US Army Corps of Engineers
St. Paul District

Information Paper

Flood Control, Red River of the North: Devils Lake Levee, N.D.

Devils Lake Levee near Creel Bay, west of the city of Devils Lake, N.D.

Contact

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Location/Description

Devils Lake is located in a closed basin in semi-arid northeastern North Dakota. Depending on climatological patterns, the lake is subject to extreme variations in stage. Both low and high levels cause major problems. Devils Lake is highly saline and at low stages, salinity concentrations are so great that fish and wildlife are seriously affected. In addition, boat access around the lake is cut off and the area's recreation-related income (exceeding an estimated $50 million annually) is threatened. High lake levels cause urban, agricultural, and transportation flood damages. The lake reached its highest recorded level (1447.2 feet) in July 1999 and has caused over $300 million in flood related damages. It is currently within one foot of that level.

The levee system is about 7.2 miles in length with a top elevation of 1457 feet above mean sea level. The levees were built wide enough so that they can be raised an additional 3 feet if necessary by adding clay and rock to the top. While referred to as levees, the system was actually designed and constructed as a dam to hold back water for many decades. The levee provides protection from a lake elevation of 1450 feet above mean sea level. The top of the levee elevation is seven feet higher as a safety factor and to prevent waves or ice from splashing over. This additional height above water is referred to as freeboard.

Before the levees were built, snowmelt and rain runoff drained to the lake. Now the interior drainage is routed to five pumping stations that pump the water over the levee.

Status

The construction of the levee system and pumping stations is essentially complete with minor work items remaining. The project will be monitored and maintained by the city of Devils Lake with annual inspections by the Corps of Engineers.

Additional

The initial levees were constructed in the 1980's to an elevation of 1445. By resolution dated June 17, 1996, the city of Devils Lake formally requested emergency assistance from the Corps of Engineers to raise the city's protection dikes an additional 5 feet to an elevation of 1450. On June 12, 1997, the city requested assistance in raising the levees to an elevation of 1457, to provide protection for a lake level of 1450. The project was approved under Public Law 84-99 Advance Measures Authority. A Project Agreement was signed on Aug. 12, 1996, and amended on June 1, 1998. The city is using Community Development Block Grant funding for a significant portion of its share of the project costs.

Authority

Public Law 84-99 Activities (Advance Measures).

Fiscal

With the work nearing completion, approximately $43 million has been spent. The Corps anticipates that the project will be completed for less than the estimated $50 million originally estimated for the project.

	Top of Levee 1457
Estimated Federal Cost	$32,400,000
Estimated non-Federal Cost	10,800,000
Total Estimated Project Cost	$43,200,000