

## Emergency Watershed Protection Program

### *An EWP Success Story*

The floods of 1997 had their root in heavy rains in November 1996. A record snowpack in the winter of 1996-97 met with unusually cold weather in March that delayed the spring thaw.

Finally, Minnesota was inundated by an unprecedented April deluge, with three to six inches of rain falling over much of the state.

This caused widespread flooding in Minnesota. Long Tom Dam was a site that failed, and contributed to the damages in the city of Odessa, Minnesota.

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### **Minnesota's Long Tom Dam Rebuilt**

The Long Tom structure was designed by the NRCS in 1967 when the agency was known as the Soil Conservation Service. It lies in Big Stone County on the Stony River near the border with North and South Dakota. The impoundment was a popular walleye fishing lake. It also provided flood control and wildlife benefits. The drainage area above the structure is 115 square miles. It impounded 2900 acre-feet at the permanent pool elevation.



The earthen embankment has a concrete drop structure with a ten-foot drop. The runoff from the snowmelt in 1997 and the spring rains breached the earth embankments on either side of the concrete drop structure, leaving the structure in place, as shown in the photo above.

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The NRCS Emergency Watershed Protection (EWP) program can only repair a site to the condition that existed prior to the natural disaster. However, when the site was evaluated by the NRCS and the Minnesota Department of Natural Resources (DNR), which is responsible for dam safety in the state, it was determined that restoring the site to its prior condition did not meet current dam safety standards.

A cooperative effort was launched to both repair the structure and to improve it to meet current criteria. Funding to repair the dam came from the EWP and funds to improve it to meet current criteria came from state dam safety funds. The reconstructed earth face was covered with precast concrete blocks, cabled together to provide overtopping protection. In 2001, further rains caused outflows from Long Tom similar to what was experienced in 1997. The NRCS staff was pleased to report that the structure handled the large discharges without damage.

