



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

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Public Affairs

Corps Facts

Water Control

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Maintaining the region's water resources for maximum economic and environmental benefit is a 24-and-seven operation for the St. Paul District. Congress mandates the Corps of Engineers maintain a nine-foot channel on the Mississippi River, control the water levels and monitor the water quality at each of its projects on a daily basis. To do this, there is a 10-person water control team, located in the district's water control and hydrology section that focuses on water resources.

The different Corps' projects maintained by the district are operated for many purposes, such as navigation, flood control, water supply or environmental enhancement. Both the river and the reservoirs have water control plans, which have been approved by the Corps' Mississippi Valley Division and Congress.

Upper Mississippi River

The Corps operates the locks and dams on the Mississippi River for navigation, not flood control. The locks and dams create slack-water pools for navigation during periods of low- and moderate-level water. These dams, combined with dredging, allows the Corps to maintain the nine-foot channel on the river. The district regulates the pool levels from Upper Saint Anthony Falls in Minneapolis to Lock and Dam 10 in Guttenberg, Iowa. For each pool, there is a primary control point, where a predetermined water elevation must be kept for navigation to continue. Water control personnel collect data on the current flows, elevations and forecasted weather to predict how high or low the gates on each dam must be to maintain the correct elevation at each primary control point. In times of flood, the gates on the locks and dams are removed and water flows through as if the dam wasn't there.

Corps' Operated Reservoirs

Unlike the operating plan for the river, which is operated for navigation, the reservoir dams are operated mainly for flood control, recreation purposes and environmental enhancement. Most are drawn down in the winter to provide for spring rain and snowmelt storage. Water control personnel collect data on current lake elevations, computed inflows and outflows and forecasted weather to predict how high or low the gates on each dam need to be moved to maintain the correct lake elevation. For each reservoir there is a set recreation season during which the pool is held within prescribed maximum and minimum elevations.

Water Gauge System

Corps' water control personnel maintain a system of 110 gauges throughout the district's rivers and projects. Each gauge measures the water levels, water temperature and wind speed and direction. They are small units, about one foot by one foot and six inches deep. Most of them send the information to the Corps' Water Management System via phone or satellite. Corps' operators use this data when determining when dam gate changes need to be made.

Water Quality

The Corps is required to monitor the water quality at all of its reservoir projects, as well as the locks and dams, to determine a baseline for water quality conditions and to identify problems. Where problems are found, the Corps works with other environmental agencies to develop improvement strategies. Water control personnel ensure proper samples are taken throughout the district and then sent to a lab for testing on a regular basis.