



New Devils L. Tech Team Report Available

A new Report of the Devils Lake Basin Technical Review Team was released in late August. The purpose of the report is to update previous technical review team reports that were completed and updated in 1995, 1996, and 1999. The latest review team report provides updated information, several recommendations, and outlines potential “next steps” to addressing the continuing flooding problems in the Devils Lake basin.

The report was developed through a cooperative effort be-

tween the North Dakota State Water Commission, the North Dakota Department of Emergency Services, and the U.S. Army Corps of Engineers.

The review team members are hopeful that the recommended next steps included in the report will be considered by the Devils Lake Federal Task Force – which is comprised entirely of high-level federal agency officials.

The full report is available through the Water Commission’s website at www.swc.nd.gov.

According to the new Devils Lake Tech Team report:

“... the U.S. Geological Survey determined there is about a 9 percent chance of the lake overflowing (factoring in the current state outlet) in the next 20 years. From a hydrological standpoint, a 1 percent chance equates to “high risk” due to the potential magnitude of damages and impacts to such things as downstream communities, transportation networks, and agricultural lands.”

This clearly articulates the urgency of the current situation at Devils Lake, and for areas downstream.

Pictured here is the Minnewaukan Public School, which is only a few feet above the current lake elevation. Some of the recommendations in the new report focus on potential next steps for this small community, which is also the Benson County seat.



New Study & Recovery Initiatives Bring Participants to Institute

Institute participants learning about ethanol production at the Blue Flint Ethanol Plant near Underwood.



“This institute is an excellent opportunity for every single teacher, no matter what subjects they teach.”

Marie Zimmerman, Bismarck

The Project WET watershed education program moved its 2010 Institute to the central Missouri River this past July. Recent new initiatives, including the Missouri River Authorized Purposes Study (MRAPS), and the Missouri River Recovery Program (MRRP) made it quite timely for the institute to be held in the Missouri River watershed.

In past years, other watershed institutes have covered Devils Lake, the northwestern and southwestern portions of the Missouri River, the James and Sheyenne Rivers, the Mouse River, and the Red River. By moving the institute around the state, and by providing more localized watershed issues and concerns, educators are given a great opportunity to learn about watershed issues and concerns that are important in their own “backyard.” Several educators have moved around the state following this “watershed circuit” to fully understand the differences and similarities of watershed management in North Dakota.

The 2010 Institute gave 24 educators, from all grade levels and subject areas, insight into North Dakota’s

central Missouri River watershed issues and concerns. The institute included tours to major water use and energy production industries from the Garrison Dam to the Bismarck-Mandan area. Some of the timely topics covered at this year’s institute included:

- Sovereign land management
- Missouri River management
- Floodplain management
- Missouri River endangered and threatened species
- Missouri River Authorized Purposes Study
- Missouri River Recovery Program and Habitat Restoration
- Environmental investigations
- Water quality assessments - sediment deposition
- Soil health, and water and land conservation
- Water treatment
- Lake impoundment and dam construction

- Watershed health
- Bank stabilization
- Water use, supply, and distribution for energy production
- Fisheries, enforcement and recreation
- Riverfront development
- Upstream and downstream issues

The institute also included several environmental assessments at various streams. Brief chemical and macro bioassessments were completed on Harmon Lake, north of Mandan. Participants conducted a much more complete environmental assessment on Burnt Creek, north of Bismarck. This assessment consisted of measuring stream flow and discharge, obtaining a cross section profile, collecting and analyzing macroinvertebrates (bioassessment), analyzing the chemical water quality (chemical assessment), and conducting a stream habitat assessment (habitat, ecosystem, and physical characteristics).

In addition, institute instructors conducted 12 hands-on activities from three major Project WET educator curriculum guides that correlated to the field tours, environmental investigations, and presentations. Many of these activities were “make and take,” where the materials were provided for the educators to construct the activity in class, and then take back to their own classroom for use with their own students. Participants were also provided with a comprehensive stream investigation field guide and dozens of other Missouri River and North Dakota water resource and Project WET water education materials.

Once again, great emphasis was placed on participant journaling of their Central Missouri River Institute experiences. Each day participants were required to journal different concepts and reflect

on what they had learned during the daily activities, and how they could integrate their newly-learned knowledge in their classroom.

Eunice Guthrie, a high school English and Literature teacher from Fargo said, "Thanks. I can say that this institute has been the best experience to earn credits and to learn. It offered me everything I wanted or needed and rarely, if ever, receive. Some of these experiences include: 1) exchanging ideas with other teachers; 2) hands-on activities that I'm actually able to adapt and use in my class; 3) being outdoors; 4) journaling completed day-by-day so the reflections are relevant and fresh; and 5) receiving information and knowledge that helps me understand the importance of water and land conservation and management."

Marie Zimmerman, a high school Medical Careers teacher from Bismarck commented, "There was never a dull moment and the learning was continuous. This institute is an excellent opportunity for every single teacher, no matter what subjects they teach. All leave the institute with new and exciting hands-on activities and watershed knowledge."

Todd Sivertson, a high school Environmental Science and Biology teacher from Minot shared this about the Institute: "Excellent learning opportunity for many reasons: field investigations; hands-on activities that stimulate learning; field tours; make and take activities; handouts; posters; activity and curriculum guides; and many other materials on water."

And finally, Susan Duffy, a grades 7 to 12 Science teacher from Hills-



Institute participants at the Lewis and Clark Riverboat.

boro said, "I had no idea the Missouri River watershed covered such a huge surface area and stretched across so many states. What an eye opening experience! I now have a better understanding of watersheds and the issues proposed by them."

Instructors at this year's Central Missouri River Watershed Institute were Project WET director, Bill Sharff, and Project WET facilitators Kim Belgarde (Fargo elementary teacher), Angie Bartholomay (Dakota College - Bottineau Science teacher), and Dave Marquardt (Fargo elementary teacher).

The institute was funded in part by an EPA Section 319 Non-point Source Pollution grant, the North Dakota State Water Commission, and local county water resource districts and soil conservation districts.

The Central Missouri River Watershed Institute was offered to educators for four graduate credits through Minot State University, North Dakota State University, or the University of North Dakota.

2010 SUMMER INSTITUTE FIELD TOURS

Bismarck Water Treatment Plant
Harmon Lake Recreation Area
Tesoro Oil Refinery
Lewis and Clark Riverboat
Blue Flint Ethanol Plant
Coal Creek Power Plant
Falkirk Mine
Garrison Dam Powerhouse
Mandan Waste Water Treatment Plant
Garrison Dam Fish Hatchery
Burleigh County Demonstration Project

2010 SUMMER INSTITUTE GUEST PRESENTERS

U.S. Natural Resource Conservation Service
Mandan Waste Water Treatment Plant
U.S. Fish and Wildlife Service
ND Game and Fish Department
Missouri River Joint Board
Burleigh County Water Board
Swenson & Hagen Engineering, Inc.
ND State Water Commission
ND Department of Health
Bismarck Water Treatment Plant
Burleigh County Soil Conservation District
(Several guides from various tours)



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