



**US Army Corps
of Engineers**®
Rock Island District

SAYLORVILLE LAKE

5600 NW 78TH AVENUE
JOHNSTON, IA 50131

DES MOINES RIVER

SPRING 2010 FLOODING — Rains and snowmelt due to higher-than-expected temperatures in the Des Moines River basin increased inflows into Saylorville Lake resulting in the projected Lake elevation exceeding 890' which would overtop the 884'-spillway and the additional 6 feet provided by the inflated pneumatic crest gates. Outflows in excess of 40,000 cubic feet per second (cfs) of water could occur if waters overtopped the spillway. Flows at that level could threaten the Central Place and Birdland Park levees.

In efforts to keep water from flowing over Saylorville Lake's spillway, the Corps initiated two temporary, minor deviations from the authorized Saylorville Lake Regulation Plan.

On Monday, March 8, working with the City of Des Moines, the Corps implemented a deviation to operate the lake to control for a stage of 26 feet at the S.E. 6th Street gage in Des Moines, an increase of two feet above the authorized control stage of 24 feet. The deviation allowed higher outflows between March 8 and April 20 to keep the lake at its lowest possible level without causing additional flood damages downstream.

As inflows increased, the Corps, working with the City, approved a second deviation in an effort to prevent an overtopping event. The second deviation abandoned the constraint at the S.E. 6th Street gage sooner than the current plan dictates, allowing as much as 21,000 cfs from Saylorville Lake. This translated to river levels about 10 feet below the top of the Central Place and Birdland Park levees in downtown Des Moines.

By adjusting the Lake's Regulation Plan and increasing releases to 21,000 cfs one week earlier than the S.E. 6th Street gage constraint allowed, the Lake was able to keep flood waters from overtopping the spillway's pneumatic crest gates. Operation of the lake at this level staved off the projected peak inflows of more than 47,000 cfs.

Saylorville Lake's 836'-foot conservation pool occupies approximately 11.5 % of the lake's total storage capacity. The conservation pool consists of approximately 73,600 acre feet of water (23.9 billion gallons) that must be maintained for authorized project purposes which include flood control, water supply, low flow augmentation, fish and wildlife, and recreation. Flood storage above the conservation pool to the full 890-foot flood storage pool elevation occupies 88.5% of Saylorville Lake's total storage capacity. The flood storage pool consists of approximately 641,000 acre feet of water (208.87 billion gallons).

Reducing the Lake's 836' conservation pool does not provide significant flood storage capacity. The 73,600 acre feet of additional storage provided by lowering the pool would fill in 12 to 18 hours at the maximum inflow rates experienced in 2008. Additionally, drastically lowering the pool in the spring would result in bank sloughing and increase the risk for fish kills and significant ice jams at the controlling works which could prevent the efficient release of flood waters and cause the pool to rise more rapidly.

March 27, 2010