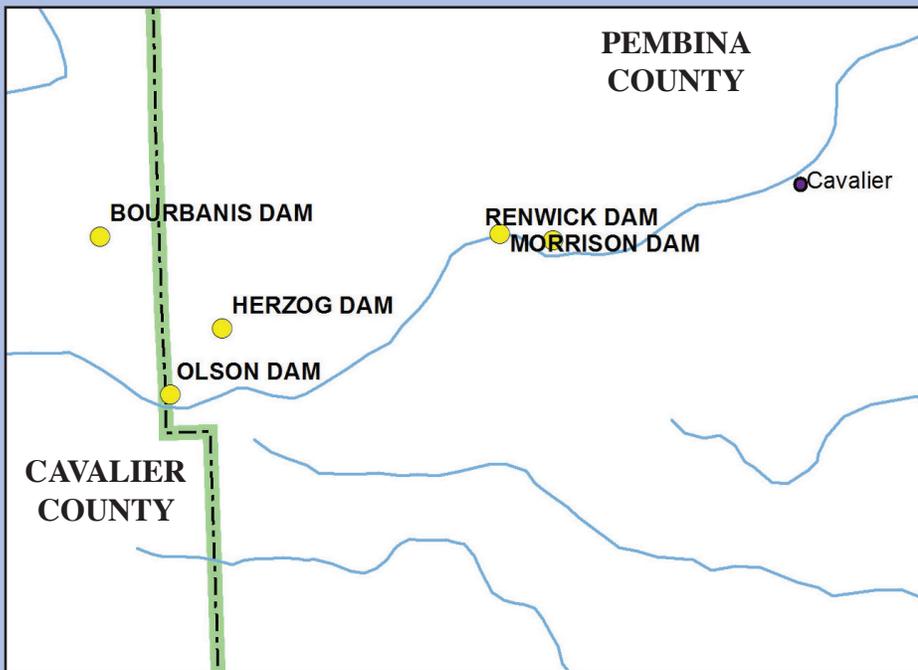


2013 Spring Flood Presents

CHALLENGES TO SOME NORTH DAKOTA DAMS



Despite record snowfall amounts in the winter of 2012/2013, major flooding impacts were mostly avoided on the largest rivers in the state. However, in northeast North Dakota, record snowfall coupled with later melt dates and significant rain events, resulted in flood damages to a number of the smaller dams in Pembina and Cavalier counties. Fortunately, while a number of dams experienced damage, serious impacts to homes and buildings were avoided.

OLSON DAM

At Olson Dam, water levels raised enough that water flowed through both emergency spillways in late May. Water Commission staff inspected the structure in early June and noted significant damage to the spillways.

The south emergency spillway experienced a major slide (approximately 120'x120', varying from 7' to 4' deep), which resulted

in a 120' section of the spillway dike being significantly impacted. This damage is quite serious, which would be exacerbated by further flows, so repair is critical.



The ground slid on the emergency spillway due to spring flooding at Olson Dam.

The north emergency spillway was also damaged and needs repairs, after flows resulted in a head cut on the downstream side, creating a large hole.



Back cutting on the downstream side of the emergency spillway at Olson Dam.

BOURBANIS DAM

Bourbanis Dam was affected by flooding this spring, with water flowing multiple times through the emergency spillway in late May. Flooding resulted in major erosion to the spillway, with a trench 200' long, 75' wide, and 20' deep. At the entrance to the emergency spillway, further erosion resulted in a channel 380' long, 50' wide, and 2' deep. This damage will require repair in the very near future.



Major erosion to the emergency spillway at Bourbanis Dam.

HERZOG DAM

Herzog Dam experienced flow through the emergency spillway in late May. The principal spillway outlet received some erosional damage that will require repair, but the work is not currently critical. The emergency spillway will need minor maintenance at some point as well. Fortunately, there was no major damage to the emergency spillway.



Erosional slumping on the emergency spillway at Herzog Dam.

MORRISON DAM

Morrison Dam had water flow through its emergency spillway twice this spring - once from snowmelt, and then later due to significant late May rainfall. Only minor damage to the emergency spillway resulted.



High flows through Morrison Dam.

RENWICK DAM

Renwick Dam was affected by very high water levels in late May. At the time that flooding occurred, there was serious concern that flows could erode the emergency spillway and significantly impact the town of Cavalier. Contractors working on behalf of the Pembina County Water Board were already



High flows through Renwick Dam.

on site working on constructing a new auxiliary spillway prior to the flooding in a cooperative effort between the county, Water Commission, and Natural Resource Conservation Service. Fortunately, the contractors were able to prevent water from flowing through the existing emergency spillway, and drying conditions prevented the worst-case scenario from occurring. Work on the new auxiliary spillway has been ongoing, and it is expected to be complete in late 2014. High flows did cause some erosion in the principal spillway stilling basin that will need to be repaired, but the work is not currently critical.

FUTURE REPAIRS

While crisis was averted in 2013, a number of structures now need repairs or improvements. In the past, the Water Commission has provided financial assistance for dam repairs throughout the state. With the aging of this infrastructure and the ongoing wet cycle, it is likely that the Water Commission will continue its support of improvements to these critical structures in the future.

Project WET Update

Early in 2013, Tina Harding, the state Project WET (Water Education for Teachers) coordinator, was planning the annual “Discover Today’s Watershed” program, which was set to take place in northwest North Dakota. As part of her planning for this event she had made a site visit to the Missouri-Yellowstone Confluence Interpretive Center (Confluence Center) to discuss programming options with Steve Reidburn and Kerry Finsaas, both employees of the ND State Historical Society. Through her visit with these employees, they also identified a need to get water education to the youth and adults of the Williston area. It was at that time, the group determined that a water festival would be the best avenue to providing a solution.

As planning for “Discover Today’s Watershed” progressed, registration for the program was lower than expected and in late June, the unfortunate decision was made to cancel the program for 2013. However, upon cancelling the program, formal and informal educators throughout the region voiced a need and desire for a Project WET facilitators training, with Project WET resource and curriculum guides, in the northwest region of North Dakota.

Tina, along with the SWC planning and education division, embraced the opportunity to train both formal and non formal educators in preparation and anticipation of being able to offer a water festival in the future. A Project WET Facilitator Leadership Training Workshop was hosted by the Missouri-Yellowstone Confluence Interpretive Center. Williston State College provided the

participants and workshop facilitators a place to stay and meeting space.

From July 23-25, 2013, nine formal and non-formal educators took part in the workshop. The intense hands-on workshop went from 8 am to 8 pm daily. Participants learned all aspects of the Project Wet Generation 2 curriculum, including the online portal, Discoverwater.org interactive website, Healthy People Healthy Water Guide, WOW: Wonders of Wetlands, Conserving Water, and the Discover a Watershed: Missouri River. By the end of the workshop, facilitators were able to lead curriculum-based activities, plan water festivals for youth, and lead credit workshops for adults. Additionally, participants had an option to earn two graduate degree credits from Minot State University, the University of North Dakota, or North Dakota State University.

In addition to fulfilling the need to train Project WET Facilitators in the Williston area, Tina is also working with staff at the Missouri-Yellowstone Confluence Interpretive Center to plan the first ever Northwest North Dakota Water Festival. This water festival is expected to take place in late September at the Confluence Center and attract area 5th graders for an opportunity to learn about water resources through hands on water activities.



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The State Water Commission does not discriminate on the basis of race, color, national origin, sex, age, or disability in employment or the provision of services.

*“I enjoyed the time, instruction, and games. Materials and supplies will be of great help when planning a water festival.”
Kerry Finsaas, Fairview, MT.*

*“Super workshop with meaningful, applicable activities! Loved the hands-on & take home ready to use materials!”
Mary Kensok, Casselton, ND.*



Participants at the 2013 Leadership Training Workshop.