Devils Lake. The lake had declined to elevation 1438 feet by the time its level first was officially recorded in 1867, and by 1889 the northern pike fishery disappeared when the lake dropped to 1424 feet. The lake continued to decline to its modern day low of 1401 feet in 1940, after which it began an erratic rise to elevation 1423 feet by 1992. However, by 1975 Devils Lake had risen to 1425 feet, and developments which had been encroaching on the bed of the lake as it had receded already were being threatened by the rising water. By 1983, the State was petitioning the U. S. Army Corps of Engineers (Corps) to construct an outlet from Devils Lake to the Sheyenne River.

The severe drought of 1988 to 1992 was followed by seven years of unusually high levels of precipitation that resulted in the lake rising from 1423 feet in 1992 to 1448 feet in 2001. The lake currently is at 1447 feet and is expected to drop another two feet this year. However, the dramatic rise of the lake starting in 1993 generated renewed pressure for the construction of an outlet to the Sheyenne River, and in 1996 the Corps released an "Emergency Outlet Plan, Devils Lake, North Dakota" that examined two outlet routes from West Bay of Devils Lake to the Sheyenne River (U. S. Army Corps of Engineers, 1996), and the Emergency Supplemental Appropriations Act of 1997 (P. L. 105-18) appropriated $5,000,000 and directed the Corps to use the funds to:

> "…initiate and complete preconstruction engineering and design and the associated Environmental Impact Statement for an emergency outlet from Devils Lake, North Dakota, to the Sheyenne River." (U. S. Army Corps of Engineers and North Dakota State Water Commission, 2001)

The Corps received an additional $6 million for preconstruction engineering and design of the outlet and the associated environmental impact statement in Fiscal Year 2000 ($2 million) and 2001 ($4 million) supplemental appropriations (U. S. Army Corps of Engineers and North Dakota State Water Commission, 2001).

A notice of availability of the February 2002 *Draft Devils Lake, North Dakota, Integrated Planning Report and Environmental Impact Statement* (DEIS) was published in the March 8, 2002, *Federal Register*. The following comments are submitted in response to that announcement for inclusion in the official record of public comments on the *Draft Devils Lake, North Dakota, Integrated Planning Report and Environmental Impact Statement.*

Flawed Scoping Process

In their March 1998 joint "Devils Lake Emergency Outlet Newsletter", Issue #1, the Corps and the North Dakota State Water Commission (NDSWC) announced a series of "Public Scoping Meetings" where members of the public would have opportunities to (1) learn about scoping issues which already had been identified by local, State and Federal regulatory agencies and public officials, (2) identify issues which they felt were important, (3) help to prioritize the scoping issues that had been identified, and (4) submit comments on the proposed outlet from Devils Lake to the Sheyenne River (U. S. Army Corps of Engineers and North Dakota State Water Commission, 1998). However, by already having obtained lists of scoping issues from local, State and Federal officials before the public scoping process was announced and conducted, and by already having proposed a variety of outlet alternatives in six reports dating back over a period of 18 years before the scoping process was initiated, the Corps violated the guidelines for scoping of environmental documents prepared pursuant to the National Environmental Policy Act (NEPA) (Pearson, 1998). In addition, the scoping process utilized by the Corps in 1998 was designed to discourage and frustrate, rather than encourage and facilitate, public participation and involvement (Pearson, 1998).

In an attempt to bestow economic feasibility on the proposed outlet from Devils Lake and under pressure from the North Dakota congressional delegation, the purpose of an outlet was expanded in 2001 from reducing the damages from flooding at Devils Lake to include reducing the already low potential for a natural overflow to the Sheyenne River (U. S. Army Corps of Engineers and North Dakota State Water Commission, 2001).[1] Therefore, the Corps and the NDWSC announced in their March 2001 "Devils Lake Study Newsletter" that "new directions" had been set for the study and that a series of "supplemental public scoping meetings" would be held to (1) update the public on the current status of the study, (2) seek comments regarding the alternatives that the Corps would be carrying into the next phase of the study, and (3) "identify any new issues associated with those alternatives." However, because, the public was deprived of meaningful opportunities for input on the issues and alternatives that had been identified by local, State and Federal government officials and presented in the initial 1998 scoping meetings, the restriction in these supplemental scoping meetings three years later to comments on "new issues regarding alternatives that the Corps would be carrying forward" (U. S. Army Corps of Engineers and North Dakota State Water Commission, 2001) simply perpetuated the systematic denial of meaningful participation by the public in the scoping process.

[1] Wiche et al. (2000) had estimated the year before that the approximately 2 percent chance of the lake overflowing without the proposed 300 cubic feet per second (cfs) outlet would be reduced to less than 1 percent with the outlet. Examination of the data presented shows that, while there was a 1.82 percent chance that the lake would reach the overflow elevation of 1459 feet mean sea level (msl) without the outlet, this consisted of a 1.32 percent chance that the lake would peak between 1459.0 and 1460.8 feet where peak flows would not be substantially greater than from a 300 cfs outlet, and only a 0.5 percent chance that it would exceed 1460.8 feet where the peak flows would be substantially greater than from the outlet. The outlet would reduce the 1.32 percent chance of the lake peaking between 1459.0 and 1460.8 feet by 0.98 percent, and it would reduce the peak discharge if the lake peaked above 1460.8 feet from 2,100 cfs to 1,100 cfs, but it would not significantly reduce the 0.5 percent chance of the lake exceeding 1460.8 feet.

As one example of failure of the Corps' scoping process to incorporate public comments in a meaningful and substantive way, numerous comments were submitted by the public raising the issue of the contribution of wetland drainage in the Devils Lake Basin to the recent rise in the lake (See, e.g., Pearson, 2001), and the Corps even acknowledges in its Environmental Justice Analysis that:

> "Findings from this study revealed a noticeable lack of definitive information available from agency sources on a number of issues, such as… impacts to Devils Lake flooding of upper basin drainage." (DEIS Appendix C, p. C-102)

However, the DEIS does not include upper basin drainage among the areas of controversy or unresolved issues identified during the EIS process (DEIS p. 1-S-9-13). Similarly, although it includes such things as "rocketing and weather patterns" among issues to be summarized or not addressed, the DEIS makes no mention at all of upper basin drainage as being among the "issues identified during the scoping process" (DEIS Appendix C, pp. C-133-136).

This failure of the Corps' public scoping process is confirmed by its own Environmental Justice Analysis, which reported that:

> "Data from this study indicate that a majority of respondents, from all groups, feel that their views either have not been heard, or have been heard, but not acted on. These findings call into question the effectiveness of the current public involvement process." (DEIS Appendix C, p. C-104).

and:

> "Findings from this study indicate that many respondents felt that the scoping process did not allow for or welcome input from the public." (DEIS Appendix C, p. C-104)

This systematic exclusion of the public from meaningful participation in the NEPA process for the proposed Devils Lake outlet is further compounded by the abbreviated 60-day comment period for the DEIS and its appendices imposed by the Corps, which, after spending five years and $11,000,000 preparing these complex and confusing three-inch documents (U. S. Army Corps of Engineers and North Dakota State Water Commission, 2001) while the lake was rising, now attempts to justify a patently inadequate public comment period under the transparent guise of "the urgency to make decisions about alternatives and construction" at a time when the lake level is expected to remain stable or decline (Associated Press, 2001a).

If for no other reason, this pervasive exclusion of the public from meaningful participation in the EIS process renders the DEIS inadequate in meeting the Corps' statutory responsibilities under NEPA. Consequently, the only avenue available to the Corps at this point for achieving compliance with the public participation and disclosure requirements of NEPA is to withdraw the DEIS and implement a proper EIS process designed to comply in good faith with both the spirit and the letter of the statute.

Inappropriate Tiering of Environmental Impact Analysis

The DEIS states that:

> "The primary purposes of this Integrated Report, in accordance with the authorizing legislation, are 1) to implement 'tiering' as provided in Council on Environmental Quality (CEQ) Regulation 15.28(b) and 2) to evaluate an outlet plan (proposed action being evaluated). Tiering procedures allow for supplemental EIS documentation." (DEIS p. 1-S-1)

However, the Corps' and NDSWC's March 1998 "Devils Lake Emergency Outlet Newsletter" discussing the 1997 Emergency Supplemental Appropriations Act (Public Law 105-18) and the 1998 Energy and Water Development Appropriations Act (Public Law 105-62) under which preparation of the EIS was authorized makes no mention of "tiering" of the EIS being authorized and states only that the project must be "in compliance with the National Environmental Policy Act" (U. S. Army Corps of Engineers and North Dakota State Water Commission, 1998). Similarly, their March 2001 "Devils Lake Study Newsletter" discussing "new directions" for the study states only that:

> "The Corps will use its authority and funding to continue collecting data and evaluating alternatives to address the flooding problems at Devils Lake. This will include conducting the necessary environmental impact evaluations required by NEPA and the Boundary Waters Treaty of 1909." (U. S. Army Corps of Engineers and North Dakota State Water Commission, 2001)

Nevertheless, the "tiering" employed by the Corps in the DEIS still is not in compliance with Council on Environmental Quality Regulation 15.28(b). Under CEQ Regulation 15.28 Tiering:

> "'Tiering' refers to the coverage of general matters in broader environmental impact statements (such as national program or policy statements) with subsequent narrower statements or environmental analyses (such as regional or basinwide program statements or ultimately site-specific statements) incorporating by reference the general discussions and concentrating solely on the issues specific to the statement subsequently prepared. Tiering is appropriate when the sequence of statements is:
>
> (a) From a program, plan or policy environmental impact statement to a program, plan, or policy statement or analysis of lesser scope or to a site-specific statement or analysis.
>
> (b) From an environmental impact statement on a specific action at an early stage (such as need and site selection) to a supplement (which is preferred) or a subsequent statement or analysis at a later stage (such as environmental mitigation). Tiering in such cases is appropriate when it helps the lead agency to focus on the issues which are ripe for decision and exclude from consideration issues already decided or not yet ripe."

Because the proposed outlet from Devils Lake clearly is not a part of a program, plan or policy of greater scope but deals with a project at a specific site, the Corps makes no claim that tiering of the DEIS is provided under Regulation 15.28(a), but instead cites section 15.28(b) as its authority.

It is stated in DEIS Appendix C that:

> "The final Integrated Report/EIS is scheduled for July 2002. The Record of Decision is to be signed by September 2002. Items to be completed include coordination with Canada

> and determination of compliance with the Boundary Waters Treaty of 1909." (DEIS Appendix C, p. C-136)

However, with the final EIS to be completed in two months and the record of decision to be signed in four months, it is clear that the DEIS is not an EIS on a specific action at an early stage and that the issues of its environmental impacts are ripe for consideration, so tiering of the DEIS is not appropriate under section 15.28(b), either.

The DEIS states that:

> "Additional data acquisition and monitoring will be required to further define and evaluate the operational impacts of an outlet. Based on the results of these evaluations, supplemental National Environmental Policy Act (NEPA) documentation will be prepared as required." (DEIS p. 1-S-2)

Of course, it is not the impacts of construction, but the impacts of the operation of an outlet that are the most significant and the most important to compliance with NEPA and to the decision of whether or not the outlet should be built. It is precisely to assure that full information on the environmental impacts of proposed Federal actions is available to the public, to the Congress and to Federal agency officials *before* decisions are made that Section 102(2)(C) of the National Environmental Policy Act requires that all agencies of the Federal Government shall—

> "(C) include in every recommendation or report on proposals for legislation or other major Federal Actions significantly affecting the quality of the human environment, a *detailed* [emphasis added] statement by the responsible official on—
>
> (i) the environmental impact of the proposed action,
> (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,
> (iii) alternatives to the proposed action,
> (iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and
> (v) any irreversible and irretrievable commitments of resources should it be implemented."

It is important to note that it is not just mitigation of the environmental impacts of the construction of the outlet that the Corps proposes to address in supplemental NEPA documents under CEQ Regulation 1508.2(b), but also the impacts of the operation of the outlet itself (DEIS pp. 5-92-94). Thus, rather than employing "tiering" as provided under the regulation, the Corps is instead using "tiering" as a ploy for segmenting the analysis of the environmental impacts of the proposed action itself, in clear violation of both CEQ Regulation 1508.2(b) and NEPA.

Until an operation plan is developed for the proposed outlet and the impacts of the operation of the outlet are described in detail, the Corps will be unable to make a decision regarding the construction of the outlet that is in compliance with NEPA. However, the Corps proposes instead to postpone the collection of data on the impacts of the operation of the outlet while it proceeds with completion of the Final EIS in two months and a formal decision on construction of the outlet two months later with no provision for information on the impacts of the operation of the outlet being made available beforehand to the public and other agencies for review and comment in supplemental NEPA documents. Thus, any supplemental NEPA documents dealing with the most significant impacts of the outlet will not become available until after the decision has been

made to build the outlet, when it is too late to avoid those impacts or select less damaging alternatives. The Corps' NEPA process for the proposed outlet, therefore, is deliberately crafted to circumvent the fundamental purpose of NEPA.

Failure to Consider Cumulative Impacts

Red River Valley Water Supply Project

The Dakota Water Resources Act of 2000 authorizes a Red River Valley Water Supply Project, one alternative of which to be considered is the delivery of Missouri River water to the Sheyenne River utilizing the U. S. Bureau of Reclamation's Garrison Diversion Unit. The DEIS acknowledges that utilizing the Garrison Diversion Unit to deliver Missouri River water for a Red River Valley water supply project is a reasonably foreseeable action (DEIS p. 5-92), but, despite the fact that the projects would deliver water to the Sheyenne River from different sources, it does not discuss how operation of the proposed Devils Lake outlet might alter the operation or impacts of the Red River Valley Water Supply Project, or how operation of the Red River Valley Water Supply Project might alter the operation or impacts of the proposed outlet. With absolutely no data or analysis, the DEIS summarily dismisses discussion of the cumulative impacts of the two projects with the statement that they "do not result in any additional impacts above those described in this Draft Report/EIS" (DEIS p. 5-92).

Inlet to Deliver Missouri River Water to Devils Lake

The DEIS recognizes that:

> "The purpose of an inlet from the Missouri River would be to help stabilize the lake during drier climatic conditions. Regionally, there is great interest in stabilizing the lake to try to maintain the recreational and economic value of the lake. Other States, Minnesota and Missouri, Canada, and some agencies are concerned about water quality, water quantity, and biota transfer issues associated with an inlet.
>
> Many believe that an outlet is the first step toward an inlet and oppose the outlet for that reason or feel that the report should include a discussion of the effects of an inlet." (DEIS p. 1-S-11)

In fact, on August 1, 1997, North Dakota Governor Edward T. Schafer and the majority leaders of the North Dakota House and Senate sent letters to U. S. Senate Majority Leader Trent Lott and U. S. House Speaker Newt Gingrich stating, in part:

> "There are no immediate plans to build an inlet to bring Missouri River water into Devils Lake. The conditions do not require it. Five years ago Devils Lake was a shrinking body of water in danger of losing its multimillion dollar fishery. That situation may occur again. Stabilization of Devils Lake is essential for the long-term economic health for the region and our state.
>
> …
>
> We ask that you consider alternative language that provides funding for an emergency outlet while not shutting the door permanently on an inlet."

On September 26, 1997, the Governor and the North Dakota Senate and House majority leaders then sent letters to the North Dakota congressional delegation stating, in part:

> "A ban on the inlet is an extremely high price to pay for the outlet language. An inlet is important to ensure the long-term economic stability of the Devils Lake region, and is a significant component of the state's water-development plan. Strong support still exists for an inlet in the region.
>
> …
>
> Everything possible must be done to keep the inlet viable in Congress as a long-term option. We ask that this letter be included as part of a legislative history that should emphasize the state's interest in revisiting an inlet when the circumstances dictate."

That same day, North Dakota Senator Byron Dorgan was quoted in *The Forum* (Fargo, North Dakota) as stating that he would bring back the inlet debate in future sessions of the Congress, but for now, the outlet is what is needed (Condon, 1997).

Although the construction of an inlet to deliver Missouri River water to Devils Lake could have profound consequences for the operation and impacts of the proposed outlet, particularly by escalating the risk of transfer of foreign biota to the Hudson Bay Basin, the DEIS arbitrarily dismisses consideration of the cumulative impacts of an inlet with the statement that:

> "Public Law 105-62 prohibits the Corps from using any funds to study any inlet involving the transfer of water from the Missouri Basin. Therefore, an inlet is not part of the analysis." (DEIS p. 1-S-1)

However, the Corps misinterprets the language of the 1997 Energy and Water Development Appropriations Act (P. L. 105-62). The Act states:

> "Provided further, That no funds made available under this Act or any other Act for any fiscal year may be used by the Secretary *to carry out the portion of the feasibility study of the Devils Lake Basin, North Dakota, authorized under the Energy and Water Development Appropriations Act of 1993 (Public Law 102-377), that addresses the needs of the area for stabilized lake levels through inlet controls* [emphasis added] or carry out any activity that would permit the transfer of water from the Missouri River Basin into Devils Lake."

Thus, Public Law 105-62 prohibits the Corps only from carrying out a *feasibility* study for an inlet to Devils Lake, and it does not prohibit the Corps from addressing the *cumulative environmental impacts* of an inlet in association with an outlet from Devils Lake that is required under NEPA.

> North Dakota's 300 cfs "Temporary" Emergency Outlet

The DEIS acknowledges that a temporary outlet from Devils Lake to the Sheyenne River constructed by the State of North Dakota along Peterson Coulee is a reasonably foreseeable action (DEIS p. 5-92). However, despite the facts that (1) the North Dakota Legislative Assembly has authorized, and appropriated $15,000,000 for, construction of the temporary outlet, (2) former State Engineer David Sprynczynatyk stated at a public meeting in Valley City, North Dakota, on August 23, 2000, that the State's 300 cfs temporary outlet will be operated

indefinitely if the Corps does not build a permanent outlet, (3) the NDSWC has requested engineering design proposals and has retained the firm of Bartlett, West and Boyle to design the outlet, (4) the NDSWC's "Request for Proposal" for the temporary outlet states that the outlet could operate for 10 to 15 years if the current wet cycle continues, and (5) the Governor and the NDSWC continue to reiterate their decision to construct the outlet, the Corps declines to include the temporary outlet in the discussion of without project future conditions (DEIS p. 1-S-10) and again dismisses consideration of its cumulative effects in conjunction with the proposed Pelican Lake 300 cubic feet per second (cfs) outlet (DEIS p. 5-92).

Clearly, the construction and operation by the State of a 300 cfs West Bay outlet would have profound impacts on the justification for and feasibility of the Corps' proposed Pelican Lake 300 cfs outlet, as well as on the cumulative impacts to the Sheyenne River if the Corps's proposed outlet were to be built. However, the Corps summarily dismisses consideration of the State's proposed 300 cfs West Bay outlet with the statement that:

> "The design and detailed operation plan for a temporary outlet have not been completed at this time, and there is a high probability for delays or suspension of the plan due to possible litigation and permitting issues. Therefore, the construction and operation of a temporary outlet is not considered to be a reasonably foreseeable action at this time, and the Corps is not including this outlet in the future without project conditions. If the State actually begins construction, a decision would have to be made on whether the future without project conditions should be reevaluated, which would result in the extension of the schedule to complete project design and the preparation of a revised NEPA document." (DEIS p. 1-S-10)

Of course, a detailed operation plan has not been completed for the Corps' proposed Pelican Lake 300 cfs outlet, either (DEIS p. 6-16), yet the Corps is proceeding on the premise that it is a reasonably foreseeable action subject to the requirements of NEPA. Meanwhile, the State also has indicated that it intends to build and operate its 300 cfs temporary outlet without completing a detailed operation plan (Associated Press, 2001b), but the Corps claims that exempts the State's project from consideration of cumulative impacts under NEPA

The DEIS purports to conduct a sensitivity analysis "[t]o address the uncertainty of the implementation of a temporary outlet" (DEIS p. 1-S-10), and it states that:

> "The analysis includes a discussion of the potential effect of the temporary outlet on lake levels, and how it would affect the economic feasibility of the Pelican Lake outlet alternative." (DEIS p. 1-S-10)

However, despite the facts that (1) the NDSWC's "Request for Proposal" for the temporary outlet calls for a capacity of "at least 300 cfs" and indicates that it could be operated for 10 to 15 years until the current wet cycle ends (North Dakota State Water Commission, 2001), and (2) the DEIS acknowledges that the ultimate capacity of the outlet would be "up to 300 cfs" (DEIS p. 3-25), the sensitivity analysis is based on the assumption that the temporary outlet would simply be an interim measure until a permanent outlet is operable, and it is limited to only the first 100 cfs initial phase of the State's project (DEIS p. 3-25-26). Consequently, despite acknowledging that:

> "The inclusion of the State's [assumed 100 cfs] temporary outlet as part of the future without project conditions could reduce the impacts of a Pelican Lake outlet and mitigation measures." (DEIS p. 47-37)

the DEIS concludes that:

> "These changes would not affect conclusions reached through the alternatives evaluation." (DEIS p. 4-36)

Clearly, compliance with NEPA requires that the Corps address the State's authorized 300 cfs West Bay outlet as a reasonably foreseeable permanent feature of the without project future conditions, and that it address substantively the cumulative impacts of (1) the authorized Red River Valley Water Supply Project delivering Missouri River water to the Sheyenne River, (2) an inlet to deliver Missouri River water to Devils Lake as part of the State's official water development plan, and (3) the State's authorized 300 cfs outlet from West Bay to the Sheyenne River.

Absence of Authorization to Construct and Operate an Outlet

The DEIS cites the 1997 Emergency Supplemental Appropriations Act as its authority to undertake preconstruction engineering and design and the associated EIS for an emergency outlet from Devils Lake to the Sheyenne River (DEIS p. 1-2), and it cites the Energy and Water Development Appropriations Acts for Fiscal Years 1998, 1999, 2000, and 2001 as "providing funding for the construction of an emergency outlet from Devils Lake to the Sheyenne River" (DEIS p. 1-2), but it does not cite any congressional *authorization act* language that specifically authorizes the construction and operation of an outlet from Devils Lake to the Sheyenne River.

The 1998 Energy and Water Development Appropriations Act cited by the DEIS states, for example, that:

> "The Secretary of the Army acting through the Chief of Engineers, may use up to $5,000,000 of the funding appropriated herein to *initiate* [emphasis added] construction of an emergency outlet from Devils Lake, North Dakota, to the Sheyenne River…"

subject to a determination by the Secretary of the Army that the construction:

> "is technically sound, economically justified, and environmentally acceptable and in compliance with the National Environmental Policy Act of 1969."

Provided further:

> "That the economic justification for the emergency outlet shall be prepared in accordance with the principles and guidelines for economic evaluation, as required by regulations and procedures of the Army Corps of Engineers for all flood control projects…"

and:

> "That the plans for the emergency outlet shall be reviewed and, to be effective, shall contain assurances provided by the Secretary of State, after consultation with the International Joint Commission, that the project will not violate the requirements or terms of the… 'Boundary Waters Treaty of 1909.'"

Not only have none of these necessary conditions been met before construction may be *initiated* on an outlet from Devils Lake to the Sheyenne River (DEIS p. 6-28), but the Corps cites no congressional authorization to *complete and operate* an outlet from Devils Lake to the Sheyenne

River. The language of the 1998 Energy and Water Development Appropriations Act clearly indicates that it was the intent of the Congress that the Corps, after meeting the conditions specified, was authorized only to "initiate construction of an emergency outlet" from Devils lake to the Sheyenne River. The language demonstrates that, in the event the Corps should meet the conditions specified in the Act and initiate construction of an outlet, the Congress retained the authority to review the status of the "emergency" before authorizing further construction and operation of the outlet and the appropriation of additional funds for its construction. That authorization would properly be in the form of a specific congressional authorization act, rather than simply through the appropriation of funds in a continued piecemeal fashion.

Inadequate Description of Environmental Impacts of the Proposed Action

Not only does the DEIS fail to describe adequately the environmental impacts of the operation of the proposed Pelican Lake 300 cfs outlet, but the discussion that is provided is designed to minimize and obscure the impacts that are identified.

The downstream impacts of the operation of the proposed Pelican Lake 300 cfs outlet under a "wet future scenario" where those impacts would be most severe have not been modeled, so they have simply been interpolated from the impacts of West Bay 300 cfs and 480 cfs alternatives modeled under two "moderate" (1450 and 1455 feet) lake future scenarios. For example:

> "Impacts to aquatic resources were evaluated for a 300 cfs constrained and a 480 cfs unconstrained outlet from West Bay… The effects of outlets from other locations, such as Pelican Lake, would have to be interpreted from these findings. It is *possible* [emphasis added] that a Pelican Lake outlet would approximate the water quality effects of a 300 cfs West Bay outlet and the flow effects of a 480 cfs West Bay outlet." (DEIS Appendix C, p. C-38)
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> "The determination of the effects of operating an outlet from Devils Lake is dependent on the conditions assumed to persist into the future and the location of the outlet. These two conditions affect the quality of the water to be discharged into the Sheyenne River and flows that are in the Sheyenne River, which in turn affects the assumptions concerning the operation of an outlet… Because of the uncertainty as to which outlet operation plan would be proposed for design, 300 cfs or 480 cfs – constrained or unconstrained, the analysis of natural resources effects was designed to bracket the potential effects for the *two moderate lake scenarios* [emphasis added] selected for analysis…
>
> The outlet plan preliminarily selected for design does not originate in West Bay *and falls somewhat outside the bounds for this analysis* [emphasis added]. The water quality effects on aquatic resources *would likely be* [emphasis added] very similar to those identified with the West Bay 300 cfs outlet, constrained by water quality and channel capacity. However, since a Pelican Lake outlet captures the fresh water flowing into Devils Lake, the outlet would have substantially higher flows, and the effects of increased flow on aquatic habitat in the Sheyenne River *would likely be* [emphasis added] closer to the effects identified with the West Bay 480 cfs outlet. In lieu of additional modeling, the water quality effects of the 300 cfs constrained operation and the flow effects of the 480 cfs unconstrained operation were used to evaluate the potential effects of the Pelican Lake outlet on aquatic resources." (DEIS p. 5-45)

In discussing the impacts of the operation of the proposed Pelican Lake 300 cfs outlet on the Sheyenne River under the more "moderate" 1450 feet lake future scenario, the DEIS shows a

"typical operation year" that imposes 300 cfs flows from the outlet on Sheyenne River base flows that peak at 200 cfs in July and average less than 100 cfs from May 1 through September 1, with flows from the outlet dropping to an average of perhaps 50 cfs from September 1 through November 30 (DEIS Figure 35, p. 5-50). Therefore, in a "typical operation year" under the 1450 "moderate" scenario, it appears that the Pelican Lake 300 cfs outlet would be expected to discharge about 80,000 acre-feet of water from Devils Lake to the Sheyenne River. Under these "moderate" conditions, the DEIS states that:

> "Operation of the Pelican Lake outlet would result in a substantial change in the flow regime of the Sheyenne River. Discharges of up to 300 cfs over a major portion of the summer would represent a 5- to 10-fold increase in summer/fall flows along the Sheyenne River." (DEIS p. 5-48)
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> "…the outlet could result in up and down flows with sudden and extreme fluctuations in flow. These are the types of situations that made it difficult for species to adapt to habitat conditions." (DEIS p. 5-48)
>
> "The changes in flow duration, stage and frequency could result in an increase in erosion and sedimentation on Sheyenne River." (DEIS p. 5-52)
>
> "The changes on the Sheyenne River in water quality, hydrology, geomorphology and habitat could result in substantial changes in aquatic biota." (DEIS p. 5-53)
>
> "Even under a constrained operation approach, the levels of many water quality constituents are increased by two to three times to concentrations just below the established water quality standards." (DEIS p. 5-53)
>
> "…although water quality standards on the Sheyenne River are not violated, the percent of time any particular concentration is exceeded increases dramatically. For example, sulfate exceedences go from zero to 42 percent for the 250 mg/l sulfate level." (DEIS p. 5-53)
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> "The loss of habitat due to increased flows, changes in channel geometry, loss of overbank cover and sedimentation, coupled with changes in water quality and algal growth, would all contribute to a substantial change in the aquatic community present in the Sheyenne River. Projected water quality changes associated with outlet operation may adversely influence fish reproduction and result in lost-year classes. The cumulative result of all these changes would be a decrease in diversity and density of aquatic species in the Sheyenne River. The threshold chloride levels of some aquatic species, such as mussels, would be approached with operation of an outlet; however, no effects are anticipated." (DEIS p. 5-53)
>
> "Many of the effects associated with the operation of an outlet cannot readily be quantified." (DEIS p. 5-96)
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> "Some of the aquatic losses would not be mitigated; for example, loss of invertebrates, loss of fish year classes, loss of wetted usable area due to increased channel width, and changed channel morphology." (DEIS 5-97)

"Changes in the aquatic community would persist for many years after outlet operation ceased, especially on the Sheyenne River above Lake Ashtabula." (DEIS Appendix D, p. D-31)

"… the 300 cfs [West Bay] constrained pumping alternative would cause much less damage than the 480 cfs [West Bay] unconstrained pumping alternative [which approximates the flow impacts of a 300 cfs Pelican Lake outlet] under either the moderate or wet climatic scenario." (DEIS Appendix A, p. A-254)

"The flow impacts due to a Pelican Lake alternative could be dramatic, particularly in the upper Sheyenne, which is essentially isolated from recolonization. Water quality changes would be devastating to uinonids." (DEIS p. 5-102)

"Substantial to significant adverse impacts on aquatic habitat availability and suitability can be expected under most if not all of the Devils Lake outlet options. The most flow sensitive habitat types, such as riffles where shallow, fast habitats predominate, would be almost entirely eliminated for a majority of the year. The largest adverse impacts on habitat would likely occur in the Sheyenne River above Lake Ashtabula, where stages are projected to increase up to 3 feet." (DEIS Appendix C, p. C-38)

"Downstream interests would bear most of the negative impacts of this [480 cfs] plan [which reflect the water quantity impacts of a Pelican Lake 300 cfs outlet]. Flooding may increase, primarily on agricultural lands along the Sheyenne River. Higher flows may exacerbate streambank erosion that may threaten farmstead structures and residences along the river. The added flow translates into stage increases, resulting in additional damage to structural property from direct flooding. Under these circumstances, flood easements would be purchased to compensate landowners for future expected losses to their properties. The potential for bearing these adverse impacts of an outlet is a source of controversy with downstream interests and has produced conflict with their upstream neighbors." (DEIS p. 4-10)

"As in the case of an overflow, farms that withdraw water from the Sheyenne River or the Red River for irrigation could suffer reduced crop yields from the lower river water quality associated with an outlet. Exacerbated flooding in the Sheyenne River could damage agricultural property, including lands, equipment, and structures. Also, higher flows in the river could affect some farms that straddle the river… These river crossings may be impeded or prohibited by additional river flow associated with an outlet." (DEIS p. 5-42)

"In rare instances, there could be overbank flooding due to unforecasted rainstorms and the inability to turn the outlet off in time." (DEIS p. 5-56)

"Using a ¼ mile area of influence, groundwater changes could potentially affect about 112,000 acres of riparian lands along the Sheyenne River and 76,000 acres along the Red River." (DEIS p. 5-57)

"Although the Sheyenne River channel appears currently stable, channel instability may be onset if the flows are increase[d] due to the operation of an outlet… The process of channel adjustment may take 50 to 100 years or more." (DEIS Appendix C, p. C-69)

> "There is an increased risk of transfer of biota or the increase in the distribution of existing organisms associated with any feature that improves the connectivity between systems that have been segregated for many centuries." (DEIS 5-56)

As noted above, the DEIS shows that, in a "typical operation year" under the more "moderate" 1450 feet future lake level scenario, the proposed Pelican Lake 300 cfs outlet would discharge approximately 80,000 acre-feet of water from Devils Lake to the Sheyenne River, primarily from May through August. Although the DEIS does not show a "typical operation year" for the Pelican Lake 300 cfs outlet under the "wet future scenario," in order to prevent an overflow, it appears that the outlet would have to operate at its 300 cfs maximum capacity for the full seven months from May 1 to November 30 every year. For example, with the lake reaching 1457 feet even with the outlet in operation (DEIS p. 5-86), it would have a surface area of approximately 230,000 acres (DEIS Figure 7, p. 2-26). The average annual 21 inches of precipitation in the Devils Lake area during the 1993-1999 period on which the "wet future scenario" is based (DEIS p. 4-12) would contribute 402,500 acre-feet of precipitation directly to the surface of the lake each year. With the additional average 317,000 acre-feet of inflows during that period (DEIS p. 1-5), total annual accruals would average 719,000 acre-feet through the first 21 years of the "wet future scenario." The average annual 29 inches of evaporation through the 1993-1999 period (WEST Consultants, Inc., 2001) would be expected to remove 556,000 acre-feet per year from the lake, leaving an average annual net accrual of 162,000 acre-feet that would have to be removed by the outlet to prevent the lake from continuing to rise above 1457 feet. A 300 cfs outlet operating at maximum capacity for seven months would remove 126,000 acre-feet per year, so it appears that the Pelican Lake 300 cfs outlet would have to operate at maximum capacity from the fifth through the 21st year (DEIS Appendix A, p. A-110) of the a "wet future scenario" in order to prevent the lake from overflowing to the Sheyenne River and justify its construction.

Because the downstream impacts of the operation of the proposed Pelican Lake 300 cfs outlet have not been modeled, the DEIS attempts to interpret the possible impacts—examples of which are cited above—based on the water quality impacts of a 300 cfs constrained West Bay outlet and the water quantity impacts of a 480 cfs unconstrained West Bay outlet modeled under "moderate" future lake conditions of 1450 and 1455 feet. However:

> "A wet future in the Devils Lake basin would also probably result in a wet future in other basins." (DEIS p. 5-81)

including the Sheyenne River Basin, and the statements that:

> "The primary downstream area affected would be those areas flooded when the flow on the upper and lower Sheyenne River reach 1,000 and 1,500 cfs, respectively." (DEIS Appendix C, p. C-138)

and:

> "Operation of an outlet at 300 cfs would have limited effect on the extent or duration of flooded area along the upper or lower Sheyenne River with flows not exceeding 1,000 or 1,500 cfs, respectively." (DEIS Appendix C, p. C-138)

indicate that the operation of the outlet would not, in fact, be constrained to the 600 cfs capacity of the Sheyenne River channel during a "wet future scenario" as claimed (DEIS p. 3-14, 4-18), so

the impacts could be expected to be substantially greater and more severe than those described under the moderate future scenarios discussed in the DEIS.

It is instructive, therefore, to consider how the DEIS describes the downstream impacts associated with the more than 50 percent increase in discharges from these "moderate" conditions (from 80,000 acre feet to 126,000 acre-feet per year) of a Pelican Lake 300 cfs outlet operating under "wet future scenario" conditions where the Sheyenne River would already be experiencing unusually high flows:

> "Because the scenario is based on a wet climate, the pumping *may* [emphasis added] last longer and greater quantities *may* [emphasis added] may be pumped out. Therefore, the impacts described for the stochastic analysis would last longer and the flow effects would be greater. For example, erosion would be more, aquatic effects from flow would be the same type but would be of a greater magnitude, soil salinity effects would also be of the same type but irrigators and land users would be subject to those effects for a longer period." (DEIS 5-86)

> "In summary, changes in hydrology would be significant with a Pelican Lake alternative because large amounts of water could be discharged during wet periods in the Devils Lake Basin due to improved water quality. Erosion will be greater, summer nursery habitat will be less, unproductive habitat will increase in summer and fall, and change in flow magnitude between fall and winter will be greater. Therefore, aquatic communities may survive the water quality changes of the alternative, only to be affected by the change in habitat and hydrology. The changes in the aquatic community would persist for many years after outlet operation has ceased." (DEIS p. 5-55)

That's it! These two paragraphs are the sum and substance of what the public, the Congress and other decision-makers are told about the specific environmental impacts of the operation of the proposed Pelican Lake 300 cfs outlet in the "wet future scenario" under which outlet proponents such as the North Dakota congressional delegation, Ramsey County elected officials and Lake Emergency Management Committee representatives are advocating that the outlet be justified (Associated Press, 2002a).

Of course, the reader is told that more detailed discussion of the impacts under the scenario future is presented in the Technical Appendices (DEIS p. 5-66), but examination of Appendix C, which addresses "Environmental Resources," reveals only the same kinds of abstract and ambiguous generalizations that are used in the DEIS itself to minimize and obfuscate the downstream impacts of the operation of the proposed Pelican Lake 300 cfs outlet under the "wet future scenario" necessary to rationalize its construction.

The failure of the DEIS to provide the *detailed* statement of the qualitative and quantitative environmental impacts of the construction and operation of the proposed Pelican Lake 300 cfs outlet required by NEPA renders the DEIS technically inadequate and legally deficient on its face.

Devils Lake Outlets – Technically Unsound and Economically Unjustified

The DEIS concludes that the proposed Pelican Lake 300 cfs outlet only:

> "Minimally reduces flood damages around the lake and moderately reduces the potential for a natural overflow event." (DEIS p. 4-38)

However:

> "When balancing the project needs and objectives, including cost effectiveness, downstream water quality impacts, and other considerations, the Pelican Lake 300 cfs outlet alternative is the best overall outlet plan. Additionally, it is moderately effective in controlling future lake levels" (DEIS 1-S-7).

Under a conventional stochastic analysis, the proposed Pelican Lake 300 cfs outlet would reduce the expected lake stage from 1450 feet without the outlet to 1449.5 feet with the outlet—a half foot reduction (DEIS p. 1-S-4). Without the outlet, there is a 50.6 percent chance that the lake would reach or exceed 1450 feet and a 20.8 percent chance the lake would reach or exceed 1454 feet (DEIS p. 1-S-4-5). The outlet would reduce the chance that Devils Lake would reach elevation 1459 feet where it would begin to overflow to the Sheyenne River from 9.4 percent to 4.1 percent (DEIS p. 5-71). "Devils Lake would have to rise to 1460.6 before there would be a significant flow (at least 300 cfs) to the Sheyenne River" (DEIS p. 2-9), and the proposed Pelican Lake 300 cfs outlet would reduce the chance of that occurring by 2 percent, from 4 percent without the outlet to 2 percent with the outlet (DEIS Appendix B, Table II.ST-2, p. B-195). However, the 1 percent chance that Devils Lake would reach elevation 1463 feet where the damages would be the greatest (DEIS p. 2-9, 5-71-84; Appendix C, p. C-124) still remains at 1 percent even if the Pelican Lake 300 cfs outlet is built (DEIS Appendix B, Table II.ST-2, p. B-195). Thus, the outlet would do virtually nothing to prevent the most serious damages resulting from an overflow of Devils Lake at 1463 feet.

Under the "wet future scenario," the lake would continue to rise another 10 feet from the January 2002 elevation of 1447.1 feet to 1457 feet even with the outlet in operation (DEIS p. 5-89), and with any significant increase in precipitation from the 1993 to 1999 average, it also would overflow to the Sheyenne River (see The Wet Future Scenario – Fantasizing Feasibility below). Moreover, as pointed out above, during a "wet future scenario" when the Sheyenne River already has high flows, the operation of the outlet would have to be constrained below its maximum capacity, in which case it would be even less effective in preventing the lake from continuing to rise above 1457 feet, or, if operated at maximum capacity, it would result in even more severe downstream impacts on the Sheyenne River. Consequently, the proposed Pelican Lake 300 cfs outlet is technically unsound on its face.

According to the DEIS:

> "Therefore, there is about a 75 percent chance that if an outlet were built it would not be economically beneficial." (DEIS p. 1-S-5)
>
> "The outlet plan that has been preliminarily selected for design is not economically justified using methods that would determine expected net benefits by producing probability-weighted benefits and costs." (DEIS p. 1-S-7)
>
> "The outlet alternative under the stochastic analysis with the highest benefit-cost ratio (although it is not shown to be economically justified) is the Pelican lake 300 cfs outlet." (DEIS p. 4-3)

The benefit-cost ratio for the proposed Pelican Lake 300 cfs outlet under the stochastic analysis is 0.37 (DEIS Table 4, p. 4-2). This is even less than the 0.69 benefit-cost ratio of taking no additional action whatsoever in the Devils Lake Basin to protect the local infrastructure (DEIS p.

3-24, Table 4, p. 4-2). The benefit-cost ratios for the other outlet alternatives considered are: West Bay 300 cfs outlet = 0.28, West Bay 480 cfs outlet = 0.01, Pelican Lake 480 cfs outlet = 0.10, Pelican Lake Bypass 480 cfs-PL 2 = 0.14, Pelican Lake Bypass 480 cfs-PL3 = 0.21, and East End Outlet = 0.02 (DEIS Table 4, p. 4-2)

The Energy and Water Development Appropriations Acts for Fiscal Years 1998, 1999, 2000 and 2001 specify:

> "That the economic justification for the emergency outlet shall be prepared in accordance with the principles and guidelines for economic evaluation as required by regulations and procedures for the Army Corps of Engineers for all flood control projects, and that the economic justification be fully described, including the analysis of the benefits and costs, in the project plan documents." (DEIS p. 1-2)

The DEIS states that:

> "The Corps of Engineers traditionally recommends plans that show the greatest expected net benefits, where benefits exceed costs based on the probability of events. As a standard process under the Principles and Guidelines, this is referred to as the National Economic Development, or NED, plan. A stochastic approach was used for economic evaluation. The benefit-cost ratio of the best outlet plan incorporating probabilities of occurrence is 0.37." (DEIS Abstract)

The proposed Pelican Lake 300 cfs outlet, therefore, is without economic justification under the law, as well as under the Corps' own Principles and Guidelines. Consequently, the Corps has no alternative under the law except to recommend that the outlet not be built.

Hidden Costs

The DEIS lists the Total First Cost of the proposed Pelican Lake 300 cfs outlet as $97,651,000 (DEIS Table 3, p. 3-23) and the Total Costs at $117,000,000 (DEIS Table 4, p. 4-2) to $125,000,000 (DEIS Table 6, p. 4-13). However, because the lake would continue to rise under the "wet future scenario" even with the outlet (DEIS. p. 5-86), it still would be necessary to incur the additional costs of implementing infrastructure protection measures (DEIS p. 5-89), including raising the levees protecting the City of Devils Lake, relocating homes, building temporary levees, raising selected roads and railroads, and protecting or relocating utilities (DEIS p. 3-9).

The DEIS estimates these additional infrastructure protection costs under the "wet future scenario" without the outlet and the lake reaching 1460.6 feet (DEIS Table B, p. 1-S-4) at $585 million (DEIS Table 6, p. 4-13). With the outlet in operation and the lake reaching 1457 feet, (DEIS p. 5-86)—just two feet below overflow elevation, it might be assumed that these infrastructure protection costs still could reach $300 to $400 million. Therefore, the total cost of implementing the Pelican Lake 300 cfs outlet plus the associated infrastructure protection for a lake level of 1457 feet required with this alternative is not the $125 million shown in the DEIS, but likely is *in the range of $425 to $525 million*.

The Wet Future Scenario – Fantasizing Feasibility

In outlining the rationale for evaluating alternatives under a "wet future scenario," the DEIS explains that:

> "The stochastic modeling was based on an assumption of the stationarity of the climate. Because of the uncertainty of and the differing scientific opinions regarding future climatic conditions in the Devils Lake basin, a scenario based analysis was also performed. In situations of uncertainty, the Principles and Guidelines allow for development of alternative future conditions, or scenarios. This scenario based analysis was used to specifically address potential solutions to the problems in the basin if the recent wet conditions continue." (DEIS Abstract)

> "The scenarios for Devils Lake include the WET future, the moderate trace 1445, an even more moderate trace 1450, and a DRY future. The WET future assumes that the years 1993 to 1999 would occur for two cycles. At this point the lake would reach the overflow elevation of 1459 in the year 2014. The period 1993 to 1999 is repeated again to generate overflow and then the years 1980 to 1990 to finish out 50-yrs. The WET future was necessary to assess the impacts of a natural overflow from Stump Lake to the Sheyenne River." (DEIS Appendix A, p. A-21).

> "The wet future scenario analysis evaluated one set of 50-year lake levels that is based on very recent climatic conditions for the years 1993-1999. The wet future scenario repeats the climatic and hydrologic conditions for the seven highest inflow years in recent history (1993-1999) for three cycles, causing the lake to overflow. The remaining years of the 50-year cycle were defined assuming climatic and hydrologic conditions similar to 1980 through 1999, and then 1980 through 1990, to complete the 50-trace." (DEIS p. 3-5)

The DEIS offers no evidence and makes no claim that the "wet future scenario" provides a more reliable—or even remotely more realistic—analysis of future lake conditions than the stochastic analysis. On the contrary, the DEIS points out that:

> "The duration of the recent wet conditions cannot be determined definitely because of the complex interactions between global weather factors." (DEIS Appendix A, p. 1-18)

> "As indicated by the regional Weather Information Center, climatic conditions during 2000-15 are expected to be similar to conditions during 1980-99." (DEIS Appendix A, p. 1-18)

> "No one can know or predict with confidence climate 50 years into the future. The National Academy of Sciences (NAS) provided guidance for another study (citation omitted) on analysis when the future is uncertain. They warn that, '*Failure to deal explicitly with uncertainty leads the unwary to have far too much confidence in the resulting forecast and analysis, which can lead to bad public decisions* [emphasis added]…'" (DEIS Appendix A, A-20)

> "While the use of a wet future scenario may provide insight into potential benefits of the outlet alternatives, such an analysis provides little assurance as to the soundness of such an investment, since it is tied to the unlikely assumption that a particular scenario will ever occur." (DEIS p. 4-40)

> "The probability of the scenario future occurring is practically zero because it is an artificial scenario." (DEIS p. 5-88)

> "The alternatives were evaluated using an alternate future without conditions, which assumes a continued wet climate scenario based on the climate sequence from 1993

> through 1999 repeated until a natural overflow to the Sheyenne River occurred. The probability that the lake will rise exactly in this way is zero." (DEIS p. 5-71)

Thus, the "wet future scenario" has nothing to do with reality, but is simply a set of manufactured conditions specifically created to result in just enough precipitation over a 21-year period to cause the lake to overflow without the Pelican Lake 300 cfs outlet, but not so much that the lake would still overflow even with the outlet. But, of course, "The probability that the lake will rise exactly in this way is zero" (DEIS p. 5-71). Nevertheless, proponents of the outlet cite this artificially contrived scenario as justification for building the outlet. For example:

> "The key to getting a Devils Lake outlet, one official says, is to persuade the Army Corps of Engineers [to] accept a so-called 'wet-cycle scenario.'
>
> Ramsey County Commissioner Joe Belford said that if the corps accepts the premise that the wet cycle of the last eight years will continue for another 10 years or more, the project easily would meet federal benefit-cost requirements." (Associated Press, 2002b)

Of course, the Corps cannot accept a premise that the wet cycle of the last eight years (2001 was not a wet year in the Devils Lake Basin) will continue for another 10 years because it is without valid scientific foundation. However, rather than dealing with the matter on a rational, factual basis:

> "Mike Connor, manager of the Devils Lake Basin Joint Water Board said… 'I think it's time for people to hollar a little bit… Well, maybe not a little bit, maybe a whole lot." (Associated Press, 2002b)

Unfortunately, this has been the approach universally employed by proponents of an outlet from Devils Lake since the lake began its rapid rise in 1993. The Corps, however, is obligated to take a more responsible approach, and it is required under NEPA to recognize and respond substantively to the National Academy of Sciences' admonition that failure to deal explicitly with uncertainty leads the unwary to have far too much confidence in the resulting forecast and analysis, which can lead to bad public decisions. The proposed outlet from Devils Lake reflects precisely such a failure to deal explicitly with uncertainty leading the North Dakota congressional delegation, the Governor, the State Water Commission and other unwary proponents of the outlet to have far too much confidence in the "wet future scenario" and, therefore, to advocate a bad public decision.

According to the DEIS:

> "To better understand the sensitivity of assumptions used for future lake conditions, both with and without project, the alternatives were evaluated in comparison to other possible conditions." (DEIS p. 3-24).

Those conditions were (1) No Action Protection Strategy, (2) Moderate Future Scenarios, (4) Erosion of Natural Outlet, and (5) Proposed Temporary Outlet As Part of Future Conditions (DEIS pp. 3-24-25). However, the DEIS does not provide a sensitivity analysis of the proposed Pelican Lake 300 cfs outlet itself under a "wet future scenario." As noted above, the "wet future scenario" is a manufactured set of conditions specifically contrived to result in just enough precipitation over the next 21 years to cause the lake to overflow without the outlet, but not so much that it would still overflow even with the outlet. Therefore, it would be helpful to the public and to decision-makes in understanding the tenuous nature and dubious relevance of the

"wet future scenario" for the Corps to perform a sensitivity analysis of the outlet itself to show the effect on the efficacy and benefits of the proposed outlet of variations from the specific "wet future scenario" conditions outlined in the DEIS. For example, at elevation 1457 feet, the "expected lake stage" with the proposed Pelican Lake 300 cfs outlet after the first 14 years of the "wet future scenario" (DEIS Table B, p. 1-S-4; Appendix A p. A-21), the lake would have a surface area of approximately 230,000 acres (interpolated from DEIS Figure 7, p. 2-6). Annual inflows to the lake from 1993 to 1999 averaged 317,000 acre-feet (DEIS p. 1-5) and precipitation, which averaged 21.0 inches from 1993 to 1999 (WEST Consultants, Inc., 2001) would contribute another 402,500 acre-feet to the 230,000 acre lake, for average total annual accruals of 719,000 acre-feet. Evaporation, which averaged 29.0 inches, or 2.42 feet, during the period (WEST Consultants, Inc, 2001), would remove 319,440 acre-feet, and the outlet, operating at maximum capacity for seven months would remove another 126,000 acre-feet, leaving a net gain of 36,900 acre-feet per year under the "wet future scenario."

If average annual precipitation in the Devils Lake Basin under the "wet future scenario" were to increase by one inch (5 percent) above the 1993-1999 level, average annual inflows might be expected to increase from 317,000 acre-feet to 332,850 acre-feet and direct precipitation on the lake would increase from 402,500 acre-feet to 420,900 acre-feet, for an increase in total average annual accruals to 753,750 acre-feet. Evaporation would remove a little more than 319,440 acre-feet because the surface area of the lake would be a little larger, but the outlet still would remove only 126,000 acre-feet, leaving a net gain of about 71,000 acre-feet, or about 3.7 inches, per year, bringing the lake dangerously close to the overflow elevation of 1459 feet by the end of the third seven years of the "wet future scenario." An increase in average annual precipitation under the "wet future scenario" of two inches (10 percent) would result in an overflow to the Sheyenne River even with the proposed Pelican Lake outlet operating at full capacity, thus negating much of the assumed benefit of the outlet.

Similarly, a decease of one inch (5 percent) in average precipitation from the "wet future scenario" would not result in significant overflows to the Sheyenne River even without the proposed outlet, and a decrease of two inches (10 percent) would result in virtually no overflow, again negating much of the assumed benefit of the outlet.

Paradoxically, the DEIS cites the impossibility of predicting future lake levels with certainty as the reason for employing the "wet future scenario" (DEIS Abstract) and to justify the proposed outlet (DEIS p. 1-S-8), but it ignores the fact that realization of the anticipated benefits of the proposed outlet presumes an ability to predict future lake levels with virtual absolute certainty, because any significant deviation from the "wet future scenario" would substantially diminish or negate those benefits.

The $125 Million Lottery Ticket

The DEIS attempts to rationalize a justification for the proposed outlet in the face of such climatic uncertainty (DEIS p. 1-S-4-10; Appendix A, p. A-9-18) and tenuous benefits (DEIS p. 5-71) by suggesting that:

> "Given the uncertainty and controversy around the ability to forecast future lake stages, a decision to proceed with an outlet must consider risk aversion. Instead of relying on the probability analysis, one could view the construction of an outlet as an insurance policy, rather than as an investment." (DEIS p. 1-S-3)

The analogy, however, is patently invalid. An insurance policy is not a guarantee that an adverse event will not occur, but rather provides compensation if the event should occur. The proposed Pelican Lake 300 cfs outlet does neither. It does not guarantee that the lake will not continue to rise—under the "wet future scenario" it would (DEIS p. 5-86)—or that it would not overflow to the Sheyenne River—it could (DEIS p. 5-89), nor does it provide any compensation if either of these occurs. Consequently, rather than viewing the proposed Pelican Lake 300 cfs outlet as an insurance policy as the DEIS suggests, it should more accurately be viewed as a $125 million (DEIS Table 6, p. 4-13) lottery ticket—with virtually no chance of winning (DEIS pp. 4-40, 5-71, 5-88).

Erosion of the Natural Outlet – Indulging Geologic Fiction

The DEIS states that:

> "A sensitivity analysis was conducted assuming the natural outlet would erode and no actions would be taken to prevent it. The analysis is based on the materials present at the site and not on a determination if it actually eroded in the past. There is evidence and some debate if it did erode in the past or did it actually accrue sediment. Materials at about 7 feet are over 7,000 years old. Devils Lake is estimated to have spilled to the Sheyenne River within the last 1,200 years; therefore, it did not erode at that time." (DEIS p. 5-90; Appendix C, p. 129).

Nevertheless, the DEIS then goes on to describe the impacts that would occur if the natural outlet were to erode:

> "It the outlet were allowed to erode, the effects would be much more significant. It is estimated that the outlet would erode down to elevation 1450 feet with a maximum discharge of about 6,000 cfs and erosion of over 400,000 cubic yards of material…
>
> Downstream effects resulting from the erosion of the natural outlet would be significant. There would be increased sedimentation in the Sheyenne River and Lake Ashtabula. Erosion would also increase in the Sheyenne River. There would be substantial effects to the downstream aquatic resource on the Sheyenne and Red Rivers. High flows, changed water quality, sedimentation, erosion, increased groundwater levels, and overbank flooding would result in the loss of aquatic and riparian habitats. Aquatic bitoa and terrestrial wildlife populations in the riparian zone would be totally modified." (DEIS p. 5-90; Appendix C, p. 129)

However, in discussing erosion of the natural outlet, DEIS Appendix B states that:

> "Based on the most recent surveys, overflow from Stump Lake occurs when the lake level reaches an elevation of 1459.1 feet. This analysis indicates that the outlet control point would slowly be eroded, with the maximum potential erosion occurring down to 1450.8.
>
> …
>
> Under this analysis, a peak discharge of 1,440 cfs was expected to occur during year 17. (This compares to a peak discharge of only 206 cfs when no erosion of the Tolna Coulee is assumed.)… " (DEIS Appendix B, p. B-25)

Whether the peak discharge would be 6,000 cfs or 1,440 cfs, because the potential impacts identified with erosion of the natural outlet nine feet (or eight feet) from its current elevation of 1459 feet to 1450 feet (or 1450.8 feet) are so dramatic, it is appropriate and instructive to consider further the likelihood of this occurring.

The DEIS states that the materials at seven feet (elevation 1452 feet) are over 7,000 years old and that the last overflow is estimated to have occurred within the last 1,200 years, so the outlet did not erode at that time. However, this overlooks a substantial portion of the geologic evidence regarding the absence of erosion of the natural outlet in past overflow events. For example, Murphy et al. (1997) report that:

> "Sufficient sedimentological evidence exists from the Tolna Outlet to document *at least six times* [emphasis added] in the Holocene (the last 10,000 years BP [Before Present]) when water from the Devils Lake/Stump Lake system overflowed into the Sheyenne River."

and they cite evidence of five overflow events occurring between 7,500 and 9,500 years ago and four occurring between about 700 and 5,000 years ago, including one that apparently lasted for several hundred years, for a total of nine overflow events in the past 10,000 years since Devils Lake was formed by the Wisconsin Glacier (Murphy et al., 1997). In fact, the sediments in Tolna Coulee six feet down at elevation 1,453 feet are over 5,000 years old and those eight feet down at elevation 1451 feet are over 7,400 years old (Murphy et al., 1997) Therefore, with materials at 1453 feet being over 5,000 years old and those at1451 feet being over 7,400 years old, it is clear that the outlet did not erode to elevation 1450 feet during any of at least four overflow events that have occurred in the last 5,000 years. In fact, with the sediments at 1458.5 feet—a half foot below the current overflow elevation of 1459 feet—being over 1,100 years old, it is evident that virtually no erosion of the outlet occurred during the last overflow event about 700 years ago (Murphy et al., 1997).

The geologic evidence indicates that, rather than the outlet eroding during overflow events, the trend has been the exactly the opposite, with deposition of sediment during overflow events building up the outlet. As Murphy et al. (1997) point out:

> "Evidence of at least seven fluvial events has been preserved in the channel fill deposits of [Tolna Coulee] trench TT1. Fluvial events are marked by layers of coarse grained sediments *presumably washed into the Coulee by water flowing from Stump Lake. These sediments were deposited at times when water levels in Devils Lake were sufficiently high to cause water to flow into the Sheyenne River through Tolna Coulee.* [emphasis added] It is likely that additional flood events occurred in this Coulee, but are not recorded in the sediments at this site. The sedimentological evidence is missing either because floods were of insufficient size and duration, or because it was removed by the scouring action of subsequent flood events."

However, Murphy et al. (1997) cite no geologic evidence, and the DEIS cites no other evidence, of sediments having been scoured from the outlet during overflow events. Therefore, if additional overflow events did occur, it is more reasonable to conclude that they were minor and did not result in either significant erosion or sedimentation of the channel. Examination of the data presented by Murphy et al. (1997) provides further support for this conclusion. For example, at a second site in the Tolna Coulee, snail and clam shell fragments were found in 3500 to 4,500 year old sediments between elevation 1455 and 1456 feet (Murphy et al., 1997). Although it is possible that these could have been deposited in a former isolated wetland at the sampling site in

Tolna Coulee, it is equally possible that they were incorporated in sediments deposited during an overflow event or events. The fact that snail and clam shell fragments were found at seven different strata dating from 7,000 to 8,000 years ago at the two sampling sites (Murphy et al., 1997) would suggest that their deposition was related to events occuring on a larger scale than the appearance of isolated wetlands. In any case, the presence of these shell fragments in 3,500 to 4,000 year old sediments three to four feet below the current overflow elevation of 1459 feet provides additional evidence that significant erosion of the outlet has not occurred in any of at least three overflow events that have occurred over the last 2,500 years, and that overflows actually resulted in aggregation rather than erosion of the outlet.

A revised DEIS should expand its discussion of the probability of the natural outlet at Tolna Coulee eroding if Devils Lake should overflow by pointing out that there is no evidence in the geologic record to indicate that significant erosion of the outlet has occurred during any of at least four overflow events that have occurred in the past 5,000 years, or in any of the nine overflow events that have occurred since Devils Lake was formed 10,000 years ago. The DEIS should also point out that the evidence from the geologic record shows that, instead of resulting in erosion of the outlet, overflow events tend to deposit sediment in the outlet, causing the overflow elevation to increase. A revised DEIS should make it absolutely clear that there is no evidence in the geologic record to support speculation that an overflow would cause the outlet to erode nine feet to elevation 1450 and result in the discharge of up to 6,000 cfs of water to the Sheyenne River with the erosion of over 400,000 cubic yards of material.

Not only is there no evidence in the geologic record that significant erosion of the outlet would result if an overflow occurred, but the probability of an overflow occurring is, itself, very small. The probability that Devils Lake will reach elevation 1459 feet is 9 percent and the probability that it will reach elevation 1460 is 7 percent (DEIS Appendix B, Table II.ST-2, p. B-195). However:

> "…Devils Lake would have to rise to 1460.6 before there would be a significant flow (at least 300 cfs) to the Sheyenne River… Computer simulations of possible future lake levels assumed no erosion of the natural divide and suggest a probable maximum lake level of about 1463, with a corresponding outflow exceeding 2,500 cfs…" (DEIS p. 2-9)

Elsewhere, the DEIS states that the peak discharge with no erosion of the outlet would be only 550 cfs (DEIS p. 4-34), and the Fish And Wildlife Service points out in Appendix 2 that analysis of Corps data for a 6-year flood event and a Standard Project Flood (SPF) event revealed that:

> "The 6-year outflow showed that the maximum outflow out of the basin within the first 24 months was in month 18, with a maximum outflow of 80 cfs, with a 24 month average of 61 cfs. The SPF outflow showed a maximum of 1196 cfs in month 6, with a 24 month average of 463 cfs." (DEIS Appendix 2, p. 14-6)

The probability that Devils Lake will rise to 1463 feet is only 1 percent and the probability that it will rise to 1460.6 is about 5 percent (DEIS Appendix B, Table II.ST-2, p. B-195). Consequently, the probability that Devils Lake will rise to a level where significant overflows would occur is extremely low, and construction of the proposed Pelican Lake 300 cfs outlet would reduce that probability by half but would not eliminate it—and it would not reduce the 1 percent chance the lake will reach 1463 feet at all (DEIS Appendix B, Table II.ST-2, p. B-195). As the DEIS points out:

> "The probability of a natural overflow is small and therefore effects described under the scenario future without project conditions for downstream effects of a natural overflow do not have a high probability of occurring." (DEIS p. 5-88)

> "Since the probability of a natural overflow to the Sheyenne River is relatively low (less than 10 percent), a natural overflow is not assumed to be part of the most likely future." (DEIS p. 4-12)

Finally, in the unlikely event that Devils Lake would rise to elevation 1459:

> "…measures at the location of a natural overflow to minimize erosion were also considered as potential features of the most likely future without the proposed project." (DEIS p. 3-9)

and:

> "One of the assumptions for the base condition upon which alternatives were compared was that measures would be taken at the location of a natural overflow to minimize erosion… The structure envisioned with that alternative included a 380-foot-wide concrete drop structure, with a cost for the structural portion of $1.1 million." (DEIS p. 4-33)

Thus, (1) the probability that Devils Lake will overflow is very low, (2) if Devils Lake were to approach the overflow elevation, measures would be implemented to prevent erosion of the natural outlet and (3) even if Devils Lake were to overflow and no measures were taken to protect the natural outlet, there is no evidence in the geologic record to indicate that significant erosion of the outlet would occur. Consequently, the discussion of erosion of the natural outlet in the DEIS is entirely speculative and has little relevance, and a revised DEIS should make that clear.

Wetlands, Wetland Drainage and Wetland Restoration

A fundamental deficiency of the DEIS is its narrow focus on engineering solutions to the problems resulting from the rising level of Devils Lake, to the total exclusion of any consideration of the cause. For example, the DEIS fails to relate those problems to Devils Lake's long and consistent history of wide fluctuations in levels, ranging from completely dry at 1394 feet to overflowing at 1459 feet (DEIS p. 2-2). The DEIS does not address the fact that, despite widespread recognition that the lake was at its current level as recently as 1830 and was officially recorded at elevation 1438.4 feet in 1867, development was permitted to encroach on the bed of the lake as the level continued to decline to its modern day low of 1400 feet in 1940; development was permitted to continue on the bed of the lake as the level began to rise again after 1940; it was permitted to continue even after 1983 when the lake had reached 1427 feet with a surface area of 54,000 acres and the State was seeking disaster assistance from the Corps for "flooding problems" around the lake; and it even has been permitted since the lake began its recent dramatic rise in 1993. The DEIS does not recognize the simple fact that the "flooding problem" at Devils Lake is the direct result of people moving onto the bed of the lake which has been higher than its current level in the past.

Although increased levels of precipitation from 1993 to 1999 (average of 21 inches per year, compared with an average of 16.5 inches per year from 1980 to 1992 [WEST Consultants, Inc., 2001]) obviously were the force driving the recent dramatic rise of the lake, the DEIS does not

make any attempt to identify the contribution of other factors, such as land use changes and wetland drainage in the Devils Lake Basin, in exacerbating the rise of the lake.

Water Resource Management in the Devils Lake Basin

In his Final Biennial Report for 1911-1912, the North Dakota State Engineer reported to the Governor that:

> "The water level of any lake possessing no outlet depends on the amount of evaporation, seepage, rainfall and run-off into the Lake from the drainage area tributary to it. The drainage area of Devils Lake is nearly two thousand square miles, but the land lies so nearly level, and there are so many marshes, meadows, small ponds and lakes which arrest the flow of the water and from which it evaporates that it is not likely that the run-off from more than seven hundred to eight hundred square miles of the total area ever reaches the lake." (State Engineer, 1912)

Unfortunately, management of water resources in the Devils Lake Basin since that time has been characterized by decades of rampant and unregulated private wetland drainage and ill-considered public agricultural drainage projects (Pearson, 1985). For example, in the mid-1950s when wetland drainage began causing problems for landowners lower in the watershed, the NDSWC placed a moratorium on private drainage in the Devils Lake Basin, but the State Engineer made no attempt to enforce the moratorium and the chairman of a local water board even declared publicly that farmers would continue to drain wetlands regardless of State laws and the NDSWC's moratorium (Pearson, 1985).

With agricultural flooding problems north of Devils Lake intensified by wetland drainage in the upper basin, the U. S. Soil Conservation Service was authorized in 1967 to begin detailed planning of a 246,477-acre Starkweather Watershed Project, involving the construction of more than 60 miles of channels and the drainage of some 60,000 additional acres of prairie wetlands and lakes, with the 2000 cfs main channel (Channel "A") discharging directly into Six-Mile Bay of Devils Lake (Pearson, 1985). However, the Soil Conservation Service abandoned the project in 1973 after environmental impact analyses mandated by NEPA disclosed the project's severe adverse impacts on wetlands and water quality in Devils Lake (Pearson, 1985).

An Associated Press story in 1975 already was reporting flooding problems at Devils Lake:

> "… But today too much water plagues the lake and nearby residents.
>
> …
>
> Between 1972 and 1975, the lake rose six feet [to 1425 feet], becoming a threat to low-lying roads and private property along the shore.
>
> …
>
> In the dry period, roads were built across narrow parts of the lake bed; farmers planted and harvested below the old high water mark; and the city of Devils Lake expanded into part of the old lake bed.

> Now the city is planning to build a dike between the lake and the town and the Army Corps of Engineers is working with local officials to plan for a possible flood during spring runoff.
>
> A heavy runoff could raise the water level one or two feet and flood businesses and private property, city and state authorities said.
>
> The State Highway Department says North Dakota 57, at the narrows between the main lake and East Bay, has been damaged by high water…
>
> County and township roads also have been damaged by high water…" (Zaleski, 1975)

With flooding problems in the watershed and around Devils Lake unresolved and the Starkweather Watershed Project stalled, the 1975 North Dakota Legislative Assembly established a Devils Lake Basin Advisory Committee, dominated by drainage interests and supported by the NDSWC, to study water management problems in the Devils Lake Basin and to recommend solutions (Pearson, 1985). However, at the same time, the Legislative Assembly appropriated $600,000 for the construction of the 2,000 cfs Channel "A" of the Starkweather Project, thereby precluding any possibility of the committee's not including this feature in its recommendations (Pearson, 1985). Although the cost participation agreement for Channel "A" between the NDSWC and the Ramsey County Water Management District explicitly stated that:

> "It is the determination of the Commission that additional drainage of presently noncontributing areas will significantly contribute to increased lake levels in the Devils Lake chain, thereby increasing the flood hazard potential to the City of Devils Lake and to thousands of acres of littoral land."

and required the Ramsey County Water Management Board to enforce all applicable drainage laws, noting:

> "Specifically, this includes the establishment of an effective drainage permit program to implement Section 61-01-22 of the North Dakota Century Code (or any other similar statutory permit program hereafter enacted) and any supplementary regulations adopted by the Commission. Further, this includes the establishment of a procedure for closure of unauthorized drains, lateral drains, or ditches as required by Section 61-16-50 (or any similar statute hereafter enacted). An effective drainage regulatory mechanism is essential to preserve the integrity of Channel 'A' and the investment of the State."

The State drainage laws required a permit for the drainage of watersheds 80 acres or larger and a permit was not to be issued unless an investigation determined that the quantity of water drained would not flood or adversely affect downstream landowners. However, county water boards typically take the position that it is not their job to be policemen and will take action on violations only if formal complaints are filed (Pearson, 1985). Consequently, both the county water boards and those who want to drain wetlands routinely ignore the permit requirement. Because landowners generally are reluctant to file complaints against neighbors (Associated Press, 1991), only the most egregious violations are reported (Pearson, 1985). When complaints are filed, they are then routinely dismissed (1) as being 'clean-outs' of existing drains, a claim that is difficult to disprove after the fact, (2) as involving watersheds of less than 80 acres, either by arbitrary decision of the board or the expedient of two or more drains being used to drain the watershed, (3) by simply denying that drainage has occurred, or (4) ordering perfunctory closures while permits are issued after the fact (Pearson, 1985). If the complaint cannot be dismissed readily

through these ploys, the boards frequently will repeatedly delay action until the complainant finally gives up in frustration. Consequently, little effort was made by either the Ramsey County Water Management Board or the NDSWC to enforce the agreement, and, in fact, between 1977 and 1982, the State Engineer himself approved a dozen drainage permits in the Starkweather and Edmore Watersheds, both of which drain through Channel "A" (Pearson, 1985).

Despite mounting concern over the rising levels of Devils Lake in the mid-1970s (Zaleski, 1975), the State Engineer approved a permit in 1976 for the partial drainage of Hurricane Lake, an area heavily used by migrating snow geese, adding another 7,000 acre-feet of water to Devils Lake (Pearson, 1985). Then during the spring and summer of 1979 when Devils Lake was rising from elevation 1422 feet to 1427 feet, 74,000 acre-feet of water were discharged into the lake from Channel "A" (U. S. Army Corps of Engineers, 1980). These flows were equal to nearly half of the 159,000 acre-feet flowing into West Bay from Mauvais Coulee (U. S. Army Corps of Engineers, 1980), which historically had been the primary route of inflows into the Devils Lake Chain (U. S. Army Corps of Engineers, 1983). In fact, on May 4, 1979, with Devils Lake at 1424.6 feet, the 1,560 cfs discharge from Channel "A" exceeded the 1,350 cfs natural flows at Mauvais Coulee (U. S. Army Corps of Engineers, 1980).

By 1981, the rising lake was creating problems at the City of Devils Lake's new industrial park, which one city official admitted privately was in an area that "is too low to begin with" (Zaleski, 1981).

In the spring of 1982, at the same time the Ramsey County Commission was petitioning to have Devils Lake declared a disaster area because of flooding that was occurring as the lake reached a level of 1427 feet (Associated Press, 1982), the Ramsey County Water Management Board, which operates Channel "A," had the control gates open to permit the discharge of additional water into Devils Lake (Pearson, 1983).

A year later, in the spring of 1983, while the State was seeking disaster assistance from the Corps for flooding problems around Devils Lake, the Ramsey County Water Management Board, without the required permit from the State Engineer, constructed a ditch from Lake Irvine to drain up to another 6,000 acre-feet of water into Devils Lake, and then a few months later approved a permit to drain Morrison lake into Devils Lake (Pearson, 1985).

The attitude of drainage proponents in the face of the escalating problems created by the rising level of Devils Lake was still being expressed two years later in 1985 by Ramsey County Water Resource Board chairman and Devils Lake Basin Advisory Committee member Robert Garske:

> "Wetland drains are a 'round robin' that profit both farmers and businessmen, Garske said. Farmers can raise wheat instead of ducks on drained wetlands, and businessmen profit from more customers drawn to the Devils Lake fishery, which runoff water supports by keeping the lake from getting too salty and killing the fishery, he said.
>
> 'Rather than trying to hold (water) back, we need to figure out how to get more in,' Garske said." (Buttz, 1985)

That attitude has not changed. At an August 26, 2000, public meeting in Valley City, North Dakota, on the State of North Dakota's proposed "temporary" emergency outlet from Devils Lake, former North Dakota State Engineer David Sprynczynatyk stated that his office would resume issuing permits for wetland drainage in the Devils Lake Basin as soon as the outlet is built.

At a June 22, 1983, public meeting held by the Corps on water related problems in the Devils Lake Basin, the North Dakota Chapter of The Wildlife Society reviewed the history of water resource mismanagement in the Devils Lake Basin and recommended that the Corps (1) place a ban on further wetland drainage in the basin, (2) initiate a study of the impacts of current water management practices on Devils Lake, (3) conduct a comprehensive hydrologic investigation to identify the factors contributing to flooding and other water resource problems in the basin, (4) assume leadership in developing a comprehensive water resource management program for the basin, and (5) reject the alternative of an outlet to the Sheyenne River and require that water management problems be resolved within the basin (Pearson, 1983). However, nearly two decades later, the Corps still has done none of these, but instead remains focused on the construction of an outlet from Devils Lake to the Sheyenne River, while still not having done the studies necessary to determine the causes of the problem it purports to solve.

Wetlands and Wetland Drainage in the Devils Lake Basin

Although the DEIS acknowledges that wetland drainage in the Devils Lake Basin is an issue that was raised in the scoping process (DEIS Appendix C, p. C-102), it makes no attempt to address the issue. In describing the Base Conditions/Affected Environment, the only information related to wetlands provided in the DEIS is:

> "Wildlife in the Devils Lake basin is closely associated with water and wetlands. Shallow water wetland habitats are clearly the most valuable habitat for waterfowl. Many wildlife and waterfowl species utilize lakes in the Devils Lake chain and surrounding habitats. Stump Lake has long been known as an excellent staging and breeding area for waterfowl and shorebirds. In 1905, President Theodore Roosevelt declared a portion of the west bay of Stump Lake as a National Reservation, making it one of the oldest refuges in the nation." (DEIS p. 2-14)

and in Appendix C, the DEIS states, regarding Base Condition – Upper Basin, that:

> "Wetland habitats of Devils Lake and its watershed can be grouped into broad categories which provide several functions and values unique to wetlands such as flood water storage, habitat for wildlife, filtering of polluted water, and groundwater recharge. Most of the wetlands in the basin can be classified as palustrine, emergent, temporarily, seasonally and seimpermanently flooded wetlands. The upper basin chain of lakes can be described as lacustrine." (DEIS Appendix C, p. C-20)

There is no discussion of the numbers and acreages of the different types of wetlands originally in the Devils Lake Basin, no discussion of the numbers, acreages and types of the wetlands that have been drained and their flood water storage capacity, and no discussion of the contribution of that drainage to the rise in Devils Lake. In fact, the only substantive information on wetlands and wetland drainage is in the Fish and Wildlife Coordination Act Report, which is Appendix 2 to the DEIS. Here the reader learns that the Corps initiated an evaluation of upper basin storage in 1999 and that the evaluation was conducted by WEST Consultants, Inc., of San Diego, California (DEIS Appendix 2, p. 10-1). The reader also learns here that the study by WEST Consultants identified 200,000 acres of intact wetlands and 92,000 acres of drained wetlands, but the study covered only 68 percent of the Devils Lake Basin (DEIS Appendix 2, p. 10-2-3). In addition, the digital evaluation model used by WEST Consultants employed a 5-foot contour for 65 percent of the upper basin and a 10-foot contour for the remaining 35 percent that was studied, resulting in a failure to identify many drained wetlands (DEIS Appendix 2, p. 10-3). WEST Consultants also

supplemented the digital evaluation modeling with National Wetland Inventory maps based on 1979 and 1983 photography (DEIS Appendix 2, p. 10-3), but nearly 100,000 acres of wetlands already had been drained in the Devils Lake Basin by 1975 (TPI Consultants, Inc., 1976), so many of those also would have been missed.

> "As a result, it's likely that a significant number of drained depressions were never included in this study due to the limitations of the DEM data, a fact that WEST acknowledges." (DEIS Appendix 2, p. 10-3)

Because of the difficulty in accurately identifying drained wetlands, a more reliable method is to compare the acreage of remaining wetlands in the Devils Lake Basin with the original wetland acreage in the basin. Hydric soils develop under saturated or flooded conditions which support the growth of hydrophytic vegetation and, therefore, are an indictor of wetlands. Approximately 588,900 acres of hydric soils occur in the Devils Lake Basin (U. S. Fish and Wildlife Service, 1997). The Devils Lake Basin Advisory Committee, in a study authorized by the North Dakota Legislative Assembly and prepared with the assistance of the NDSWC and under the supervision of the Governor's Office, determined that 569,000 acres of wetlands originally were present in the Devils Lake Basin, and that 98,000 acres of wetlands had been drained in the basin by 1975 (TPI Consultants, Inc., 1976). Thus, it appears that from 569,000 to 589,000 acres of wetlands originally were present in the Devils Lake Basin.

Ludden et al. (1983), using photogrammatic mapping of selected areas of the basin, estimated that a total of 412,000 acres of drained and undrained wetlands were present. The Fish and Wildlife Service estimated in 1997 that there were 211,000 acres of undrained and 189,000 acres of drained wetlands in the Devils Lake Basin (U. S. Fish and Wildlife Service, 1997).

A July 14, 1998, letter from the North Dakota State Water Commission to the St. Paul District of the U. S. Army Corps of Engineers also reported that:

> "Approximately 211,000 acres of wetlands exist in the Devils Lake basin including upper basin lakes, which comprise about 30,000 acres of the total."

The results of the study by WEST Consultants, Inc., are consistent with these figures. WEST Consultants identified 201,990 acres of "possibly intact" existing wetlands in the 68 percent of the Devils Lake Basin included in their study (WEST Consultants, Inc., 2001).

West Consultants also identified 92,429 acres of "possibly drained" wetlands in the 68 percent of the Devils Lake Basin included in their study (WEST Consultants, Inc., 2001). However, as noted above, the methods used in the WEST Consultants' study have been found to underestimate the acreage of drained prairie wetlands by 50 percent (DEIS Appendix 2, p. 4-2), so the 92,429 acres of drained wetlands identified in the WEST study likely reflect only half of 185,000 acres of drained wetlands in the 68 percent of the Devils Lake Basin included in their study.

Therefore, it may be concluded that a minimum of 189,000 acres to a maximum of 378,000 acres of wetlands have been drained in the Devils Lake Basin.

Contribution of Wetland Drainage to the Rise of Devils Lake

Although wetland drainage obviously is not the sole cause of the recent rise of Devils Lake, with inflows to the lake form 1993 to 1999 averaging 317,000 acre-feet (DEIS p. 1-5), the contribution of wetland drainage to those inflows clearly warrants careful evaluation.

Ludden et al. (1983) estimated the average depth of natural wetlands in the Devils Lake Basin at 7.1 inches in 2-year frequency runoffs, 11.8 inches in 10-year runoffs, 14.6 inches in 25-year runoffs, 15.7 inches in 50-year runoffs, and 18.5 inches in 100-year runoffs, with maximum average depths of 20.9 inches. The higher levels of precipitation and runoff in the Devils Lake Basin from 1993 to 1999 were preceded by four years of severe drought—comparable to the Dust Bowl days of the 1930s—from 1988 to 1992, so many of the wetland basins were dry and at near maximum potential storage capacity at the time the increased precipitation began in 1993. This would suggest, therefore, that as much as 328,860 acre-feet of water entered Devils Lake as a direct result of the lost storage capacity of 189,000 acres of drained wetlands in the basin. This is 2.6 times the volume that could be removed from the lake by the proposed Pelican Lake 300 cfs outlet operating at maximum capacity for seven months from May through November. This does not include the continued annual inflow reductions that would have occurred if those wetlands had not be drained.

The U. S. Fish and Wildlife Service estimated the maximum storage capacity of the 189,000 acres of wetlands it determined had been drained in the Devils Lake Basin at 491,000 to 926,100 acre-feet (U. S. Fish and Wildlife Service, 1997). This is 3.9 to 7.4 times the volume that could be removed from the lake by the proposed 300 cfs outlet operating at maximum capacity for seven months, and it also does not include the subsequent annual inflow reductions to the lake that would have occurred if those wetlands had not been drained.

WEST Consultants estimated the volume of the 92,429 acres of "possibly drained" wetlands they identified in the 68 percent of the Devils Lake Basin included in their study at 132,729 acre-feet (WEST Consultants, Inc., 2001). However, as noted above, the methods used by WEST to identify drained wetlands likely resulted in the actual acreage of drained wetlands being underestimated by 50 percent. Therefore, doubling the volume of the 92,429 acres of "possibly drained" wetlands identified in WEST's study results in a total of 265,458 acre-feet of lost initial storage capacity, and, consequently, added inflows to Devils Lake when the 1988-1992 drought ended in 1993, as a direct result of wetland drainage. This is 2.1 times the volume that could be removed from the lake by the proposed outlet operating at maximum capacity for seven months, and it is over three times the volume that would be removed by the outlet in a typical year of operation. Of course, this also does not include the subsequent reductions in annual inflows that would have occurred if those wetlands had not been drained.

It is evident from these data that the drainage of 189,000 acres of wetlands in the Devils Lake Basin—the minimum estimate—resulted in 265,458 to 924,100 acre-feet of additional water initially reaching Devils Lake when the 1988-1992 drought was succeeded by unusually high levels of precipitation beginning in 1993. That is equivalent to an additional 2 to 7 feet at the January 2002 lake elevation of 1447.1 feet and surface area of 132,000 acres, including Stump Lake (DEIS p. 2-6), and it again does not include the subsequent reduction in annual inflows that would have occurred if those wetlands had not been drained.

The average annual reduction in runoff provided by the renewable storage of existing, intact wetlands in the Devils Lake Basin includes (1) the difference between average annual precipitation (21 inches from 1993 to 1999) and evaporation (29 inches from 1993 to 1999) (WEST Consultants, Inc., 2001), which was 8 inches, (2) percolation into the soil from wetland basins, which averages 7.2 inches, and (3) evapotranspiration from areas of emergent vegetation in wetlands and vegetation at the perimeter, which averages 25.32 inches (U. S. Fish and Wildlife Service, 1997). However, because information is not available on the proportions of wetland basins that are open water and the proportions that have vegetation, and because the proportions

vary with changes in water elevations, for purposes of illustration, it will be assumed that the combined evaporation and evapotranspiration from intact wetland basins average 27 inches from 1993 to 1999. Therefore, the average annual runoff reduction from existing, intact wetlands is in the range of 1.1 feet, or 1.1 acre-feet per acre.[2] This means that the 211,000 acres of existing wetlands in the Devils Lake Basin reduce annual runoff by 232,000 acre-feet during wet periods like 1993-1999. This also means that, if they were still intact, the 189,000 acres of drained wetlands in the Devils Lake Basin could reduce average annual runoff by another 207,600 acre-feet. This continuing reduction in average annual runoff if the 189,000 acres of wetlands had not been drained is equivalent to 1.6 feet at the lake's January 2002 elevation of 1447.1 feet, or 1.65 times the volume that could be removed from the lake each year with the proposed Pelican Lake 300 cfs outlet operating at maximum capacity.

Wetland Restoration and Upper Basin Storage

If all of the precipitation occurred as snow in the winter and all of the runoff occurred as snowmelt in the spring with the ground frozen, these figures would represent the annual net renewable storage capacity and runoff reduction provided by wetlands (particularly seasonal and temporary wetlands). However, precipitation and runoff also occur at other times of the year, and non-wetland and drained wetland soils also have the capacity to store water and reduce runoff through percolation, evaporation and evapotranspiration, so these must be subtracted to arrive at the net increase in runoff reduction attributable to wetlands or to the net reduction in runoff attainable through wetland restoration.

WEST Consultants estimated the average additional annual runoff reduction that could be achieved by restoring wetlands in the Devils Lake Basin at 0.35 feet, or 4.2 inches, i.e., 0.35 acre-feet per acre of restored wetland (WEST Consultants, Inc., 2001), and explained that:

> "This value primarily represents the difference between storage and evaporation in restored depressions and the percolation and evapotranspiration from the soil before restoration. It does not represent the average evaporation from a depression, which was approximately 20 or more inches per year." (WEST Consultants, Inc., 2001)

However, the WEST Consultants report points out that:

> "The PRINET model did not include a soil moisture algorithm beneath the [restored wetland] depressions. Instead, the depressions were modeled as hard-bottom 'bowls'. Consequently, infiltration of water from a depression into the soil and evapotranspiration from the soil in the dry portion of a depression (when the depression was less than 100 percent full) were not modeled. Therefore, the model could be undepredicting the net total evaporation (free surface evaporation plus evapotranspiration from the soil) in the depressions."
>
> …
>
> Since the net total evaporation from depressions was probably underpredicted, the annual runoff reduction with depression restoration could be underestimated." (WEST Consultants, Inc., 2001)

[2] Particularly in wet years, wetlands less than a foot in depth may still reduce runoff by more than their depths as water is alternately lost through evaporation and seepage and replenished by precipitation.

The omissions and underpredictions result in a substantial underestimation of runoff reduction resulting from wetland restoration. First, including percolation from drained wetland basins but excluding seepage from restored wetlands, which averages 7.2 inches annually (U. S. Fish and Wildlife Service, 1997), underestimates average net annual runoff reduction of restored wetlands by 0.6 foot. Second, including evapotranspiration from drained wetland basins but not from restored wetland, which averages 25.2 inches in prairie wetlands (U. S. Fish and Wildlife Service, 1997), further reduces average net annual runoff reduction of restored wetlands. Third, surface evaporation in the Devils Lake Basin from 1993 to 1999 averaged 29 inches (WEST Consultants, Inc., 2001), or an additional 0.75 foot more than the 20 inches attributed to restored wetlands in WEST's calculation of runoff reduction. Therefore, the 0.35 foot average annual runoff reduction for restored wetlands calculated by WEST appears to underestimate the actual runoff reduction by 0.6 foot of seepage and about 0.75 foot of combined evaporation and evapotranspiration, or by a total of about1.35 feet. This is a 386 percent underestimation of potential runoff reduction by restored wetlands.

In evaluating the potential for upper basin storage, WEST Consultants determined that 79,762 acres, or 86 percent, of the 92,429 acres of drained wetlands they had identified in the 68 percent of the Devils Lake Basin included in their study were a half foot or greater in depth (WEST Consultants, Inc., 2001). Using 0.35 feet as the net average annual runoff reduction from restored wetlands, WEST then calculated the average annual runoff reduction for different climate sequences with restoration of 25 percent (19,472 acres) 50 percent (39,681 acres), 75 percent (59,872 acres) and 100 percent (79,762 acres) of those drained wetlands a half foot or greater in depth (WEST Consultants, Inc., 2001). WEST calculated the capacity of 50 percent of the 79,762 acres of drained wetlands a half foot or greater in depth (39,681 acres) to be 63,608 acre-feet, and the average annual runoff reduction with restoration to be 12,910 acre-feet under stochastic climatic sequences and 15,642 acre-feet under the wet climate sequence (WEST Consultants, Inc., 2001). With 100 percent restoration, the 79,762 acres of drained wetlands a half foot or greater in depth identified in the WEST study would have a capacity of 127,835 acre-feet and would result in an average annual runoff reduction of 23,841 acre feet under stochastic climate sequences, or 31,193 acre-feet under the wet climatic sequence (WEST Consultants, Inc., 2001).

The only upper basin storage alternative considered in the DEIS is restoration of 50 percent of the 79,762 acres of drained wetlands greater than a half foot in depth identified in the WEST Consultants study:

> "For this analysis to determine effects on Devils Lake stage effectiveness and cost effectiveness only 50 percent of the possibly drained depressions by volume, with depths greater than 6 inches, were used." (DEIS p. 3-19)

In discussing the impacts of this level of upper basin storage, the DEIS states:

> "Restoration of 50 percent by volume of the total possibly drained depressional area greater than 6 inches in depth in the upper basin would reduce the amount of fresh water entering Devils Lake… Because of the small amount of annual inflow reduction, ranging from 13,000 (stochastic) to 16,000 (wet scenario) acre-feet, there would be little long-term effect on water quality and the aquatic resource in Devils Lake (based on restoration of 50 percent by volume of the total possibly drained depressions greater than 6 inches in depth)." (DEIS p. 5-32)

Consequently:

> "On the basis of analyses performed to date, upper basin storage will not meet the project objectives as a stand-alone project." (DEIS p. 4-9)

However, the assertion upon which this conclusion is based, i.e., that wetland restoration would result in only "a small amount of annual inflow reduction, ranging from 13,000 (stochastic) to 16,000 (wet scenario) acre-feet," seriously underestimates, misrepresents and minimizes the potential for wetland restoration in the upper basin to reduce flooding problems at Devils Lake.

First, the 12,000 to 16,000 acre-feet annual inflow reduction cited in the DEIS fails to consider the initial 63,608 acre-feet of storage created by the restoration of 39,681 acres of drained wetlands in the upper basin (WEST Consultants Inc., 2001). Second, the 12,000 to 16,000 acre-feet annual runoff reduction figures are based on the 0.35 foot figure from the WEST Consultants report which, as discussed above, underestimates seepage from restored wetlands by 0.6 foot and underestimates evaporation from restored wetlands by 0.75 foot, for a total underestimation of the annual runoff reduction from restored wetlands of 1.35 feet. Therefore, the inflow reduction resulting from the restoration of 39,681 acres of drained wetlands would be 63,608 acre feet initially, and then an average of 46,000 acre-feet under stochastic climate conditions to 62,000 acre-feet under the "wet future scenario" annually thereafter.

However, because the WEST Consultants' study also underestimates the acreage of drained wetlands in the Devils Lake Basin by 50 percent, the potential inflow reduction with restoration of half of the 159,524 acres of drained wetlands over a half foot in depth that likely are present in the basin actually would be 92,000 acre feet (stochastic) to 112,00 acre-feet (wet future) annually. This is 115 percent of the volume that would be removed by the proposed Pelican Lake 300 cfs outlet in a typical operation year and 89 percent of the volume that could be removed with the outlet operating at maximum capacity under the "wet future scenario," respectively.

It should also be noted that van der Kamp et al., (1999) report that:

> "The long-term water level data presented in this paper show conclusively that when the catchments of small prairie wetlands are converted from cultivated land to undisturbed brome grass the wetlands dried out and remained dry, even in years of heavy precipitation."

Therefore, inflows to Devils Lake could be reduced even further by planting the catchments of both existing and restored wetlands to permanent grasses, rather than cultivating to the margins of the wetlands.

The DEIS attempts further to diminish the feasibility of alternatives involving wetland restoration in the upper Devils Lake Basin by stating that:

> "About 75 percent of the land use (about 30,000 acres) in the depressions is classified as cropland or grassland." (DEIS p. 5-32)

> "Landowners in the upper basin… feel that drainage is necessary in order to productively farm their land. They feel that additional inflows from their drainage practices have had little impact on increasing the lake level." (DEIS P. 4-9)

> "On the basis of previous attempts to voluntarily acquire runoff storage areas in the upper basin, this plan will be difficult and costly to implement. The value of payments to

acquire easements for storage areas, which are based on lost productivity of the land, are likely to be contested by landowners. This increases the administrative costs of implementing this plan significantly." (DEIS p. 4-9)

"Program administration and negotiations, included to acquire land through condemnation (Minimum of $4,800 per tract)." (DEIS Appendix B, p. B-29)

"Converting 30,000 to 40,000 acres of farmland to runoff storage areas reduces the economic base of the local economy that is already highly dependent on the agricultural sector. The storage areas could be farmed in dry years. But, in those years when they could not be farmed, the impact would be felt throughout the local economy." (DEIS p. 4-9)

"Annual costs for previous upper basin storage programs ranged from $40 to $90 per acre per year." (DEIS Appendix B, p. B-29)

"This analysis assumes that the storage is in place when the lake is above elevation 1440. Previous programs have varied from an annual program to one with a 10-year contract. Therefore, it is assumed that an expanded program could involve contract lengths of any duration up to 10 years. Implementation of an upper basin storage program would involve construction of outlet structures, acquisition or leasing of land and development of an operating plan for outlet structures when the lake recedes. On the basis of these items, it was assumed that the implementation of the storage would cost $1000 per acre. Therefore, the total project costs are $39,681,000." (DEIS p. 3-20).

Consequently:

"On the basis of the stochastic analysis, upper basin storage is not cost effective. Net benefits result under the wet future scenario." (DEIS p. 6-30)

Elsewhere, however, we find that:

"In 1996, agriculture accounted for 48 percent of the area's economy, followed by Federal Government outlays (38 percent), tourism (10 percent) and manufacturing (3 percent). Tourism has been the fastest growing component of the area's economic base, increasing from 3 percent in 1980 to 10 percent in 1996. Tourism is particularly important in Ramsey County, having reached nearly two-thirds the importance of agriculture in 1996. The tourism figures are understated because they account only for the expenditures of travelers from out of state." (DEIS p. 2-16)

"The per-acre market value of land and buildings is also similar: Ramsey $391, Benson $320, Nelson $476." (DEIS p. 5-19)

and:

"…many candidate wetlands in the High and Severe [salinization] hazard classes may be good candidates for restoration because they may no longer represent productive cropland. Many such wetlands are now unsuited or marginal for agriculture due to drainage-related salinity problems. Placing restored saline wetlands and their surrounding buffer zones into a conservation reserve program may be an attractive option

to farmers whose land is not producing efficiently because of existing, drainage-related salinity problems." (DEIS Appendix C, p. C-113)

"Costs for these outlet structures … could vary from $0 up to $100,000 per site." (DEIS Appendix B, p. B-29)

"Costs for easements or leases could vary widely since some lands may be more valuable agricultural areas than others may (ranging from 10 to 70% of fee title)." (DEIS Appendix B, p. B-29)

"Approximately 200,000 acres of land is currently under the CRP program in the basin." (DEIS Appendix C, p. C-17)

The Corps' failure to consider wetland restoration objectively and forthrightly in discussing the upper basin storage alternative is reflected in the statement that:

"Upper basin storage consists of storing water in depressions in the upper basin. This alternative would result in the conversion of agricultural lands to intermittent or permanent wetland storage areas." (DEIS p. 6-30)

Clearly, the Corps does not understand, or does not want to recognize, that wetland *restoration* involves converting wetlands that have been drained for agricultural production *back to wetlands*, rather than converting what were originally agricultural lands to wetlands.

It is apparent that restoring 40,000 to 80,000 acres of farmed wetlands—equivalent to 20 to 40 percent of the CRP acreage or 2.6 to 5.2 percent of the 1,562,000 acres of cropland in the basin—would not have a negative impact and could actually have a positive impact on the local economy and could be an attractive alternative for many landowners with marginally productive drained wetlands or drained wetlands that still cannot be farmed in wet years. It also is evident that the $1000 per acre figure "assumed" in the DEIS for wetland restoration represents a significantly inflated estimate—perhaps by two to five times—of the actual costs of a properly managed wetland restoration program. Consequently, by minimizing the benefits of wetland restoration by several fold while exaggerating the costs by several fold, the DEIS seriously underestimates, and thereby dismisses, the feasibility of the upper basin storage alternative.

The failure of the DEIS to provide an accurate, objective and realistic analysis of upper basin storage involving wetland restoration and other land use practices to reduce inflows to the lake renders the discussion of alternatives to the proposed action, and therefore the DEIS itself, inadequate on their face.

Continuing Wetland Drainage in the Devils Lake Basin

Because continued drainage of the remaining 211,000 acres of wetlands in the Devils Lake Basin would eliminate the water storage and runoff reduction capacity of those wetlands and exacerbate the problems caused by the high water at Devils Lake, the U. S. Fish and Wildlife Service points out:

"**Accelerated wetland drainage in the upper basin as a result of the outlet.** The Service is concerned about the accelerated loss of wetland habitat in the upper basin as a result of this project. A private drainage survey conducted from 1965 to 1980 documented a 2.5 percent drainage rate of wetlands per year in the Devils Lake basin.

> The Service believes that the pressure to drain remaining unprotected wetlands for agricultural and other purposes has not diminished over time. Within the basin, there is continuing legal action by lower basin landowners who claim that they have been adversely affected by the rise of Devils Lake, due in part to decades o[f] wetland drainage by upper basin landowners. In the recent wet cycle, the practice of wetland drainage, including pumping, has shown itself to be a contributing factor in the rise of the lake. The Service is concerned that the construction of an outlet, without control on additional inflow to the lake from drainage, will provide the supporters of wetland drainage a way to export water out of the basin." (DEIS Appendix 2, p. 11-20)

Therefore, the Service recommended:

> "**Moratorium on new wetland drainage and pumping within the basin for the life of the project.** The Service recommends that the Corps coordinate with the State to insure that any plans to remove water from the landscape and place it into the lake through wetland drainage be postponed during the life of the project to avoid the need to move additional water downstream. Taking precautions to prevent further aggravating factors, such as wetland drainage and pumping from increasing lake levels is consistent with the goal of the outlet to reduce lake levels and prevent a natural overflow of Devils Lake to the Sheyenne River." (DEIS Appendix 2, p. 14-2)

As noted above, at a meeting in Valley City, North Dakota, on August 26, 2000, former North Dakota State Engineer David Sprynczynatyk stated that his office would resume authorizing wetland drainage in the Devils Lake Basin as soon as an outlet to the Sheyenne River is built. However, the Corps summarily dismisses the Fish and Wildlife Service's recommendation with the perfunctory statement that:

> "The Corps concurs that controls on future wetland drainage in the upper basin would improve the effectiveness of other features. *The decision to place a moratorium on future drainage is under the control of the State*." (Emphasis added)

Thus, the Corps agrees that future wetland drainage in the Devils Lake Basin would reduce the effectiveness of its proposed $125 million Pelican Lake 300 cfs outlet, but it leaves control of future wetland drainage to the very agency which already had announced publicly two years ago that it will resume authorizing wetland drainage as soon as the outlet is built!

WEST Consultants estimated that the 201,990 acres of remaining wetlands identified in their study have a capacity of 481,604 acre-feet (WEST Consultants, Inc., 2001), and draining those wetlands could contribute up to 481,000 acre feet of water to Devils Lake.[3] This is equivalent to 3.6 feet at the lake's January 2002 elevation of 1447.1 feet, and it is 3.8 times as much water as the proposed Pelican Lake 300 cfs outlet could remove operating at maximum capacity from May through November. Drainage of the 201,990 acres of remaining wetlands would also result in an additional 272,000 acre-feet of inflows to Devils Lake annually, which is more than two times the volume that could be removed by the proposed Pelican Lake 300 cfs outlet operating at maximum capacity.

It is clear, therefore, that before expending any further public revenues on the proposed $125 million Pelican Lake 300 cfs outlet or other structural measures to deal with problems caused by

[3] The fact that wetlands may be protected by easement does not assure that they will not be drained (Grosz, 2001).

the high water levels at Devils Lake, the Corps has a fiduciary duty to implement and enforce an effective program to prevent further wetland drainage in the Devils Lake Basin in order to protect the Federal Government's investment in those measures. That drainage prevention program and its enforcement provisions should be discussed in detail in a revised DEIS.

Indeed, Congress requires that this be part of any Corps of Engineers flood damage reduction project. Section 402(c) of the Water Resources Development Act of 1986 as amended requires, as a basic condition of Federal participation in any flood control project, the development and completion of a floodplain management plan by non-Federal interests that will preserve and enhance natural floodplain values and address those measures to be taken by non-Federal interests to preserve the level of flood protection that is provided by the project and upon which it is justified. The plan is intended to be developed as part of and concurrent with the project feasibility study. In this case it appears, to the contrary, that the Corps is not involved in working with the State of North Dakota and local agencies in developing the required plans and non-Federal activities that would be necessary to preserve the level of flood protection that is intended to be accomplished by the proposed Pelican Lake 300 cfs outlet.

Inflated Values and Exaggerated Benefits

The DEIS states that:

> "Rising lake levels have severely affected the rural economy around Devils Lake. Many of the farms and ranches bordering the lake have been forced to abandon operations because of the loss of pasture and croplands. At its January 2001 stage of 1447.1, the lake covered 137,000 acres [DEIS p. 2-6 puts the figure at 132,000 acres], an increase of about 93,000 acres (approximately 145 square miles) since 1993. At an average land value of $600 per acre for non-urban land, this represents a loss of over $55 million." (DEIS p. 2-38)

However:

> "Agricultural land that would be inundated by further rise of Devils Lake lies primarily in Ramsey County, with a relatively small area in Benson County and an even smaller area in Nelson County…
>
> Agriculture in Ramsey, Benson, and Nelson Counties is profiled on the basis of information contained in the 1997 Census of Agriculture. The three counties have a similar agricultural profile. The farm sizes (in acres) of the three counties are similar: Ramsey 1,254; Benson 1,255; Nelson 1,136. The per-acre market value of land and buildings also is similar: Ramsey $391, Benson $320, Nelson $476." (DEIS p. 5-19)

Thus, by calculating the loss of flooded non-urban land at an inflated value of $600 per acre instead of market value, the DEIS overestimates the damages by more than $19 million or by 53 percent. (In fact, as shown in the following paragraph, the average value of these non-urban lands is less than $265 per acre, so the claim that the flooding of 93,000 acres of non-urban lands since 1993 represents a loss of over $55 million actually overestimates the loss by $30 million or 120 percent.) And, of course, inflating the damages from flooding exaggerates the benefits of preventing those damages.

It also is necessary to recognize that less than half (91,323 acres) of the 184,182 acres of non-urban land around Devils Lake between elevations 1447 feet and 1463 feet is classified as

cropland (DEIS Appendix C, Table C-5, p. C-16). Another 38,198 acres are grassland (DEIS Appendix C, Table C-5, p. C-16), which had an average value of $165 per acre in North Dakota in 2001 (Associated Press, 2001c). The remaining 54,661 acres are classified as woodland (9,622 acres), grass-shrub (95 acres) and wetland (44,944 acres) (DEIS Appendix C, Table C-5, p. C-16) which might be expected to have values of $100-$125 per acre. Thus, the non-urban lands that would be flooded in the unlikely event that Devils Lake would rise to 1463 feet have a value of about $49 million, or an average of less than $265 per acre.

Even if the proposed $125 million Pelican Lake 300 cfs outlet were built, the lake still would continue to rise to elevation 1457 under the "wet future scenario" (DEIS p. 5-89). As noted above in the discussion of Hidden Costs this means that some $300-$400 million still would have to be expended on infrastructure protection, including raising the dike to protect urban areas at the City of Devils Lake. And, if the lake should rise to elevation 1457 feet, approximately 64,000 additional acres of non-urban land, with an average value of $265 per acre, would be flooded. This means that, even with the outlet, under the "wet future scenario" necessary to justify it, an additional $17 million in losses would occur to non-urban land. This also means that the Corps is proposing to spend $125 million to build an outlet to reduce the chance of flooding of the remaining 62,000 acres of non-urban land between elevations 1457 and 1463 feet, which are worth approximately $17 million, from about 2 percent to 1 percent (DEIS Appendix B, Table II.ST-2, p. B-195).

Unfortunately however, even this may be overly optimistic because the soils of the bed of Devils Lake below elevation 1461 generally are not of the same quality as the upland soils upon which average land values in the area are predominantly based, so even the $17 million in losses to non-urban lands that might be prevented by the outlet likely are exaggerated.

Flooding at Devils Lake – Hardships, Handouts and False Hopes

According to the DEIS:

> "At its January 2001 stage of 1447.1 feet, the lake covered 137,000 acres, an increase of about 93,000 acres (approximately 145 square miles). At an average value of $600 per acre for non-urban lands, this represents a loss of over $55 million." (DEIS p. 2-38)
>
> "Since 1993, there have been 11 Presidential disaster declarations for the Devils Lake region. These declarations were made for regions within North Dakota that extended well beyond the Devils Lake area to address the effects of the climatic wet cycle, including flooding of agricultural impacts. Under emergency authorities, Federal agencies have moved or bought out and abandoned homes that were flooded by the rising lake. Approximately 400 homes around Devils Lake have been moved or abandoned in response to the rising lake waters. While some homes have been abandoned, most homes have been relocated. Some of the houses were second homes, but most were primary domiciles." (DEIS p. 5-7)

and:

> "It is likely that the physical conditions on the lake under the with- and without-project conditions would require additional relocations of homes and commercial structures with consequent social and local economic disruption." (DEIS p. 5-8)

Proponents of an outlet frequently cite the "loss" of 400 homes and the flooding of 93,000 acres of "agricultural" land around Devils Lake as demonstrating the need to "do something" and, therefore, as justification for constructing an outlet from Devils Lake to the Sheyenne River. The DEIS states that:

> "The perceived risk may be more damaging to community vitality than the actual risk. Although it is unlikely that the City of Devils Lake would be inundated, there is *a perception propagated by media coverage of the rising lake* [emphasis added] that the city proper is at risk. According to economic development officials, multiple enterprises have postponed or deferred decisions on new investment in the city. This stigma reduces the vitality of the community and its ability to reverse the trend of population loss, through perceived economic stagnation in addition to problems associated with the lake." (DEIS p. 5-14)

Instead of addressing these misperceptions, however, the Corps proposes to build a $125 million outlet to the Sheyenne River:

> "An intangible benefit of the outlet would be the initial psychological boost to the local economy that the solution to the problem is at hand and that the Devils Lake community will prosper in the future as a result." (DEIS p. 4-9)

> "An outlet from Devils Lake would promote economic development in the City of Devils Lake and stimulate business activity by reducing uncertainty and risks to commercial enterprises associated with rising lake levels. An outlet would also help restore regional shopping patterns that allowed the city to serve as the retail center for areas south of the lake. The construction of an outlet would temporarily stimulate business activity in the lake area and in the City of Devils Lake as the economic hub of the area." (DEIS p. 5-42-42)

Unfortunately, even if the proposed Pelican Lake 300 cfs outlet were to be built, the lake would still continue to rise another 10 feet to 1457 feet under the "wet future scenario," and it would still have a 4 percent chance of reaching elevation 1459 feet, a 2 percent chance of reaching 1461 feet and a 1 percent chance of reaching 1463 feet (DEIS Appendix B, Table II.ST-2, p. B-195). Consequently:

> "… although a 300 cfs outlet would reduce peak levels under most climatic conditions, it would not prevent the lake from rising altogether if it is already on an upward trend and most of the costs and damages occurring under the without project condition would be incurred with this plan in place as well. A 300 cfs outlet may generate controversy among the local community, as the elation initially produced by the outlet is followed by the disappointment of unmet expectations regarding the outlet's effectiveness in lowering lake levels." (DEIS p. 4-9-10)

> "It is supposed that a constrained or unconstrained outlet could also have negative impacts on lakeside communities if the lake keeps rising despite the outlet. *The dashed expectations could be more detrimental to community vitality than if they had never had an outlet.*" (Emphasis added) (DEIS p. 5-41)

And, as the U. S. Fish and Wildlife Service points out:

> "The Service is concerned that the public's expectation that an outlet will solve their flood problems is not met with the current alternatives. An outlet that fails to perform to the public expectation may create future pressure to operate the outlet in a way inconsistent with its original intent by increasing its pumping duration and capacity. Increasing the pumping duration or capacity will likely create additional downstream water quantity degradation, erosion and sedimentation on the Sheyenne and Red rivers, as well as other environmental problems." (DEIS Appendix 2, p. 15-2)

As we have already seen above in the discussion of Exaggerated Benefits, the value of the 93,000 acres the non-urban lands within the bed of Devils Lake that have been "flooded" since 1993 is not $600 per acre, but less than $265 per acre, so the damages are not the $55 million claimed in the DEIS (p. 2-38), but actually less than $25 million.

The DEIS explains that:

> "The Federal Emergency Management Agency (FEMA) has led this effort [to relocate houses] around most of the lake, but the Department of Housing and Urban Development (HUD) has taken responsibility for relocating many structures on the Fort Totten Indian Reservation. FEMA administers the National Flood Insurance Program (NFIP) through which the Federal Government provides flood insurance for those communities that adopt floodplain management ordinances." (DEIS p. 5-7)

> "Regarding FEMA's impacts on land use around the lake, the agency urged Ramsey and Benson counties and the City of Devils Lake to adopt permanent land use ordinances establishing conservation easements that prohibit new construction below 1460 feet msl in exchange for the NFIP waiver allowing structures to be moved before inundation. After much deliberation, Ramsey County decided not to adopt the ordinance, but Benson County and the City of Devils Lake decided to implement the ordinance with minor adjustments. There are an estimated 45 people in Benson county who qualify for the flood insurance endorsement and waiver." (DEIS p. 5-15)

It is important to recognize that the rise of Devils Lake has not been the economic disaster that proponents of the outlet frequently portray. For example:

> "The rising lake has adversely affected many residents around the lake. However, even under the adversity produced by the rising of Devils Lake, some parties have benefited. For example, the influx of Federal emergency funds to relocate threatened homes, provide crisis counseling, and maintain local infrastructure has brought over $350 million in Federal funds into the Devils Lake region. This has provided a significant boost to some elements of the local economy, such as those individuals and enterprises involved in road construction or house moving, or those individuals or enterprises that support these activities (e.g., lodging, restaurants, etc.) In addition, the improvement in the Devils Lake fishery associated with lake level rises has benefited the local recreation related industry." (DEIS p. 5-17-18)

The population of the Devils Lake Basin in 1975 was 38,473, with 12,913 living in Ramsey County (including the City of Devils Lake), 5,776 living in Nelson County and 5,957 living in Cavalier County (TPI Consultants, Inc., 1976). The population of the basin decreased 16.5 percent from 1980 to 1996 (DEIS p. 2-15), so the current population of the basin is less than 32,000. The City of Devils Lake, which had a population of 7,742 in 1980 (U. S. Army Corps of Engineers 1992), had a population of 7,672 in 1996 (DEIS p. 2-16.). Consequently, the influx of

$350 million in Federal funds into the Devils Lake region is equivalent to $*11,000 per person* living in the Devils Lake Basin.

In fact:

> "In 1996, agriculture accounted for 48 percent of the area's economy, followed by *Federal Government outlays (38 percent)* [emphasis added], tourism (10 percent) and manufacturing (3 percent). Tourism has been the fastest growing component of the area's economic base, increasing from 3 percent in 1980 to 10 percent in 1996. Tourism is particularly important in Ramsey County, having reached nearly two-thirds the importance of agriculture in 1996. The tourism figures are understated because they account only for the expenditures of travelers from out of state." (DEIS p. 2-16)

Consequently, in 2000 when local officials were seeking $70,000 in Community Development Block Grants and economic development funds, they had difficulty showing that the rise of the lake had adversely impacted the area. As Devils Lake Economic Director Jim Dahlen explained:

> "'The challenge we have is statistically the (flooding) impact doesn't show up real well in areas of taxable sales and services. Our unemployment rate is very low, well below the national average. And the average wage continues to rise. It's a hard thing to show what impact the flooding's had.'" (Anonymous, 2000)

The *Devils Lake Journal* went on to report:

> "The report could also help create an argument the cost/benefit ratio being used against building an outlet – which according to Congressman Packard is only ten cents benefit for every dollar spen[t] –is out of line. According to Dahlen the cost/benefit ratio is based only [on] lost revenue and it is not taking into consideration lost land or collateral.
>
> 'We hope this report will put some teeth in the cost/benefit ratio,' Dahlen says. 'But we don't have the expertise to do it ourselves.'
>
> 'From what I've heard from out congressional delegation we'll be dead in the water if we don't come up with this kind of report,' Commissioner Dick Johnson admitted." (Anonymous, 2000)

By the fall of 1997, the National Flood Insurance Program had paid over $14 million in claims on some 300 houses around Devils Lake that had been relocated—and on which the owners had paid insurance premiums totaling only $900,000. Owners were able to repurchase their homes from FEMA by matching the highest bid, which frequently was below market value, and then move them to another location. The cost of moving a house is approximately 70 percent of market value, plus the cost of a new lot (DEIS p. 5-8).

Some home owners filed claims and received payments for moving their houses twice because they did not move them far enough from the lake the first time. In fact, the owner of a restaurant located near the lake who was interviewed buy a local television station boasted that he had been able to make major improvements in the restaurant when it was moved the first time, and that he was expecting to make additional improvements when it was moved the second time.

In the spring of 2000, FEMA spent $2.2 million and was seeking another $1.3 million to buy out the town of Chuchs Ferry, a small town of 113 people and 43 homes at the northwest side of

Devils Lake—equivalent to $31,000 per person (Gilmour, 2000). FEMA reportedly paid "about $45,000 apiece for three 20-year-old mobile homes," plus relocation incentives up to $22,500 and averaging $14,466 (Gilmour, 2000). In another case, the owners sold their 14 x 70 mobile home at Churchs Ferry to the government and bought a 28 x 70 double-wide and located it at another small town 13 miles away (Gilmour, 2000). In fact, one Churchs Ferry resident reportedly exulted:

> "I'm getting into a gorgeous house… a step up. There's lots of excitement… I've always dreamed of having a house like this. The (buyout) price we got for our house was great… wonderful and that's all I can say about that. But we wouldn't have been able to do this without the buyouts." (Gilmour, 2000)

It is not surprising, therefore, that local officials are more concerned about the lake going down than they are about it continuing to go up:

> "The hard numbers have been skewed by the nearly $300 million spen[t] by the government in protecting the area through infrastructure improvements, says Dahlen. 'What happens when the construction ends?'" (Anonymous, 2000)

Of course, constructing the proposed Pelican Lake 300 cfs outlet would bring another $125 million into the Devils Lake area even if the lake continues to go down.

Biota Transfer – Confusing Absence of Proof with Proof of Absence

The DEIS states that:

> "All of the biota in the Devils Lake basin are either known or considered likely to be present in the Red River basin. One possible exception is the striped bass, which has not been recorded in Devils Lake in many years. Many species have not been reported in the Red River basin, but were found to have sufficient means of overland or airborne dispersal that they could invade the Red River basin in the future. Other species were confirmed as being in the Red River basin on the basis of published scientific literature or from unpublished information provided by experts.
>
> The biota of the Devils Lake basin and the Red River basin are similar, and Devils Lake does not harbor any species that are not already present in the Red River basin. Additionally, there is risk of biota transfer from natural causes and recreational users." (DEIS p. 5-27-28)

Proponents of an outlet frequently cite such statements as proof of the absence of any risk of transfer of foreign biota to the Hudson Bay basin as a result of operation of an outlet from Devils Lake to the Sheyenne River.

However:

> "The potential for an outlet to transfer biota from Devils Lake to the Red River basin was evaluated. This assessment was based primarily on existing information.
>
> The conclusions of the study were that: (1) on the basis of all available information, it appears highly unlikely that downstream habitats would suffer substantially as a result of biota transfer caused by the Devils Lake outlet project, and (2) *available information is*

inadequate to allow conclusive statements to be made regarding all species of biota transfer [emphasis added].

However, three concerns were worth noting.

A. Though unlikely to occur, transfer of significant concentrations of toxic algae could cause substantial problems downstream.
B. Salinity and nutrient changes to the Sheyenne River and Lake Ashtabula could cause community composition changes in these waters.
C. *It is not certain whether any known exotic, invasive species are now present in Devils Lake.*" (Emphasis added) (DEIS p. 5-61)

"Although fish and algae communities have been fairly well documented, data sources on other biota were relatively few and incomplete. Regional experts had little knowledge of Devils Lake biota, and most agreed that the biota of the Devils Lake and Red River basins had not been particularly well studied." (DEIS Appendix C, p. C-73)

"There are substantial data gaps in a number of taxonomic groups. Because of these gaps, it is impossible to state definitively that all species currently in Devils Lake have been accounted for. To the contrary, it is likely that Devils Lake does harbor species that have not been analyzed. Accordingly, there may be additional species that are currently unknown at this time. It is more likely, however, that many species not documented in either the Devils Lake or Red River basin actually present in both.

…The recent water level rise has created much new favorable habitat in Devils Lake for many species and has attracted increasing numbers of fishermen and recreational boaters. These anthropogenic factors are among the most important vectors of several harmful species in areas that they have invaded (e.g., Eurasian watermilfoil and zebra mussels). Any of these species could possibly find very favorable habitat in Devils Lake. The zebra mussel, in particular, could exploit the newly freshened habitats that have traditionally been too saline for mussels. " (DEIS p. 5-28)

In fact:

"Out-of-state boaters from zebra mussel areas used Devils Lake almost exclusively during 1999. Devils Lake also served as a major source of movements, i.e., a potential 'transportation hub,' for boats going on to other parts of ND and other states not currently infested with zebra mussels and other ANS [aquatic nuisance species]." (Grier and Sell, 1999)

Thus, even if Devils Lake does not currently harbor species foreign to the Hudson Bay Basin, it has the potential to be a major point of introduction and source of dissemination of such species in the future. As the DEIS points out:

"There is increased risk of the transfer of biota or the increase in the distribution of existing organisms associated with any feature that improves the connectivity between systems that have been segregated for many centuries. The operation of the outlet would be considered such a feature. Based on available information, there do not appear to be any organisms in Devils Lake that are not already present in the Red River or the North basin. However, it cannot be said with certainty that some may not be identified or introduced in the future. In addition, the operation of an outlet or a natural overflow may

> improve the conditions necessary for the dispersal of organisms currently found in the Sheyenne or Red River. No mitigation feature can be said to be 100 percent effective in eliminating the risk of biota transfer. The actual effects are unknown and cannot be predicted at this time" (DEIS Appendix C, p. C-66)

Despite the paucity of information on the biota of Devils Lake and the potentially catastrophic impacts that could result to the Hudson Bay ecosystem from the introduction of damaging foreign species, the DEIS concludes that:

> "All of the biota in the Devils Lake basin are either known or considered likely to be present in the Red River basin." (DEIS p. 5-27)

Well, maybe not quite "all" species:

> "The one possible exception is the striped bass, which has not been recorded in the lake in many years… However, experts have indicated that the one possible exception, striped bass, has not become established as a *reproducing* [emphasis added] population in Devils Lake and no further stocking is planned. If any of the originally stocked individuals remain in the lake, they would now be large and would easily be excluded from outlet pipelines and machinery by fish screens already planned to cover the intake openings." (DEIS p. 5-62)

When 13,000 "advanced" fry striped bass arrived in North Dakota in 1977, they were found to be in such poor condition that, instead of being taken to hatchery rearing ponds, they were released directly into Devils Lake. At least three have been caught since then, one by the North Dakota Game and Fish Department in netting operations and two by anglers, and all three were large fish in the 15 to 20 pound range. In fact, the North Dakota state record striped bass was a 20.75 pound fish caught at Devils Lake in 1993—just 9 years ago and 16 years after striped bass were first stocked in the lake. Therefore, even if striped bass had not become established as a reproducing population in Devils Lake, it is clear that they became established as a surviving population.

Since 1993, ecological conditions in Devils Lake have changed dramatically, with rapidly improving water quality in the lake and high volumes and long durations of inflows from tributaries such as Mauvais Coulee. The DEIS does not consider the possibility that conditions may now have developed that are suitable for reproduction of striped bass, and if they have, what the likelihood is that they would have been detected. It is instructive to consider examples from another lake in the area where exotic fish were stocked during that same time period.

Sprirtwood Lake is an approximately 600-acre lake in a "closed" basin about 60 miles south of Devils Lake. In 1971, the North Dakota Game and Fish Department stocked 4,000 white amur, or grass carp, in the lake. Although no formal monitoring has been conducted, a few grass carp were periodically reported from 1975 to 1977, and grass carp are still being reported in Spiritwood Lake two decades after they were stocked.

In the summer of 1989, the North Dakota Game and Fish Department stocked 20,000 European zanders in Spritwood Lake (Kraus, 1989a), and another 185,000 in the adjacent East Spiritwood Lake, which now is connected with Spriitwood Lake. However, when North Dakota Game and Fish Department traps in the lake failed to capture any zander, they were thought not to have survived . Then in 1989, a fisherman caught an 8.5 inch zander in the lake (Lohman, 1990), but

intensive netting by the North Dakota Game and Fish Department from 1990 through 1993 failed to turn up any more zander.

> "'We never caught even one,' [North Dakota Game and Fish Department Chief of Fisheries Terry Steinwand] said. 'After that third year, we thought that there weren't any zander left in the lake. But I gave the disclaimer that we weren't 100 percent sure, based on our netting techniques.'" (Wilson, 2001)

In August 1999, a fisherman caught and photographed a fish from the lake that appeared to be a zander, but extensive netting operations by the Game and Fish Department again failed to produce any more zander (Wilson, 2001). A fisherman caught and photographed another zander in 2000, and in June of 2000, the Department's netting operations finally captured a 2-year-old , 3 pound, 18.5 inch zander in Spiritwood Lake.

> "The DNA-tested zander taken from Spiritwood lake is a 2-year-old fish and, scientists are 'fairly confident', is a product of natural reproduction. Meaning: There is a chance more zander remain in the lake, or at least did a few years back.
>
> 'For natural reproduction to occur, we know that there were at least two in Spiritwood at one time,' Steinwand said. 'And logic would tell you that there were more than that. But based on our inability to catch them with nets, and no reports coming in from anglers, the population is very low.'
>
> When the zander were stocked, Steinwand said Spiritwood was a closed basin lake.
>
> 'The only possible escape for these fish was by anglers,' he said. 'But things changed in 1997 when we started to see some overflow out of Spiritwood Lake'" [to the James River]. (Wilson, 2001)

If reproducing zander escaped detection in the 600-acre Spiritwood Lake for eight years despite intensive sampling efforts, and if white amur have survived in the lake in low numbers for two decdes, what would be the likelihood of detecting low numbers of reproducing strpied bass in the 132,000-acre Devils Lake?

The DEIS dismisses the possibility of striped bass escaping through the proposed outlet by assuming that "any of the originally stocked fish" would be excluded by fish screen already planned to cover the intake openings. Of course, the DEIS ignores the possibility that conditions in the lake might be or might become suitable for reproduction of striped bass, and it does not consider the possibility of damage to or other failure of the screens. Because the Energy and Water Development Appropriations Acts for Fiscal Years 1998 through 2001 require consultation with the International Joint Commission before construction begins on an outlet, it is instructive to consider what the International Joint Commission had to say about relying on engineering features to prevent biota transfer under the Garrison Diversion project:

> "In fact, overriding everything else, as it turns out, has been the necessity that such introduction be prevented at all costs…
>
> …
>
> Unlike some other adverse consequences that can be minimized by additional mitigating measures or by cessation of operation of the Project, remedial measures to control

> unwanted exotics are oftentimes futile and, what makes it even more difficult, is that it may be some years before the full adverse impact is apparent.
>
> …
>
> The Board's conclusion was that the implementation of their proposals would virtually eliminate any direct transfer by GDU of fish, fish eggs, fish larvae and fish parasites and would reduce the risk of transfer of fish diseases to the Hudson Bay Drainage Basin. The Board rated the [double 40 mesh phosphor bronze] fish screen and the closed system together, as described in the Board's report, as a means which would be effective and feasible in meeting the objective assigned to it.
>
> There is no question in the Commission's mind that the Board's recommendations greatly reduce the risk of an unintentional transfer. There would be two lines of defense, either one of which by itself might accomplish the desired result… The Commission gives great weight to the Board's opinion that these two lines of defense will work. At the same time, the Commission must weigh the consequences to Canada if the Board is wrong. Were the potential biological consequences to the Hudson Bay ecosystem predictable in manner and extent, the Commission might accept the Board's approach. The Board has reduced the risk of a biological 'time bomb' but not eliminated it. The Commission is concerned that even with the best engineering talent available and with the best operating practices possible, the very complexity of the scheme, the immensity of the physical features, the large number of human beings involved in carrying out the responsibility, and the possible mechanical failure, what cannot happen, will happen…" (International Joint Commission, 1977)

In the case of the Pelican Lake 300 cfs outlet, the Corps proposes to rely on a single line of defense against biota transfer—a fish screen, which if it doesn't fail over the 50-year life of the project, would exclude 15 to 20 pound adult striped bass.

Meanwhile, the Corps cites a Biota Transfer Risk Analysis which recommended that:

> "…surveys for the following invasive species (at a minimum) be carried out in Devils Lake before the outlet begins operation: rusty crayfish, spiny water flea, zebra mussel, and Chinese mystery snail and relatives." (DEIS Appendix C, p. C-77)

but no information is provided about whether the surveys will actually be conducted, what their sampling designs will be, who will pay for them, who will conduct them, and when they might be completed. Instead, the Corps proposes to proceed with the construction of a $125 million Pelican Lake 300 cfs outlet to the Sheyenne River before knowing whether the risk of biota transfer may prevent it from ever being used.

Mythical Mitigation

According to the DEIS:

> "The outlet itself would consist primarily of a buried pipeline with open channel features restricted to areas along Highway 281 north of Minnewaukan and would not require mitigation." (DEIS Appendix C, pp. C-138-139)

However:

> "Construction and operation of an outlet from Devils Lake would require the development and implementation of a mitigation plan to compensate for unavoidable adverse effects. General geographic areas of potential impact would be Devils Lake, the outlet route, the Sheyenne River, Lake Ashtabula, and the Red River. Investigations to date indicate the greatest potential for significant adverse impacts to natural resources, cultural resources, and downstream water users is associated with increased flows and water quality changes in the Sheyenne River." (DEIS p. 5-92-93)

but:

> "Many of the effects associated with operation of an outlet cannot be readily quantified." (DEIS p. 5-96)

and:

> "Because of the inability to accurately predict project impacts associated with operation, an extensive resource monitoring program will be required. The monitoring will be necessary to quantify specific impacts and identify acceptable mitigation measures." (DEIS p. 5-93; Appendix C, p. C-139)

In view of the fact that:

> "Many of the potential effects involve long-term changes to existing ecosystems that may not be readily noticeable or quantified without extensive monitoring programs." (DEIS p. 5-96)

how does the DEIS propose that mitigation might be accomplished for the potentially severe and long-lasting impacts of operation of the proposed Pelican Lake 300 cfs outlet? These include:

- Substantial changes in the flow of the Sheyenne River resulting in up and down flows with sudden and extreme fluctuations in flow that will make it difficult for species to adapt to habitat conditions (DEIS p. 5-48),

- Increased erosion and sedimentation (DEIS p. 5-52) and changes in water quality, hydrology, geomorphology and habitat that could result in substantial changes in aquatic biota in the Sheyenne River (DEIS p. 5-53),

- Adverse influence on fish reproduction and lost-year classes of fish and decreased diversity and density of aquatic species in the Sheyenne River (DEIS p. 5-53)

- Water quality changes that would be devastating to unionids in the upper Sheyenne River (DEIS p. 5-102),

- The elimination of flow sensitive habitats, such as riffles where shallow, fast habitats predominate, in the upper Sheyenne River where stages are projected to increase up to 3 feet (DEIS Appendix C, p. C-38),

- Changes in the aquatic community in the Sheyenne River above Lake Ashtabula that would persist for many years after outlet operation ceases (DEIS Appendix C, p. D-31)

- Higher flows that may exacerbate streambank erosion and threaten farmstead structures and residences along the river (DEIS p. 4-10),

- Exacerbated flooding in the Sheyenne River that could damage agricultural property, including lands, equipment and structures (DEIS p. 5-12), and

- The increased risk of biota transfer (DEIS p. 5-56).

According to the DEIS:

> "Potential mitigation features *could* [emphasis added] include acquisition of key riparian blocks of lands, plantings, erosion control, fish structures, fish stocking, and vegetation management." (DEIS Appendix C-141)

Therefore:

> "A possible mitigation plan *could* [emphasis added] include purchase and management of strategic blocks of riparian lands along the upper and lower Sheyenne River." (DEIS p. 5-97)
>
> "Management measures *could* [emphasis added] include plantings, erosion control structures, fish structures, and vegetation management." (DEIS p. 5-97)

except:

> "This would be implemented *after operation has ceased* [emphasis added] in order to allow the terrestrial and aquatic ecosystems to recover." (DEIS p. 5-97)

and:

> "For most pumping alternatives, pumping begins May 1, 2005 and occurs throughout the 50-yrs. For other Pelican Lake alternatives, pumping begins May 1. 2006." (DEIS Appendix A, p. A-40)

and:

> "Changes in the aquatic community would persist for many years after outlet operation ceased, especially on the Sheyenne River above Lake Ashtabula." (DEIS Appendix D, p. D-31)
>
> "The flow impacts due to a Pelican Lake alternative could be dramatic, particularly in the upper Sheyenne River, which is essentially isolated from recolonization sources." (DEIS p. 5-102)

> "Some of the aquatic losses would not be mitigated; for example, loss of invertebrates, loss of fish year classes, loss of wetted usable area due to increased channel width, and changed channel morphology." (DEIS p. 5-97)

Therefore, this approach would delay mitigation of the impacts of the operation of the outlet for 50 years and would result in many significant impacts to the aquatic ecosystem of the Sheyenne River not being mitigated.

Consequently, the DEIS suggests that:

> "Mitigation could also be implemented in other basins, which are also tributaries to the Red River. This would eliminate the problems associated with the continued operation of the outlet but would shift the burden of mitigation onto others not otherwise impacted by the project." (DEIS p. 5-97)

The DEIS neglects to mention that none of the other tributaries to the Red River are remotely similar hydrologically, morphologically and ecologically to the 460 miles of the Sheyenne River below the proposed Pelican Lake outlet, so the impacts to the Sheyenne River cannot be mitigated in other basins.

The cost estimates for these mitigation "alternatives" are based primarily on mitigation of terrestrial impacts (DEIS p. 5-97), but:

> "A similar approach for estimating mitigation costs for losses to aquatic habitat is not appropriate. Two approaches would be possible for cost estimating. Some of the aquatic losses would not be mitigated; for example, loss of invertebrates, loss of fish year classes, losses of wetted usable area due to increased channel width, and changed channel morphology.
>
> In the absence of similar guidelines for estimating aquatic mitigation costs, one approach is to assume 5 percent of the total project cost is set aside for aquatic mitigation features… Aquatic mitigation features include streambank stabilization, in-stream structures, and fish stocking. As described above some impacts would not be mitigated.
>
> Another approach, which was used for the analysis in this report, is to assume that some aquatic mitigation could be accomplished through the management of riparian lands. Controlling erosion and providing a stable and vegetated streambank *could* [emphasis added] mitigate *some* [emphasis added] aquatic impacts. By maintaining a healthy riparian zone, aquatic resources impacts *could* [emphasis added] be minimized or populations could reestablish themselves *after the outlet has ceased operation* [emphasis added]. The acquisition of key riparian areas *could* [emphasis added] provide both terrestrial and aquatic benefits…" (DEIS p. 5-98)

It is evident, therefore, that the Corps (1) does not know what the impacts of operation of the proposed Pelican Lake 300 cfs outlet will be, (2) it has no plan for mitigating those impacts, (3) it does not know if the impacts can be mitigated, and (4) it already has written off the mitigation of impacts to aquatic resources. Faced with the daunting task of developing an effective plan to mitigate the impacts of the project, the DEIS finally dismisses the matter with the cursory statement that:

> "Monitoring to determine the actual magnitude of effect is perhaps the best mitigation. Further mitigation can then be designed to address actual impacts." (DEIS p. 5-102)

According to the DEIS:

> "Areas that would require monitoring include, but may not be limited to, groundwater, erosion, sedimentation, aquatic habitat, biota transfer, water quality, riparian vegetation, cultural resources, soil salinity, surface water users, and endangered species. *Monitoring is a major component of the proposed mitigation package* [emphasis added]." (DEIS p. 5-94)

> "Extensive monitoring programs for Devils Lake and along the Sheyenne and Red Rivers are being designed and *will be proposed* [emphasis added] for implementation prior to operation of the outlet. *Potential* [emphasis added] monitoring programs include groundwater monitoring, water quality monitoring, soil salinity monitoring, establishment of long-term survey stations to assess aquatic ecosystem changes, including channel morphology, fish surveys, benthic/nektonic surveys and mussel surveys, and the establishment of vegetation survey transects along the Sheyenne River riparian corridor to monitor vegetation changes, monitoring downstream water users to determine changes in treatment procedures and costs." (DEIS p. 5-96)

Of course:

> "Monitoring would require a long-term commitment of time and funds. It is assumed that monitoring would be required for the life of the project or until agency coordination determines it is no longer necessary." (DEIS p. 5.94)

The DEIS states that:

> "Monitoring costs should be considered as part of the mitigation cost of the project." (DEIS p. 5-96)

but it does not suggest any mechanism for assuring that funds will continue to be appropriated to cover the costs of monitoring environmental impacts over the 50-year life of the project, or to cover the costs of mitigating the impacts that are identified. Once the outlet is built and operating in 2005, the North Dakota congressional delegation certainly will have little incentive to seek appropriations to identify and mitigate adverse impacts of the project.

So, who will conduct the monitoring and implement the mitigation plan for the proposed outlet from Devils Lake?

> "Coordination with Federal, State, and local agencies and interest groups will be required to implement the monitoring and mitigation program." (DEIS p. 5-93)

What local agencies and interest groups? Certainly not the Devils Lake Joint Water Resource Board or the Devils Lake Emergency Management Committee, both of whom deny that any significant adverse downstream impacts would occur from operation of the outlet and lack the technical expertise to identify them when the do. State agencies? Certainly not the North Dakota State Water Commission which, under a directive of the Governor, is proposing to build a 300 cfs West Bay outlet and operate it with only the most perfunctory monitoring of impacts. What

Federal agencies? The U. S. Fish and Wildlife Service? It is not the Service's responsibility to monitor and mitigate the environmental impacts of other Federal agencies' projects.

Responsibility for monitoring and mitigation of the environmental impacts of the Corps' proposed Pelican Lake 300 cfs outlet rests squarely the Corps, and a revised DEIS should recognize that and deal with that responsibility in a substantive and straightforward manner.

But, what about mitigating the impacts of biota transfer?

> "No mitigation feature can be said to be 100 percent effective in eliminating the risk of biota transfer."" (DEIS p. 5-56)

So, what does the DEIS propose?

> "To minimize the risks of transfer of undesirable biota into waters downstream from the outlet, monitoring and outreach programs *could* [emphasis added] be implemented. These could include monitoring water chemistry at the outlet, at Lake Ashtabula, and at the Sheyenne River's mouth at a minimum." (DEIS p. 5-100)

But, of course, monitoring water chemistry will do nothing to detect undesirable biota or mitigate the impacts of their introduction to the Hudson Bay Basin. Anything else?

> "Biotic monitoring programs *could* [emphasis added] also be enacted to create an alert system that would be triggered if exotic species are found in Devils Lake or in the Sheyenne River. These programs *could* [emphasis added] include public education regarding boat and trailer cleaning and identification of exotic fish species (e.g., zander, grass carp), and surveillance of boats and trailers by government officials at public launch sites." (DEIS p. 5-100)

Of course, the absurdity of suggesting that a montioring program would be effective in detecting even large exotic species such as zander and grass carp in the 132,000-acre Devils Lake in time to prevent their being transferred by the outlet to the Hudson Bay Basin is demonstrated by the fact, pointed out above, that zander were undetected in the 600-acre Spiritwood Lake for 8 years despite intensive sampling by the North Dakota Game and Fish Department, and grass carp have survived in the lake in very low numbers for two decades.

Furthermore, monitoring simply *may* detect the presence of undesirable biota, but it does nothing to prevent their transfer—particularly if they already have reached the Sheyenne River—or to mitigate the impacts of such a transfer. As the International Joint Commission pointed out:

> "… remedial measures to control unwanted exotics are oftentimes futile and, what makes it even more difficult, is that it may be some years before the full adverse impact is apparent." (International Joint Commission, 1977)

It is abundantly clear from the DEIS that the Corps not only does not have a mitigation plan for the proposed Pelican Lake 300 cfs outlet, but it then claims that monitoring is a major component of the project's mitigation "package" when it does not have a monitoring program, either, or know how it would be funded or who would conduct it—or even if it would be effective in identifying impacts.

There could not be a more clear or blatant violation of the mandate of the National Environmental Policy Act for Federal agencies to known the impacts of their actions before taking them.

U. S. Army Corps of Engineers Environmental Operating Principles

On March 26, 2002, Chief of Engineers Lt. General Robert Flowers announced new Corps of Engineers Environmental Operating Principles to guide the Corps in all of its works:

> "The Principles:
>
> Strive to achieve environmental sustainability. An environment maintained in a healthy, diverse and sustainable condition is necessary to support life.
>
> Recognize the interdependence of life and the physical environment.
>
> Proactively consider environmental consequences of Corps programs and act accordingly in all appropriate circumstances.
>
> Seek balance and synergy among human development activities and natural systems by designing economic and environmental solutions that support and reinforce one another.
>
> *Continue to accept corporate responsibility under the law for activities and decisions under our control that impact human health and welfare and the continued viability of natural systems.* [Emphasis added]
>
> Seek ways and means to assess and mitigate cumulative impacts to the environment; bring systems approaches to the full cycle of our processes and work.
>
> Build and share an integrated scientific, economic, and social knowledge base that supports a greater understanding of the environmental impacts of our work.
>
> Respect the views of individuals and groups interested in Corps activities, listen to them actively, and learn from their perspective in the search to find innovative win-win solutions to the nation's problems that also protect and enhance the environment."

As the preceding comments document, the DEIS repeatedly violates every one of these principles. Therefore, a revised DEIS should discuss, substantively and specifically, how it has been modified to comply with these principles in each of the areas outlined in these comments.

Conclusions

1. The DEIS is based on a flawed scoping process that discouraged and frustrated public participation.

2. The DEIS inappropriately employs tiering of the analysis of the environmental impacts of the proposed Pelican Lake 300 cfs outlet in order to segment the analysis of those impacts and avoid their disclosure until after the decision has been made as whether to build the project.

3. The DEIS fails to consider the cumulative impacts of other related and reasonably foreseeable projects, including the Red River Valley Water Supply Project, an inlet to deliver Missouri

River water to Devils Lake, and the State of North Dakota's "temporary" emergency outlet from Devils Lake to the Sheyenne River.

4. The Corps lacks congressional authorization to complete and operate an outlet from Devils Lake to the Sheyenne River.

5. The proposed Pelican Lake 300 cfs outlet would have severe and long-lasting adverse impacts on the Sheyenne River under moderate future conditions. Although, the DEIS does not describe the environmental impacts of the proposed Pelican Lake 300 cfs outlet under the "wet future scenario," they would be substantially more severe.

6. All Devils Lake outlet alternatives discussed in the DEIS would either be ineffective in preventing the continued rise of the lake or they would cause unacceptable downstream impacts, and none of the outlet alternatives have positive benefit/cost ratios under standard economic analyses. Therefore, the outlet alternatives are neither technically sound nor economically justified.

7. The proposed Pelican Lake 300 cfs outlet is estimated to cost $125 million, but because the lake would continue to rise another 10 feet under the "wet future scenario" even with the outlet, an additional $300-400 million would still have to be invested in infrastructure protection measures, bringing the total cost of this alternative to $425-$525 million.

8. The "wet future scenario" upon which the proposed Pelican Lake 300 cfs outlet is justified is a manufactured set of conditions created to result in just enough precipitation to cause Devils Lake to overflow without the outlet, but not overflow with the outlet. This artificial scenario has no basis in reality and has a zero probability of occurring.

9. The DEIS suggests that because of the low probability that the conditions will occur that are necessary to justify the proposed Pelican Lake 300 cfs outlet, the outlet should be viewed as an insurance policy rather than as an investment. However, the outlet neither guarantees that the lake will not continue to rise and overflow nor provides compensation if it does. Therefore, it should be more accurately viewed as a $125 million lottery ticket with virtually no chance of winning.

10. There is no evidence in the geologic record to support speculation that an overflow of Devils Lake would result in the natural outlet eroding down 9 feet and releasing 6,000 cfs of water and 400,000 cubic yards of sediment into the Sheyenne River. Moreover, if the level of Devils Lake were to approach the overflow elevation, measures would be implemented to prevent erosion of the outlet.

11. The DEIS fails to address wetland drainage in the Devils Lake Basin and its contribution to the rise of the lake, it significantly underestimates the potential for wetland restoration in the upper Devils Lake Basin to reduce flooding problems at the lake, and it disregards the effects of continuing wetland drainage in reducing the efficacy of the proposed Pelican Lake 300 cfs outlet and other publicly funded measures to deal with flooding problems at Devils Lake.

12. The DEIS significantly inflates the value of non-urban lands around Devils Lake that already have been flooded and, by implication, those that would be flooded if the lake continues to rise with or without the outlet. The result is exaggeration of the benefits of preventing those losses.

13. Although flooding at Devils Lake has resulted in personal hardships for those residents living adjacent to the lake, the influx of some $350 million in Federal funds and the thriving tourist industry based on the outstanding sport fishery that has developed at Devils Lake, combined with generous compensation of affected homeowners by Federal agencies, have substantially blunted the economic impacts of the rise of the lake.

14. The potential for transfer of foreign biota from Devils Lake to the Hudson Bay Basin by an outlet from Devils Lake is a major issue, and its resolution is complicated by the paucity of information on the biota of Devils Lake, the potential for introduction of new damaging species into Devils Lake, and the absence of effective measures to mitigate the impacts of biota transfer if it should occur.

15. The DEIS fails to provide a detailed discussion of the environmental impacts of the operation of the proposed Pelican Lake 300 cfs outlet, it acknowledges that it may not be possible to mitigate some impacts to aquatic resources, it does not include a plan to mitigate impacts that already have been identified, and it does not include a plan to monitor the impacts of the project and implement mitigation measures for those that are identified in the future.

16. The DEIS violates each of the Corps of Engineers' recently released "Environmental Operating Principles."

17. The DEIS is procedurally faulty, conceptually flawed, technically deficient and legally defective. The inadequacies are so fundamental and the deficiencies are so pervasive that the Corps has no recourse under the law except to withdraw the DEIS and begin the NEPA process anew to produce an environmental impact statement that complies with both the letter and the sprit of the National Environmental Policy Act.

18. Despite its profound shortcomings, the DEIS is forced to acknowledge the inescapable conclusions that:

    "The outlet plan that has been preliminarily selected for design is not economically justified using methods that would determine the expected benefits by producing probability-weighted benefits and costs." (DEIS p. 1-S-7)

    "…implementation of the Continued Infrastructure Protection within the basin is economically justified, and may in fact represent the most economically defensible approach to flood damage management at the lake." (DEIS p. 4-14)

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Manitoba

Water Stewardship

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CANADA

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April 30, 2008

Mr. Kevin W. Bluhm
St. Paul District
US Army Corps of Engineers
St. Paul MN 55101-1638

Dear Mr. Bluhm:

DEVILS LAKE FLOOD RISK MANAGEMENT PROJECT

Manitoba Water Stewardship is grateful for the opportunity to provide comments to you as your agency considers additional flood protection plans for the Devils Lake region should lake levels continue to rise.

Manitoba strongly urges the Corps of Engineers to pursue in-basin solutions and to exclude the preliminary alternative involving modification of the elevations at Tolna Coulee identified in the April 4, 2008 screening matrix. This alternative would create an artificial outlet from the eastern region of Devils Lake and would cause significant downstream impacts to the Canadian and Manitoban environments including Lake Winnipeg, the world's 10th largest freshwater lake. Manitoba fully participated in the Corps' previous review under the National Environmental Policy Act for its proposed outlet from the western region of Devils Lake. During this process, Manitoba described its environment and water resources at risk, identified significant transboundary concerns associated with the western outlet, and indicated that the Boundary Waters Treaty of 1909 and, in particular, Article IV was applicable (*e.g.*, Williamson to U.S. Army Corps, June 19, 2003; Topping to U.S. Army Corps, May 7, 2002; Joint comments from Canada and Manitoba, May 6, 2002). These concerns, especially the applicability of the Boundary Waters Treaty of 1909, are also relevant to any project involving an east-end outlet through modification of elevations at Tolna Coulee.

Manitoba Water Stewardship remains concerned that pursuit of several in-basin solutions appears to continue to be a low priority, while focus may once again be placed on the construction of another outlet, in this case, from the eastern region of Devils Lake. For example, it is our understanding that over 300,000 acres of wetlands have been drained in the upper portion of the basin, there has been little effort at restoration, and wetland drainage continues to occur as demonstrated by the recent activity shown in the attached photographs taken on

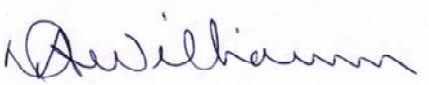
....Page 2

April 26, 2008 near Webster and provided to us by a local resident. Discontinuation of all drainage activity, restoration of natural wetlands, and exploration of other options such as irrigation all have the significant potential to reduce even further the already small risk that Devils Lake will rise further and will do so without placing downstream jurisdictions at risk of harm. Given the probabilities of future lake level rise, there is no need to explore any outlet from Devils Lake.

Consequently, Manitoba Water Stewardship respectfully urges the Corps to discontinue further consideration of modifying elevations at Tolna Coulee to create an outlet from the eastern region of Devils Lake and to pursue in an innovative manner, all available in-basin solutions.

Thank you for the opportunity to provide input to your agency as you consider potential means to reduce flood risks should Devils Lake continue to rise. Should you have further questions, please feel free to contact me at the above address, by calling (204) 945-7030, or email at Dwight.Williamson@gov.mb.ca.

Sincerely,



Dwight Williamson, Acting
Assistant Deputy Minister
Ecological Services Division

c: Don Norquay

Photograph taken on April 26, 2008 two miles east of Webster ND, facing northward.

Photograph taken on April 26, 2008 two miles east of Webster ND, facing southward.

Peterson Coulee Outlet Association

3321 54th Ave. N.E.
Maddock, North Dakota 58348

May 6, 2008

Re: Devils Lake Issues; "Emergency Supplemental Appropriations Act, 2007"

Via Email: keven.w.bluhm@usace.army.mil
cc: jon.christensen.col@usace.army.mil
bonnie.k.greenleaf@mvp02.usace.army.mil

St. Paul District
U. S. Army Corps of Engineers
Sibley Square at Mears Park
190 5th Street East, Suite 401
ATTN: PM-E
St. Paul, Minnesota 55101-1638

Dear Sir;

Thank you for the opportunity to submit suggestions for relevant study areas of the $5 million dollars received by the Corps from the "Emergency Supplemental Appropriations Act, 2007".

Please study the proper use of the word "Flood", "Flooding".
The use of the word flooding to describe the Devils Lake Dilemma has caused us great anxiety over the last number of years. The proper use of the term flooding is to describe a stream, river or lake bed which has been filled to capacity and is overflowing its Ordinary High Water Mark (OHWM), this has not happened with the lake of Devils Lake (Devils Lake, [as opposed to the city of Devils Lake]) yet (as of today, May 6, 2008, at 9: 47 am, the United States Geological Survey [USGS] is reporting that Devils Lake is at 1446.89 feet, means sea level [msl], Devils Lake's OHWM is 1459 feet, msl, today Devils Lake is approximately 12 + feet below the elevation which a true flood will begin to occur). Today Devils Lake is only slightly over half filled, covering 138,985 land acres (2,924,392 acre/feet of water, USGS), Devils Lake would have to double in volume to reach it's OHWM of 277,533 land acres (5,302,612 acre/feet of water, USGS), and then increase even more to start overflowing and/or start spilling to be considered in a flooding condition. Devils Lake is not flooding. Devils Lake may be a dilemma, Devils Lake may be inundating lake bed acreage with water that has not been submerged for a great number years, but Devils Lake is not flooding. The continual, deliberate, improper use of the term flooding to describe the condition of Devils Lake only excites fear in the minds of the uniformed public. Please do everything in your power as the United States Army Corps of Engineers to correct this gross misuse of the term flood by our various Federal Governmental Agencies. Our Federal Governmental Agencies are the lead

agencies on such matters, they are the experts the public relies upon for factual information in times of crisis, to allow the various Federal Government Agencies to continually, deliberately, improperly use the term flood, when there is not a flood, can only further erode the public's confidence in the U. S. Army Corps of Engineers and other Federal Governmental Agencies.

Please study the North Dakota's State Water Commission's construction and materials used for the construction, of the Temporary Emergency Devils Lake Outlet's.
Because of the North Dakota State Water Commission's total disregard to adhere to the generally accepted engineering and construction industrial practices, the Temporary Emergency Devils Lake Outlet can not, will not, ever, be able to deliver any significant relief to the Devils Lake dilemma or even significantly slow the rate of rise in a moderate or wet future scenario. Because of the North Dakota State Commission's use of substandard, inadequate construction materials and lack of proper use of generally accepted construction techniques, the Temporary Emergency Devils Lake Outlet has been, is, and will continue to prematurely disintegrate and be rendered useless in a very short time. The outlet channel embankments are eroding at an abnormally accelerated pace. Because of the false claim that an industrial acceptable clay liner material was properly secured, placed and used on the inside of the outlet channel, which it was not, the outlet channel leaks at an appalling rate, potentially salinizing vast acreages of prime farmland adjacent to the Temporary Emergency Devils Lake Outlet. See the attached Figure 1, photo taken in 2006. Until the Temporary Emergency Devils Lake Outlet has been properly reconstructed, to meet all applicable industrial standards, it will only serve to continually fuel the politically motivated false hopes of the distressed property owners adjacent to the lake of Devils Lake, those who's properties are located below the OHWM.

Please study the extreme likelihood that significant amounts of NEW INFLOWS to the lake of Devils Lake from the, as of now, noncontributing areas in the Devils Lake upper basin, will be created by the proposed "clean out", "snag and clearing" of the St. Joe's and Calico Coulees. To be adding new inflows from the Devils Lake upper basin's, noncontributing areas to the Devils Lake dilemma is counter to all of the United States Army Corps of Engineers current good efforts. See the following.

DEVILS LAKE BASIN JOINT WATER RESOURCE BOARD

Minutes of the regular monthly meeting held Wednesday, April 9, 2008 in the Historical Room, Ramsey County Courthouse, Devils Lake, ND.
Ramsey County: Ash reported they met with Cavalier and Towner WRD bds yesterday to discuss a proposed cleanout of St. Joe Coulee with a special assessment project….

DEVILS LAKE BASIN JOINT WATER RESOURCE BOARD

Minutes of the regular monthly meeting held Wednesday, March 12, 2008 in the Ambulance Building, Munich, ND.
Cavalier County: Gellner said Cavalier Co. agrees work needs to be done on St.Joe/Calio area from the top down, but reminded everyone a lot of easement land involved…
Towner County: Anderson said working with RCWRD on possible project on St. Joe/Calio coulee area which would also involve Cavalier Co…Jim Berg, RCWRD, is

lead on the project, have encouraged him to use R&RR Inventory…Connor noted had furnished copy of notes from fall '01 inspection of the area by RCWRD & local farmers.

DEVILS LAKE BASIN JOINT WATER RESOURCE BOARD

Minutes of the regular monthly meeting held Wednesday, February 13, 2008 in the Masonic Hall, Cando, ND.

Cavalier County: Hardy asked about an area in Cavalier Co. that had been determined to be 'non-contributing' at some time, most likely during construction of Channel A. This designation affects projects now and the CCWRD is seeking to get the matter clarified. SWC staff (Laura Ackerman) recently visited Cavalier County & is working on it. He asked if Mike Noone could check into the question also and inform the Joint Board.

DEVILS LAKE BASIN JOINT WATER RESOURCE BOARD

Minutes of the regular monthly meeting held Wednesday, November 14, 2007 at Ostby Hall, Sheyenne, ND

OTHER NEW BUSINESS:

Anderson informed the Board the Towner County WRD board has been contacted by the Ramsey Co. WRD board to discuss a cleanout of the St. Joe Coulee. He noted a complete cleanout would involve Cavalier, Ramsey and Towner Counties and said that if any work is done it should be by either the snagging/clearing law or establishment of a special assessment district to do the entire coulee. Gellner said Cavalier County WRD board would support such a project with a special assessment in place adding "…the whole project (coulee) needs to be done". Ash said Ramsey County WRD was trying to set up a meeting with the Towner County WRD at this time. Anderson and Gellner both said such a meeting would be good and then the project would be brought back to the Joint Board with a 'Request for Project Support'.

Ramsey County: …are working with some St. Joe coulee landowners (as mentioned earlier by Anderson) on a cleanout….

Please study and review the fact that Ramsey County, North Dakota, continually refuses to accept the conditions set forth by the National Flood Insurance Program tailored closed basin lake flooding endorsement. The following quote is from the American Bar Association's, Section of Environmental, Energy, and Water Resources Committee – Newsletter Archive, Vol. 5, No. 4 – May 2002, "Corps issue Draft EIS for Devils Lake, North Dakota Outlet Project", by Douglas A. Goulding, Goulding Law, Devils Lake, North Dakota. "FEMA has retrospectively developed a floodplain management scheme to reduce the potential for structural damage and the need for federal disaster relief dollars. The National Flood Insurance Program tailored a closed basin lake flooding endorsement, which allows claims to be paid to move threatened structures before they are flooded. 64 Fed. Reg. 41825 (1999). The endorsement is conditional on local zoning authorities imposing a ban on construction below the natural spill elevation of the lake, which is 11 feet higher than the current lake elevation and includes thousands of acres. Zoning authority around Devils Lake is a patch work quilt of townships, the City of Devils Lake, Town of Minnewaukan, Ramsey County, Benson County and the Spirit Lake Tribe. Ramsey County rejected the endorsement."

Please study the effects and additional effects that are being and will be caused by the displacement of water from the City of Devils levee & increases to the elevation to the levee plus the effects and additional effects of Roads Acting as Dams & increases to the elevations of Roads Acting as Dams on the unprotected land areas adjacent to the lake of Devils Lake.

Again, Thank You, for this opportunity to submit suggestions for relevant study areas appropriate to the received "Emergency Supplemental Appropriations Act, 2007" funding.

Sincerely;

Mrs. Thelma Paulson, President
Peterson Coulee Outlet Association

TP/lmw

Enclosure

Figure 1. Fissures and/or blow-outs & cobbles (larger than 3") on James Elstad properties, NW1/4, Section 9, T151N R68W, Benson County, ND along the inside portion of the Devils Lake Emergency Outlet Project.

From:	elvis
To:	Bluhm, Kevin W MVP;
cc:	Greenleaf, Bonnie K MVP;
Subject:	Devils Lake Issues: Thank You For The Large Devils Lake Basin Map!
Date:	Wednesday, May 28, 2008 8:25:40 AM
Attachments:	Peterson Coulee Outlet Associati31.doc
	DL Outlet 2007, More Detailed, O&M Cost.pdf

Good Morning Sir,

Spring's work is finally coming to a close and I have just now found a little time to send a thank you note for securing for me the large elevation map of the Devils Lake, North Dakota, Basin (mailed May 9, 2008). Thank You. The map has already come in handy and will be used quite extensively in the future, for permanently solving the Devils Lake Dilemma.

Attached for your information {and amusement, the Peterson Coulee Outlet Association believes that all of their comments' suggestions will be ignored}, is a copy of the Peterson Coulee Outlet Association's, May 15, 2008, comments to the North Dakota Department of Health's Reapplication for the Temporary Emergency Devils Lake Outlet, North Dakota Pollutant Discharge Elimination System (NDPDES) Permit, Application Number: ND 0026247.

Also for your information, is the following, recent article from the May 24, 2008, Minot Daily News, titled, "Beneficial drought; People relieved Devils Lake water levels are finally dropping." Either the reporter Mr. Marvin Baker or the new secretary of the Devils Lake Basin Joint Water Resource Board, Mr. Kevin Frith, are badly misinformed or are attempting to intentionally mislead the public with the publishing of article statements like "....a three-pronged approach is gradually reducing the lake level. One of them, which has been mired in controversy, is the Devils Lake outlet. It essentially drains excess water into nearby Stump Lake." Haven't these "new" guys got a map? Yes, there is the Jerusalem Coulee, which is a natural outlet from East Devils Lake to Stump Lake, but the Jerusalem Coulee is not the "controversial" outlet. Nor does the article state how little the "controversial" outlet, by itself, has accomplished in lowering the Lake elevation (approximately 336 acre feet since the "controversial" outlet's operations began in 2005, the thickness of seven sheets of paper) or the cost and continuing costs to operate and maintain the "controversial" outlet.

Another perplexing article quote is "Upper basin management is another key to reducing flooding on North Dakota's largest natural lake, according to Frith. He said that has helped, although it wouldn't make a significant difference in the lake level." There is that improper use of the word "flooding" again. It sure would be nice to learn from Mr. Frith (in writing) why he, speaking for the Devils

Lake Basin Joint Water Resource Board, does not believe that the proper implementation of Upper Basin Management of the 250,000 to 300,000 acres of drained wetlands, prairie potholes, sloughs, depressional areas, would have significant differences on the present and future lake levels.

Thank You Again.

Sincerely,

Leo M. Walker

Peterson Coulee Outlet Association, member

Beneficial drought

People relieved Devils Lake water levels are finally dropping

By MARVIN BAKER, Staff Writer, mbaker@minotdailynews.com

DEVILS LAKE – It's hard to believe that a drought could be beneficial, but people who live around Devils Lake in Ramsey and Benson counties are breathing a sigh of relief these days.

Moderate drought conditions that have reached northeastern North Dakota for the first time in 16 years are at least partially responsible for the lake dropping more than 2 feet since June 2007, according to the U.S. Geological Survey.

At 2 p.m. Friday, Devils Lake's elevation was 1,446.94 feet above sea level, down from its all-time high of 1,449.2 feet on May 9, 2006.

"The lake has dropped some, but not enough to get to the farmland," said landowner Terry Borstad, who has lost roughly 1,000 acres since the lake began gobbling up his property in the mid-1990s. "There's just not enough runoff to be able to get to it."

Jeff Frith, manager of the Devils Lake Basin Joint Water Resource Board, said a three-pronged approach is gradualy reducing the lake level.

One of them, which has been mired in controversy, is the Devils Lake outlet. It essentially drains excess water into nearby Stump Lake.

Ever since Devils Lake rose above 1,446 feet, it has been draining into the Nelson County lake. And as of 10 a.m. Friday, both lakes equalized at 1,446.94 feet.

Upper basin management is another key to reducing flooding on North Dakota's largest natural lake, according to Frith. He said that has helped, although it wouldn't make a significant difference in the lake level.

Mostly, it's nature and the lack of precipitation this spring and over the past winter. Frith said that has had the greatest impact on the lake in the past 18 months.

"I can't speak for the rest of the residents, but I am sure people are pleased that Devils Lake is going down," Frith said. "The drought that North Dakota is in is having many negative impacts on the residents of the state and they don't want others to suffer."

Frith said it's important to remember that short-term droughts have occurred within previous wet cycles, even though the general trend has been toward too much precipitation.

"The folks in the basin don't want to get up false hope with the earlier reports that there is a 70 percent chance of the current wet cycle continuing for the next 10 years," he said. "I don't think we should rest on our laurels. It just isn't a good bet that the wet cycle is over."

However, the U.S. Geological Survey in April 1998, predicted a 50 percent chance that by 2008, the lake level would be 1,441 feet. There was a 5 percent chance in 1998 that Devils Lake would be 1,448 feet, which is about a foot from its Friday level.

Further, USGS has predicted a 50 percent chance that by 2018, the lake will have dropped to 1,436 feet, its approximate level in 1999. The all-time low for Devils Lake was 1,402 feet in 1940.

The U.S. Drought Monitor's long-term forecast of 90 days is calling for continued drought across 90 percent of North Dakota through August, including Ramsey and Benson counties. That should take the lake down a little bit more, according to Frith.

Ed Murphy, the state geologist with the USGS in Bismarck, said statistics aside, watersheds that empty into Devils Lake simply didn't have much of a snowpack over the winter, thus less spring runoff drained into the lake without an outlet.

And drought conditions and a windier-than-average spring, have forced abundant evaporation, which adds to the mix, according to Murphy.

But like Frith, Murphy won't get too excited just yet.

"This would explain why lake levels are dropping, or not rising," Murphy said. "You typically see this during this time of year."

Ramsey County Commissioner Joe Belford, who has been on a crusade to stabilize Devils Lake, isn't betting the farm on the lake dropping a whole lot more than it has, at least in the short term.

Obviously, Belford would like to see it drop significantly so his 10-year fight with Canadian authorities over the drainage situation would subside, but he'll take it as it comes, just as Lake Region residents did when the lake dropped to unprecedented levels in the early 1930s.

According to Borstad, other landowners like himself aren't counting on the lake to drop enough in the next several years to farm the currently submerged land again.

Having said that, they are hoping the new farm bill will help them out with a CRP program that will pay the landowner for putting property into reserve, which theoretically, it has been.

"I'm anxious to see the details to see if it's something we can work with," Borstad said. "Sure, taxes are reduced, but we can't farm it so it's still a negative impact."

Borstad, who was getting set to finish his 2008 seeding on Friday, said he has had the best planting conditions he can remember since 1992. Otherwise, it's been too cool and wet to get much work done at any one time.

Peterson Coulee Outlet Association
3321 54th Ave. N.E.
Maddock, North Dakota 58348

May 15, 2008

Re: Reapplication for the Temporary Emergency Devils Lake Outlet North Dakota Pollutant Discharge Elimination System (NDPDES) Permit;
Application Number: ND0026247;
Comments

North Dakota Department of Health
Division of Water Quality
918 East Divide Avenue
Bismarck, North Dakota 58501-1947

Dear Sir;
Thank you for the opportunity to disclose the following pertinent information on the proposed Reapplication of the North Dakota Pollutant Discharge Elimination System (NDPDES), Permit Application Number 0026247.

Page one of the STATEMENT OF BASIS, paragraph 3, under the heading HISTORY, states "The Devils Lake Basin has received above normal precipitation since 1993. This has resulted in a 25-foot rise in lake elevation. To address the *flooding* concerns, federal, state, and local officials have implemented a three-pronged approach consisting of basin water management, infrastructure protection, and an outlet to the Sheyenne River."

The use of the word flooding to describe this Devils Lake Dilemma has caused us great anxiety over the last number of years. The proper use of the term flooding is to describe a stream, river or lake bed which has been filled to capacity and is overflowing its Ordinary High Water Mark (OHWM), this has not happened with the lake of Devils Lake (Devils Lake, [as opposed to the city of Devils Lake]) yet. As of today, May 15, 2008, at 11: 18 am, the United States Geological Survey [USGS] is reporting that Devils Lake is at 1446.99 feet, means sea level [msl], Devils Lake's OHWM is 1459 feet, msl, today Devils Lake is approximately 12 + feet below the elevation which a true flood will begin to occur. Today Devils Lake is only slightly over half filled, covering 138,985 land acres (2,924,392 acre/feet of water, USGS), Devils Lake would have to double in volume to reach it's OHWM of 277,533 land acres (5,302,612 acre/feet of water, USGS), and then increase even more to start overflowing or start spilling to be considered flooding. Devils Lake is not flooding. Devils Lake may be a dilemma, Devils Lake may be inundating lake bed acreage with water that has not been submerged for a great number of years, but Devils Lake is not flooding. The continual, deliberate, improper use of the term flooding to describe the condition of Devils Lake only excites fear in the minds of the uniformed public. Please correct this gross misuse of the term flood by the North Dakota

Department of Health and our various Federal, State, Local officials and Agencies. The North Dakota Department of Health is the agency that the public relies upon for factual information in times of crisis, to allow the North Dakota Department of Health to continually, deliberately, improperly use the term flood, when there is not a flood, can only further erode the public's confidence in the North Dakota Department of Health and other Federal, State, Local officials and Agencies.

This must be considered a **REAPPLICATION** by the North Dakota Department of Health for a North Dakota Pollutant Discharge Elimination System permit, ND0026247, as properly stated in the "Notice of Public Hearing on NDPDES Permit" under "Facility Description", "The **reapplication** is for a temporary….", again as properly stated on page one, first paragraph, second sentence ("The **reapplication**…"), page 3, second paragraph, first sentence ("In the **reapplication** process…"), of the STATEMENT OF BASIS. Page 7, of the STATEMENT OF BASIS, under ANTIDEGRADATION, states "Based on the established antidegradation policy and Water Quality Standards, it was determined that a formal review was not required for the re-issuance of this NDPDES permit." This is a blatantly deliberate attempt by the North Dakota Department of Health to confuse the process of a REAPPLICATION with the mere re-issuance of a previously approved NDPDES permit, ND0026247. The North Dakota Department of Health is deliberately disregarding the fact that an antidegradation review is required under North Dakota Administrative Code Chapter 33-16-01, 33-16-02.1, North Dakota Century Code * 61-28-04 clearly states, "The department will complete an Antidegradation review for all proposed regulated activities". The review is required to include a socio/economic benefit statement to prove beyond a reasonable degree that this NDPDES permit, ND0026247, is a positive benefit for the greater good of **all** the citizens North Dakota. The five year working history of the North Dakota State Water Commission's (ND SWC) Temporary Emergency Devils Lake Outlet (the Outlet) has shown that the Outlet has only removed slightly more than 300 acre/feet of water (letter from the ND SWC for the Outlet's 2005 operation summary and ND SWC's website for the outlet's 2007 operation summary, no operational discharge occurred in 2006) from a lake that contains approximately 2,924,392 acre/feet according to the USGS. This, by any ones standards, is not a significant amount of reduction of the lakes elevation. The operation and maintenance cost for the ND SWC's outlet has been averaging $325,000 to $330,000 yearly (see the enclosed letter from the ND SWC for the 2007 Outlet's operation and maintenance yearly cost, the year with the Outlet's greatest discharge, 298,000 acre/feet). This negative cost/benefit ratio is not for the greatest good of the citizens of North Dakota and is a direct harm to the lives and property of the citizens of North Dakota. History has proven that the North Dakota Department of Health **must not issue** the NDPDES reapplication permit, ND0026247, to the NDSWC for the Outlet!

The "Draft, Authorization To Discharge Under The North Dakota Pollutant Discharge Elimination System" document, page 5 of 18 and then again from the STATEMENT OF BASIS, Devils Lake Outlet, ND-0026247, page 3, states, "OUTFALL DESCRIPTION, Outfall 001 – Active. Final Outfall. Devils Lake Outlet. This is an intermittent discharge consisting of surface water diverted from the West Bay of Devils Lake (Round Lake) to the Sheyenne River. The discharge from the diversion system enters the

Sheyenne River in the SW 1/4, SE ¼, Section 8, T151N, R68W." This Outfall description is only partially correct and at the same time is intentionally misleading. It is true to say that Outlet is "an intermittent discharge consisting of surface water diverted from West Bay of Devils Lake", it is also a fact that numerous large field watershed areas have been deliberately diverted directly into the Outlet channel by the ND SWC. These field watershed drainage points are unregulated, unauthorized, unapproved, unpermitted and have been allowed to be in continuous operation since the time of Outlet construction completion in 2005. These field watershed drainage areas also discharge from the Outlet diversion system and enter the Sheyenne River as a single point source pollutant in the SW ¼, SE ¼, Section 8, T151N, R68W. There have been five field watershed drainage culverts constructed by the ND SWC that discharge directly in the center Outlet channel. These five field watershed drainage culverts are located in the Josephine Channel portion of the Outlet. The exact locations of these "side drains", as they are referred to in the "Devils Lake Emergency Outlet, North Dakota State Water Commission, Project Number 416-7, General Notes, Pipeline & Canal Segments, Canal Cross-Sections, September 2006 Preliminary* Record Drawings", are at the 492+90 foot/mark, Sheet Number 47 of 177, Drawing Number 2-C-17; 502+90 foot/mark, Sheet Number 47 of 177, Drawing Number 2-C-17; 652+60 foot/mark, Sheet Number 52 of 177, Drawing Number 2-C-22; 688+07 foot/mark, Sheet Number 23 [This page number appears to be in error, please demand from the North Dakota State Water Commission an immediate correction] of 177, Drawing Number 2-C-23; and the 702+60 foot/mark, Sheet Number 54, Drawing Number 2-C-24. (Locations of the "side drains" also taken from the "Devils Lake Emergency Outlet, North Dakota State Water Commission, Project Number 416-7, General Notes, Pipeline & Canal Segments, Canal Cross-Sections, September 2006 Preliminary* Record Drawings".) The reapplication Draft Authorization to Discharge Under the North Dakota Pollutant Elimination System document clearly states, as would the original modified permit, under "I. Limitations and Monitoring Requirements, B. Effluent Limitations and Monitoring, 11. 'The Department must be notified, in advance of any facility expansions, additions, or modifications to increase outlet capacity. The increase in any effluent limitation, including the instream limit for sulfate, is considered a major modification. Major modifications require the issuance of a public notice inviting public comment.', page 8 of 18. These five "side drains" are major facility expansions, modifications, additions that the ND SWC has apparently failed to notify the North Dakota Department of Health of, or the North Dakota Department of Health is and has been aware of these facility expansions, modifications, additions and has been deliberately ignoring. Whatever the case, the major modifications require the issuance of a public notice, inviting public comment, this has not happened and is a continuing, flagrant disregard of the permitting, monitoring, enforcement duties that the North Dakota Department of Health has been entrusted with, to insure that all North Dakota waters are protected from degradation. Therefore the reapplication of the North Dakota Pollutant Discharge Elimination System permit, ND0026247, must be immediately denied by the North Dakota Department of Health.

The Point of Compliance for the Outlet must be relocated to no more than 100 feet downstream of the Outlet's Point of Insertion into the Sheyenne River. The only half valid reason given, in the original NDPDES permit for the present location of the Point of

Compliance, approximately 12 to 14 river mile downstream from the Point of Insertion, was that during the time of construction for the Outlet and also it was at this time the request for the original NDPDES permit was being applied for, there had not yet been constructed a reliable all weather road to the Outlet's Terminal structure. The now completed Outlet's Terminal structure is very near or should be considered the Outlet's Point of Insertion into the Sheyenne River. Now that the Outlet's construction has been completed and an adequate all weather road has been constructed to the Outlet's Terminal structure, that is used for the regular mandated, normal and routine maintenance of the Outlet's facilities, this excuse of not having adequate access to the Point of Insertion has been eliminated. The Point of Compliance must be relocated to no more than 100 feet downstream from the Point of Insertion. It is true that the pollution being discharged by the operation of the Temporary Emergency Devils Lake Outlet has used the 12 to 14 miles downstream Sheyenne River to dilute the pollution, to achieve the maximum allowable federal water quality regulation at the Point of Compliance. This fact has been reaffirmed by numerous past quotes from the State Engineer and various State Water Commission employees, the latest being, a quote from Mr. Bruce Englhardt, Outlet Project Manager for the North Dakota Water Commission, in the May 15, 2008, Grand Forks Herald, "We need lower levels of sulfates in the [Sheyenne] river to dilute the Devils Lake Water," he said'. The Sheyenne River must not, any longer, be allowed to be used by the North Dakota Department of Health to be illegally degraded for 12 to 14 miles to the present Point of Compliance from the Point of Insertion. This clearly violates the North Dakota Department of Health's own regulations, "It is hereby declared to be the policy of the State of North Dakota to act in the public interest to protect, maintain, and improve the quality of the waters in the State for continued use as public and private water supplies….", North Dakota Century Code * 61-28-01. The pollution being discharged in the Devils Lake water must be **diluted prior to** the Point of Insertion in the Sheyenne River, to meet the maximum allowable federal Clean Water standards at the Point of Compliance located no further downstream than 100 feet from the Point of Insertion. The real time monitoring data for the Outlet's Flora upstream station, the Outlet's Terminal Structure and Outlet's Point of Compliance must be required to be displayed on the United States Geological Survey website and the North Dakota State Water Commission website. Until the Point of Compliance has been relocated upstream from its present location, to the aforementioned acceptable location, the North Dakota Department of Health must deny the reapplication request for the NDPDES permit, ND0026247.

Until adequate biota treatment has been constructed by the North Dakota State Water Commission to protect the waters of the State of North Dakota from the intentional transfer of the known and unknown aquatic invasive species and the aquatic nuisance species that exist in the lake of Devils Lake to the Sheyenne River by the Outlet, the North Dakota Department of Health must deny the reapplication request for the NDPDES permit, ND0026247.

The "STATEMENT OF BASIS, Devils Lake Outlet, ND – 0026247", page 7, proclaims "The state of North Dakota established a Devils Lake Outlet Management Committee in October 1, 1997. The committee's purpose is to develop an annual plan for the operation

of the project. The committee is comprised of: (1) three governor-appointed members representing downstream interests impacted by a Devils Lake outlet, (2) one member appointed by the Red River Joint Water Resource Board, (3) one member appointed by the Devils Lake Joint Water Resource Board, (4) one county commissioner from Ramsey County, (5) one county commissioner from Benson County, (6) one representative of the Spirit Lake Nation, and (7) the State Engineer or designee." On April 9, 2008, at 11:00 am., the Devils Lake Outlet Management Committee held its' only mandated, yearly meeting in the Ramsey County Court house basement, located in the City of Devils Lake. Of the nine Devils Lake Outlet Management Committee board members only "the State Engineer or designee" and "one county commissioner from Ramsey County" were present. There was not enough interest in the Temporary Emergency Devils Lake Outlet shown by the Devils Lake Outlet Management Committee board members to participate in the meeting. There were not enough Devils Lake Outlet Management Committee board members to form a quorum, consequently the Devils Lake Outlet Management Committee only entertained questions from the public at its' only yearly meeting. The committee's purpose to develop the 2008 annual plan for the operation of the project was not discussed, a motion was not made or seconded for the 2008 annual operational plan, a vote could not be taken because of the lack of the quorum of committee members. There is not a 2008 annual operating plan in place for the Outlet. Therefore, the North Dakota Department of Health must deny the reapplication request for the NDPDES permit, ND0026247.

If by some bizarre, flawed thinking process the North Dakota Department of Health does approve the request for the potentially illegal reapplication of the NDPDES permit, ND0026247, then the North Dakota Department of Health must only allow the reapplication permit approval for no longer than three (3) years; Effective Date: July 1, 2008, Expiration Date: June 30, 2011.

If the North Dakota Department of Health does approve the request for the potentially illegal reapplication of the NDPDES permit, ND0026247, then the North Dakota Department of Health must make changes to the proposed "Whole Effluent Toxicity (WET) Requirements" to assure, beyond any reason of doubt, that all of the State's Waters are maintained or improved and to protect and maintain all beneficial uses; the Sheyenne River in particular. From the April 20, 2005, State of North Dakota, Office of the Governor, John Hoeven, Governor to The Honorable Condoleezza Rice, Secretary of State letter, page 1, paragraph 5, "The permit to discharge water from Devils Lake to the Sheyenne River is designed to protect all beneficial uses of the water downstream. It has extensive compliance requirements including establishment of baseline conditions, monitoring, adaptive management and reporting. As part of the adaptive management plan, the permit includes a mechanism for recognizing and rapidly addressing issues that may arise." In order to substantively achieve the State of North Dakota's Governor's statement, all monitoring reporting, regardless of types of monitoring reporting, must have no less than a seven (7) day, weekly frequency, with no waivers or modifications allowed. Mandatory once weekly Acute Toxicity Testing and Chronic Toxicity Testing must be required for the Sheyenne River between the Point of Insertion and the Point of Compliance during the operational discharging of the Outlet, with no waivers being

allowed, for what ever reason. The North Dakota Department of Health must change the "Whole Effluent Toxicity (WET) requirements for Outfall 001, Effluent Dilution Species and Test Type". The Acute Toxicity Testing Species must be changed, and declare the same species for a newly required North Dakota Department of Health Chronic Toxicity Testing, to be the Lasmigona compressa (Creek Heelsplitter) from the now used Ceriodaphinia dubia (Water Flea) and to the Nocomis biguttatus (Hornyhead Chub) from the now used Pimephales promelas (Fathead Minnow) in order to achieve truthfulness in the above North Dakota Governor's letter. It makes absolutely no logical sense to use two species, the Water Flea and the Fathead Minnow, which are well known to be able to survive in some of the most polluted, stagnant, putrid aquatic environments for the Acute and Chronic Toxicity Testing requirements. The Creek Heelsplitter and the Hornyhead Chub are known to exist in the Sheyenne River from the Outlet's Point of Insertion to the present Point of Compliance, these two species must be used for the Acute and Chronic Toxicity Testing requirements, as truly representative samples of the aquatic community that these Toxicity test are meant to protect. The Acute Toxicity and Chronic Toxicity test failure (LC50) must be defined as lethality to 50% or more of the test organisms exposed to 100% effluent for Lasmigona compressa and the Nocomis biguttatus. The Lasmigona compressa and the Nocomis biguttatus must be both subjected to the 96 Hour Acute – Static Renewal testing processes to adequately assure that **all North Dakota aquatic life is protected** and therefore, all of the beneficial uses of the Sheyenne River will be assured to be protected from the pollution being discharged by the Temporary Emergency Devils Lake Outlet. If toxicity is detected this permit shall not be reopened and modified. The North Dakota State Water Commission (ND SWC) and the North Dakota Department of Health (ND Dept. of Health) have had since the time of Statehood or since at least, the time of the agencies creations, to study, evaluate and monitor the lake and river conditions of North Dakota (for the last five years the ND SWC and ND Dept. of Health [the Agencies] have been privileged to have the aid of two new, state of the art, United States Geological Survey monitoring stations, to study, evaluate and monitor the Sheyenne River), to have these Agencies say that more studies, evaluations, monitoring need to be conducted while the Temporary Emergency Devils Lake Outlet is operational, proves, once again, that the Agencies have not seriously been committed to their obligation of due diligence to safe guard all of the beneficial uses of the Waters of the State, therefore no modifications are justified once these conditions are required in the new permit and this new permit has been granted, if granted.

Page 18 of 18, of the "Draft, Authorization To Discharge Under The North Dakota Pollutant Discharge Elimination System" document states, "J. Severability, The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby." The inclusion of the idea of Severability and the language used to define severability is unacceptable and must be discarded from the North Dakota Department of Health draft reapplication of the NDPDES permit, ND0026247. One broken link in a chain renders the total chain useless. NDPDES permit, ND0026247 must remain as a whole, in order to be a somewhat effective tool in protecting the quality of the Waters of the State at the time the first standards were established in 1967, or later

if indicated improved quality, thereby protecting all the beneficial uses of the Waters of the State.

All discharge monitoring reports associated with the operations of the North Dakota State Water Commission's Temporary Emergency Devils Lake Outlet, including the WET requirement reports, must be made available to the public and published on the North Dakota Department of Health's web site as soon as the North Dakota Department of Health receives them, before reviews and modifications may or may not be made to the required reports by the North Dakota Department of Health.

Sincerely;

Mrs. Thelma Paulson, President
Peterson Coulee Outlet Association

TP/lmw

PS. One final perplexing question/comment, in the U.S. Army Corps of Engineers' April 2003 "Final Devils Lake, North Dakota, Integrated Planning Report and Environmental Impact Statement" (IPR/EIS) page 9-2 it is stated, "The state [North Dakota] has and will continue to support reducing the sulfate constraint from 450 to 300 mg//L….", how is it possible then, that in 2007, the North Dakota State Water Commission has been allowed by the State to be able to request absolutely no sulfate constraints be imposed upon the Temporary Emergency Devils Lake Outlet in the new reapplication of the NDPDES permit, ND0026247? Also, how is it possible then, that in 2006 the North Dakota Department of Health granted for the State a permit modification for the Temporary Emergency Devils Lake Outlet that would allow the intentional Degradation of the Sheyenne River up to the maximum allowable federal limit of 450 mg/L?

Enclosure

Cc: Robert Roberts, Regional Administrator, Region 8, U. S. Environmental Protection Agency

North Dakota State Water Commission

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April 29, 2008

Leo Walker
5376 39th St. NE
Maddock, ND 58348-9682

Mr. Walker:

The following table is in response to your request for an itemized listing of the Devils Lake Outlet Operating expenses for calendar year 2007.

EXPENSE	AMOUNT
SALARIES & FRINGE	66,070.73
TRAVEL EXPENSE & VEHCILES	24,265.93
MISC SUPPLIES	5,044.30
POSTAGE	352.08
OTHER EQUIPMENT	280.59
UTILITIES	35,690.86
TELEPHONE	2,414.49
FREIGHT	339.52
MISC CONTRACTUAL FEES	49,419.48
OTHER OPERATING	3,753.31
O&M CONTRACTS	139,762.12
TOTAL COST	**$327,393.41**

Sincerely,

Dale L. Frink, P.E.
State Engineer

DLF/be:416-10