



U.S. Army
Corps of
Engineers
St. Paul District

DEVILS LAKE STUDY NEWSLETTER

Issue #1, March 2008



North Dakota
State Water
Commission

Corps Receives Funds to Determine a Plan for Rising Lake Levels Public Meetings Scheduled for April

For the past three years Devils Lake has reached an elevation of over 1,449 before leveling off as flows made their way to Stump Lake. Devils Lake has now equalized with Stump Lake, eliminating available storage for large flood events. Currently, both lakes are at approximately 1,447. 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. Outside the City of Devils Lake, the primary areas of concern have been identified as Minnewaukan, Spirit Lake Nation, and Nelson County.

This newsletter will provide background on the flooding and information on possible alternatives. These alternatives have been identified as a starting point and public feedback is being sought. The public meetings in April will be the first of several in the plan selection process that will help determine the best option for additional protection for the City of Devils Lake.

POSSIBLE ALTERNATIVES

Some alternative actions that could be considered for maintaining protection at the City of Devils Lake are listed below. Some of these alternatives may not be feasible and will be screened out in the next stage of the planning process. Additional discussion on these and other alternatives are available on the website or by contacting us at the address, email, or phone number on the back of this newsletter.

Future Without Condition: No further Levee extensions constructed. Selective infrastructure protection measures implemented for roadways may continue. Natural outlet may be hardened to prevent severe erosion as lake nears natural overflow elevation. Some limited levee raises and extensions may be constructed on an emergency basis to protect key areas of the city as the lake rises.

Levee Construction/Extension: Levee construction, extensions/raises implemented as needed to provide protection to the city of Devils Lake. Alignments may range from minimal protected area to maximum protected.

Relocation: Relocate structures/facilities at Devils Lake as the lake rises. Relocation could be done in increments as the lake rises.

Devils Lake Study Public Meetings			
Location	Date	Time	Meeting Place
Spirit Lake Casino	Monday, April 7, 2008	7 p.m.	Spirit Lake Casino & Resort 7889 Highway 57, St. Michael
Cooperstown, ND	Tuesday, April 8, 2008	noon	Bank of the West meeting room 901 Burrel Ave NE, Cooperstown
Devils Lake, ND	Tuesday, April 8, 2008	7 p.m.	Ramsey County Courthouse 524 4th Ave, Devils Lake

The meetings are expected to last two hours or less. Individuals who need directions to the meeting place or who require an auxiliary aid or service, should contact Kevin Bluhm, with the Corps of Engineers by April 5 at 651-290-5247.

Questions & Answers to Common Issues at Devils Lake

Will anything the Corps builds prevent ground water flooding?

Ground water is a concern for a number of residents in the Devils Lake region, both behind the embankment and in other parts of the lake. At this time, the impact of groundwater on future projects or embankment raises is undetermined. It may be necessary to implement a combination of structural measures, such as drainage structures or pumping plants, or non-structural measures, such as relocating structures to prevent ground water flooding. This will be studied as part of the Flood Risk Management Project.

Groundwater in detail: It is not been determined what the impacts of ground water would be should the lake continue to rise. The City of Devils Lake have been monitoring wells in the City for the past several years and observed that the ground water levels have varied seasonably and after rainfalls. Pumping the ground water and drainage measures can be taken to minimize groundwater impacts but they can be expensive to build, operate, and maintain. Groundwater problems also limit development potential on otherwise buildable land even though it may be protected by the levee.

Will the Corps be working with the Spirit Lake Nation or other communities on this project?

With this study, the Corps plans to develop and refine past alternatives for the Spirit Lake Nation and other communities, such as Minnewaukan. We'll be working with local officials to identify trigger points and a way forward as part of the overall lake approach.

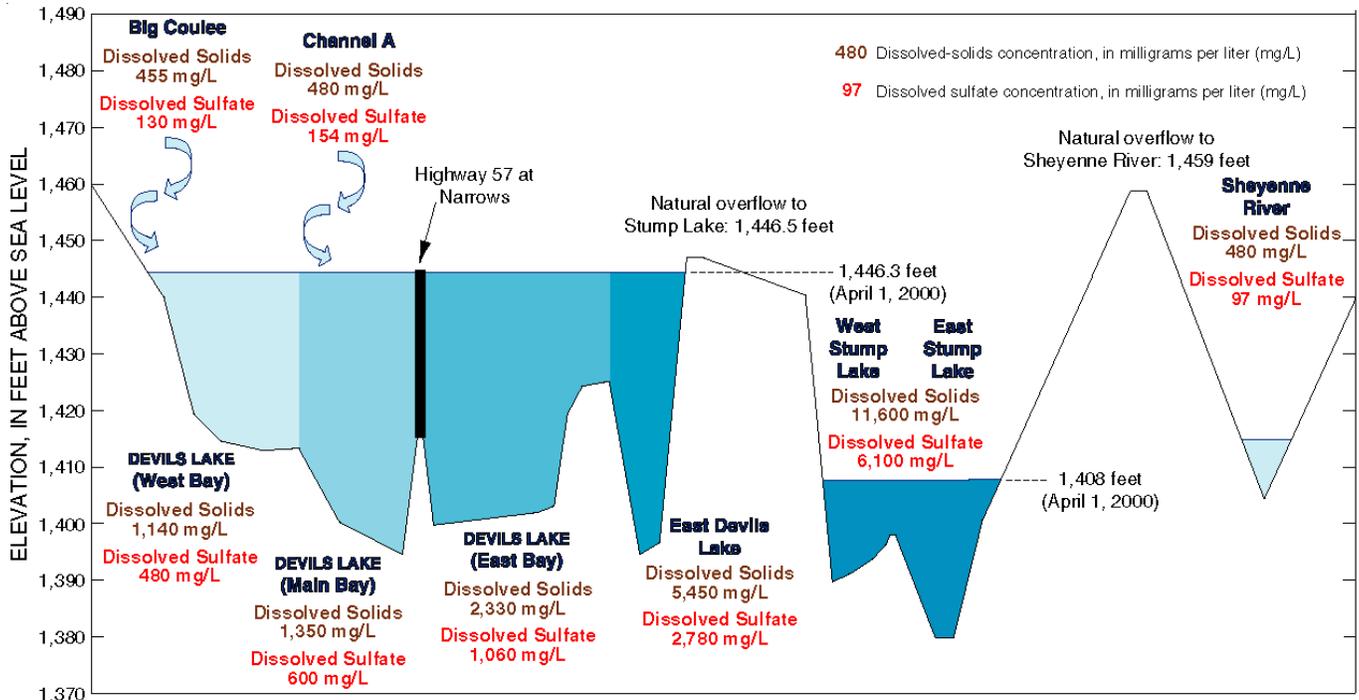
Lake Approach in detail: We are going to be taking time early in the study process to review and update the Corps 2003 Infrastructure Report. This will be a valuable planning tool for communities around the lake and serve as a way forward in the event that the lake starts to rise. The 2003 report is a highly detailed document that is very comprehensive and covers potential action steps for nearly all communities and areas around the lake. We will update the report to make it current and account for changes in these areas since the data was collected, such as structure relocations, buy-outs, road raises, etc. These updates are planned to be available to the communities by the end of the summer. The 2003 Infrastructure report is currently available for viewing on the Corps website, in the Devils Lake section. The web site address is printed on the back page of this newsletter.

Hydrologic Information on the Lake

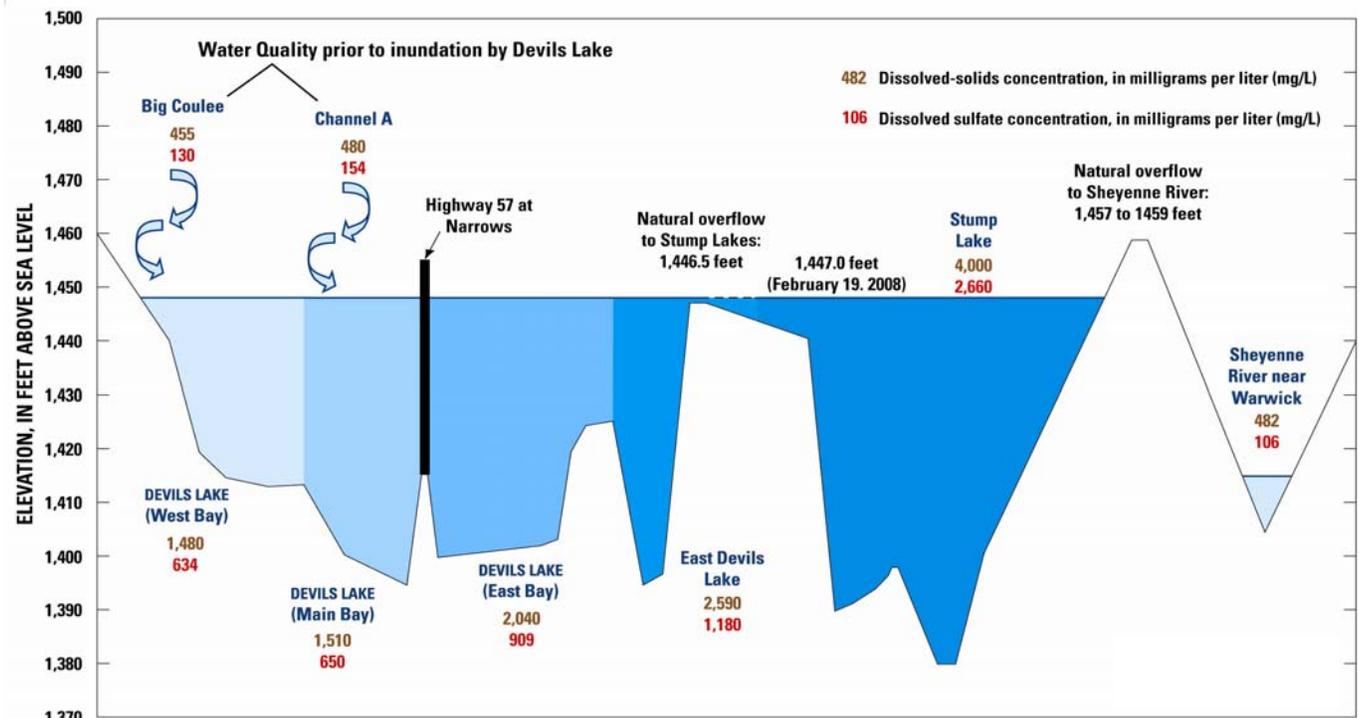
To put things in perspective, the following data is provided based on information from the United States Geological Survey (USGS). The probabilities that the lake will experience a large flood event are small, but it is important to plan and allow time to implement a plan if necessary. By the year 2013, USGS estimates that there is a 50 percent probability that the lake will reach elevation 1,448.5, a 5 percent probability the lake will reach 1,455, and a 1 percent chance the lake will reach 1,459. The lake currently covers 210 square miles. At an elevation of 1,459, it would be double in size and cover 423 square miles. It would take a large volume of water to reach this elevation. For comparison, to raise the lake from its current elevation of 1,446.8 to elevation 1,450, would require 436,000 acre-feet of water. The 1997 flood was 522,000 acre-feet in volume. The lake volume increased by approximately 1.9 million acre-feet between 1993 and 1999. To raise the lake to an elevation of 1,454 would require 1.15 million acre-feet or more than double the volume of the flood of 1997.

USGS Maps Contrast Years of Rising Lake Levels

For the past 10 years, water has been slowly flowing into the west end of the Devils Lake chain and filling up Stump Lake. The USGS has developed these graphics to illustrate how lake levels have changed. The graphics also show the Total Dissolved Solids (TDS) levels in the lake. The darker the color shading, the higher the level of TDS concentrate in the body of water. Higher levels of TDS in the lake are due to evaporation without streamflow to remove the salts and other minerals in the water.



Water Levels and Quality as of April 2000



Water Levels and Quality as of February 2008

NEXT STEPS FOR STUDY

We are at the beginning stages of a multi-year assignment to develop a construction plan and be ready to build adequate protection measures near the city of Devils Lake, should the lake continue to rise. We are starting with a public meeting and seeking input in April for our initial starting point in studying all possible alternatives.

After the initial meetings, we will work and screen out alternatives that are not feasible, and we will come back to Devils Lake to hold meetings to show the remaining alternatives. This will show more detailed plans and potential alignments for where any levee alternatives would be located.

The final step before actual detailed plans and specifications are started would be selecting a preferred plan. This will require additional public input and meetings in the area to view and discuss the details and exact ramifications of the plan being brought forward. Meetings are currently planned for the September 2008 timeframe.

Once a preferred plan is selected, a long engineering phase will start to get ready for any potential future construction.

How to Get More Information

Write, call, or e-mail



Kevin Bluhm
651-290-5247
kevin.w.bluhm@usace.army.mil

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

Bruce Engelhardt
701-328-4958
bengelhardt@nd.gov

North Dakota State Water Commission
900 East Boulevard
Bismarck, ND 58505-0850

Technical reports

All past Corps technical reports associated with Devils Lake, including the Draft Integrated Planning Report/EIS, and Infrastructure Report, are available for review at:

U.S. Army Corps of Engineers, St. Paul District
www.mvp.usace.army.mil/devilslake
North Dakota State Water Commission
www.water.swc.state.nd.us



Also available on the Corps website is additional project information, background information, mailing list sign-up information, and all project newsletters.

printed on recycled paper with soy ink 

Return Service Requested

U.S. Army Corps of Engineers
St. Paul District
c/o Kevin Bluhm (ATTN: PM-E)
190 5th Street East, Ste. 401
St. Paul, MN 55101-1638

