



Fact Sheet

US Army Corps of Engineers
U.S. Army Engineer Research and Development Center

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Bluestone Lake Dam – Section Model

Purpose: To evaluate structural modifications for safely increasing the discharge capacity of the dam. Specifically raising the dam via a parapet wall and overtopping a portion of the dam.

Background: Bluestone Dam spans the New River at Hinton, WV forming Bluestone Lake, the third largest lake in West Virginia. At summer pool Bluestone Lake covers 2,040 acres and is 10.7 miles long. Bluestone Dam was constructed as part of the Kanawha River Basin flood control system primarily to reduce major flood damages along the New, Kanawha, Ohio, and Mississippi Rivers. Bluestone Dam was completed for operational purposes in January 1949 and completely finished in January 1952. Total construction cost of this concrete gravity dam 165 ft. high and 2,048 ft. long was approximately \$30,000,000 including land acquisition and has prevented over a billion dollars worth of flood damage from occurring. Bluestone Dam has the largest drainage area, 4,565 square miles, of any dam in West Virginia. The New River begins at Blowing Rock, North Carolina and flows north through Virginia into West Virginia. The New River is the oldest river in North America and partially follows the path of the prehistoric Teays River.

Facts: At the request of the U.S. Army Engineer District, Huntington, a 1:36 scale section model was designed and constructed at the U.S. Army Engineer Research and Development Center by the Coastal and Hydraulics Laboratory. The model reproduces the three spillway bays of the Bluestone Lake Dam, 1300-ft of the upper pool and 900-ft of the tailrace. The model was used to evaluate the hydraulic conditions associated with an increase head (increased discharge). These conditions include measuring hydraulic loads on the energy dissipation features of the spillway stilling basin and investigating qualitatively the scour potential downstream of the stilling basin.

Points of Contact: For additional information, please contact Mr. Dwayne Fuller at 601-634-2668 (billy.d.fuller@erdc.usace.army.mil), Mr. Glenn Davis at 601-634-4183 (glenn.davis@erdc.usace.army.mil) or Mr. Dennis Markle at 601-634-3680 (dennis.d.markle@erdc.usace.army.mil)

