



US Army Corps
of Engineers®

USACE Dam Safety Facts for Long Branch Dam

Project location and description: Long Branch Dam was designed and built by the U.S. Army Corps of Engineers, Kansas City District and completed in 1976. USACE operates Long Branch Dam for flood control, water supply, recreation, fish and wildlife management, and water quality.



The main components of the project are an earthen embankment, which serves as the main water barrier composed of compacted earth; an ungated outlet works for normal water releases; and an ungated overflow spillway section for releases during major flood events. The earthen dam is 3,800 feet long, 71 feet high, and top of the dam is 30 feet wide. The elevation of the top of the embankment is 826.0 feet. The foundation is made up of rock and soil with a homogeneous earthen core. The ungated spillway is located at the right end of the abutment and is 50 feet wide with a crest elevation of 809.0 feet. The spillway can pass up to 49,208 gallons per second (7,900 cubic feet per second).

During normal operations, the lake is kept at a relatively consistent level (referred to as conservation pool). Should heavy rains occur in the spring or at any other time, 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 Long Branch Dam: This dam has provided \$2.1 million in average annual flood damage reduction since placed into service. The dam provides 29,000 acre-feet of flood control storage, and the annual water supply benefit is about \$1.0 million. Annual recreational benefits to the area are about \$0.9 million.

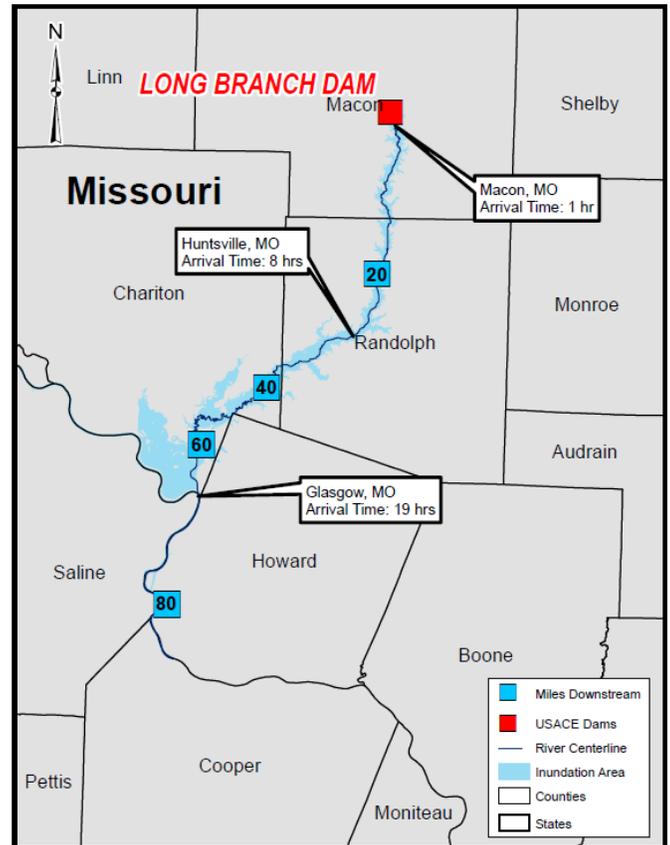
Risks associated with dams in general: Dams reduce but do not eliminate the risk of economic and environmental damages and loss of life from flood events. When a flood exceeds the reservoir's storage capacity, large amounts of water may have to be released that could cause damaging flooding downstream. 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 Long Branch Dam: Based upon the most recent risk assessment in 2018, USACE considers this dam to be a low risk dam among its more than 700 dams based on concerns associated with seepage and piping. USACE manages this risk by conducting routine monitoring and evaluation.

What residents should know: Dams do not eliminate all 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 or outlet works flows.

The primary areas impacted should the dam breach with a full reservoir during a rare flood event or experience major spillway or outlet works flows is highest within a couple of miles of the dam with the loss of life concerns decreasing substantially beyond 60 miles downstream of the dam. Advanced warning of problems and events plays a major role in protecting life and property.

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).



Recommendations for Residents	Long Branch Dam 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 to and follow instructions from local emergency management officials. • Strongly consider purchasing flood insurance. • Contact your elected local, county, and state officials to make sound flood risk management decisions in your area. 	<p>Estimated consequences with rare flood event and breach:</p> <ul style="list-style-type: none"> • Population at risk: 330 • Structures at risk: 160 • Land and property at risk: \$36.9 million <p>Estimated consequences with rare flood event and no breach:</p> <ul style="list-style-type: none"> • Population at risk: 110 • Structures at risk: No data available • Land and Property at risk: \$5.3 million <p>Damages prevented: \$82.9 million National Inventory of Dams (NID) No.: MO11176</p>

Residents should listen to and follow instructions from local authorities. For more information, please contact the USACE Kansas City District office at (816) 426-6320.

For additional information about dam safety and living with dams, please visit www.usace.army.mil/Missions/CivilWorks/DamSafetyProgram.aspx and www.damsafety.org/media/Documents/DownloadableDocuments/LivingWithDams_ASDSO2012.pdf