

# Rehabilitation of the Hearthstone Lake Dam Will Extend Benefits for Another 68 Years

The Upper North River Watershed Dam No. 77 (Hearthstone Lake) in Augusta County, Virginia is being rehabilitated to bring the dam up to current State dam safety standards and extend its life and benefits for another 68 years. The dam provides flood protection downstream and traps sediment to keep it from moving downstream.

A contract was awarded for the rehabilitation of the dam in October 2018 and construction is expected to be completed in September 2019.

The Hearthstone Lake Dam, as it is known locally, is a high hazard dam constructed in 1966 for flood prevention, which means if the dam failed there would be a potential for loss of lives and property. The dam does not currently meet State dam safety standards.



The current dam does not meet current dam safety standards.

The project will consist of retrofitting the two-stage principal spillway riser footer and replacing metalwork on the riser tower; augmenting the existing earthen training dike by extending it from upstream of the control section to the hill slope exit; shifting the center line of the auxiliary spillway by 10 feet to obtain borrow material; reconstructing the diversion above the auxiliary spillway; installing a graded filter drain on the upstream right abutment; and improving the access road to the boat ramp and stage gages for flood warning. The access road to the boat ramp and stage gages for flood warning will be improved.

The NRCS is providing technical assistance and 65 percent of the total project cost. Project sponsors are providing easements and land rights for the project and 35 percent of the cost.

The total construction cost of the rehabilitation project is estimated to be \$3.7 million. Federal funds for the project will be provided through the NRCS Small Watershed Program Rehabilitation funds.

Partners for the rehabilitation project includes the Headwaters Soil and Water Conservation District, Augusta County Board of Supervisors and the USDA Natural Resources Conservation Service.

The Soil Conservation Service (now the Natural Resources Conservation Service - NRCS) assisted the Shenandoah Valley Soil and Water Conservation District (SWCD) develop the original watershed work plan for the Upper North River Watershed in 1960.

This plan called for the construction of three flood control dams in the headwaters of the North River. These three dams are known today as Todd Lake (built in 1963), Elkhorn Lake (built in 1965), and Hearthstone Lake (built in 1966). The Headwaters SWCD assumed responsibility for the operation and maintenance of Todd Lake and Hearthstone Lake in 1993. The City of Staunton owns and maintains Elkhorn Lake.

## **National Rehabilitation Status:**

Many dams today are in a far different setting than when they were constructed. Population has increased; residential and commercial development has occurred upstream and downstream from the dams; land uses have changed; sediment pools have filled; and concrete and metal components have deteriorated.

Many dams do not meet current State dam safety standards that have more stringent requirements than when the dams were built and some are also nearing the end of their planned service life of 50 years. These dams need rehabilitating to ensure they remain safe, continue to function as designed and continue providing benefits.

In the year 2000 Congress passed The Watershed Rehabilitation Amendments to the Watershed Protection and Flood Prevention Act (PL 83-566). The amendments authorize the USDA Natural Resources Conservation Service (NRCS) to work with local communities and watershed project sponsors to address public health and safety concerns and potential adverse environmental impacts of aging dams. The Amendments authorized NRCS to provide technical and financial assistance to watershed project sponsors in rehabilitating dams that were originally constructed with assistance of the NRCS Watershed Program.

As of December 2018, there are 246 approved rehabilitation projects in 26 States. One hundred and fifty of these projects in 23 states have been completed; 93 projects in 18 States are being implemented (either in design or construction phase); and 49 projects in 20 States are in the planning stage.

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