



USACE Dam Safety Facts for Buford Dam (30 January 2015)

U.S. ARMY CORPS OF ENGINEERS

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Project Location and Description: Buford Dam was designed and built by the U.S. Army Corps of Engineers (USACE) and completed in 1955, USACE operates Buford Dam for flood damage reduction, municipal and industrial water supply, recreation, navigation support, hydropower, and fish and wildlife enhancement.



The main components of the project are a compacted earth dam embankment section, supplemented by earth saddle dikes, gates that allow controlled water flow out of the dam; and an overflow spillway, which is used to provide additional release of water from the dam during major flood events. The earthen dam is 1,630 feet long, 187 feet high, and top of the dam is 40 feet wide. The elevation of the top of the embankment is 1,106.0 feet ¹. The spillway is located to the left of the embankment section (looking downstream) and is 100 feet wide with an elevation of 1,085.0 feet ¹. The spillway could pass up to 31,760 cubic feet per second, or approximately the equivalent of 9 inches of water on a football field (not including the end zones) discharged every second.

During the fall and winter months, when excessive rainfall is likely, the lake is kept at a relatively low level (referred to as winter pool). Should heavy rains occur, surface water runoff is stored in the lake until the swollen streams and rivers below the dam recede and can handle the release of stored water without damage to lives, property or the environment. Sometimes water must be released to protect the dam's integrity even though streams and rivers may have already reached or exceeded their capacity.

Benefits associated with Buford Dam: This dam has provided on the order of \$20.2 million annually in flood damage reduction benefits over the last 30 years. This dam has provided \$23.7 million in annual hydropower benefits since placed into service. Presently, annual recreational benefits to the area are estimated to be \$67.1 million.

Risks associated with all dams: Dams reduce but do not eliminate the risk of economic and environmental damages and loss of life from flood events. When a flood exceeds the reservoir's storage capacity, large amounts of water may have to be released that could cause damaging flooding downstream. A fully-functioning dam could be overtopped when a rare, large flood occurs, or a dam could breach because of a deficiency, both of which pose risk of property damage and life loss. This means there will always be flood risk that has to be managed. To manage these risks USACE has a routine program that inspects and monitors its dams regularly. USACE implements short and long term actions, on a prioritized basis, when unacceptable risks are found at any of its dams.

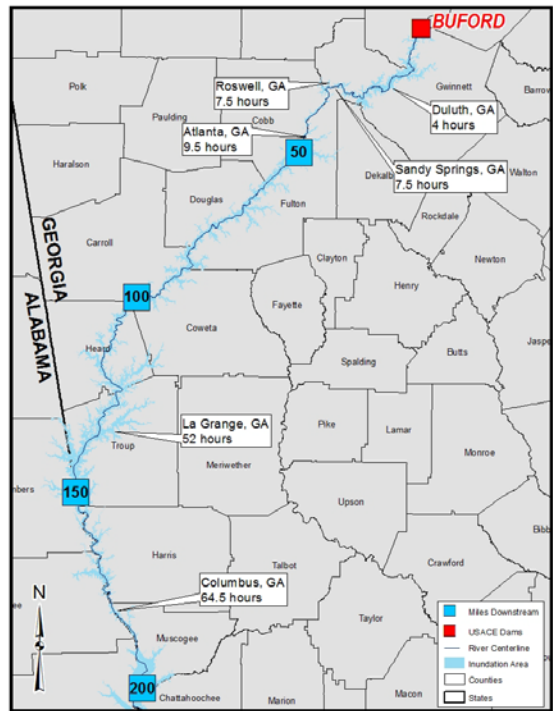
Risk associated with Buford Dam: Based upon the most recent risk assessment of Buford Dam in 2014, USACE considers this dam to be a moderate risk dam among its more than 700 dams because of the risk associated with the large flows issuing from the spillway, or due to the risk of overtopping during an extreme flood event, or embankment erosion due to seepage, or extreme seismic events. Due to development in the Atlanta metropolitan region downstream of the dam, and the large volume of water typically stored behind the dam, there are a large number of people potentially at risk in the event of a dam emergency. USACE has implemented measures to reduce this risk.

¹ Mean Sea Level here is the same as National Geodetic Vertical Datum of 1929 (or NGVD '29).

What residents should know: Dams do not eliminate flood risk so it is important that residents downstream from the dam are aware of the potential consequences should the dam breach, not perform as intended, or experience major spillway/gated outlet flows. The moderate risk in Duluth, GA, Roswell, GA, Sandy Springs, GA, Atlanta, GA, La Grange, GA, Columbus, GA, Phenix City, AL, and the related consequences further downstream warrant increased efforts on the part of USACE, local emergency management officials and residents to heighten awareness of the potential flood risk associated with the dam.

The primary areas impacted should the dam breach, or experience major spillway/outlet works flows, are shown in the map. The potential for loss of life is highest *within a few miles of the dam with the loss of life concerns decreasing substantially beyond 100 miles downstream of the dam.* Advanced warning of problems and events plays a major role in protecting life and property. See the map for a general indication of flooding with a rare flood event and breach.

Public Awareness: Dams are designed to pass large amounts of water on a regular basis and this means there will always be flood risk that has to be managed (see facts below).



Map inundation area displayed is the rare flood event and breach. Map Disclaimer: Actual areas flooded and flood arrival times will depend on specific flooding and failure conditions and may differ from the areas shown on the map.

Recommendations for Residents	Buford Facts
<ul style="list-style-type: none"> • Living with flood risk reduction infrastructure comes with risk—know your risk. • Living with flood risk reduction infrastructure is a shared responsibility—know your role. • Know your risk, know your role and take action to reduce your risk. • Listen for and follow instructions from local emergency management officials. • Strongly consider purchasing flood insurance. • Contact your elected local, county and state officials to encourage sound flood risk management decisions in your area. 	<p>Estimated property and population affected for dam breach with reservoir at top of active storage / maximum high pool:</p> <ul style="list-style-type: none"> • Population at risk: 119,900 / 136,700 • Structures at risk: 33,200 / Not available. • Property at risk: \$8.9 billion / \$10.5 billion <p>Estimated non-breach property and population affected for maximum spillway release:</p> <ul style="list-style-type: none"> • Population at risk: 4,340 • Structures at risk: Not available. <p>Property at risk: \$56.5 million Damages prevented: \$566.2 million (1986 - 2013 period) National Inventory of Dams # GA00824</p>

Residents should listen to and follow instructions from local authorities. For more information, please contact USACE Mobile district office using the information on this fact sheet. Also:

See 'Local EMA Info' on Georgia Emergency Management Agency website: <http://www.gema.ga.gov/>
 See list of county coordinators for Alabama Emergency Management Agency: <http://ema.alabama.gov/county.cfm>
 For additional information about dam safety and living with dams, please visit <http://www.usace.army.mil/Missions/CivilWorks/DamSafetyProgram.aspx> and <https://damsafety.org/resourcecenter/asdso-resources>