



US Army Corps
of Engineers®

USACE Dam Safety Facts for Beltzville Dam

Project location and description: Beltzville Dam was designed and built by the U.S. Army Corps of Engineers (USACE) and completed in 1970. USACE operates Beltzville Dam for flood damage reduction, water supply, water quality, and recreation.

The main components of the project are an earthen embankment, a gated outlet works, and an ungated spillway section for releases during major flood events.

The spillway is located on the right abutment (looking downstream) and is 275 feet wide with a crest elevation of 651 feet NAVD 29. The spillway can release up to 368,016 gallons per second or approximately one-half the volume of an Olympic-sized swimming pool each second. The earthen dam is 4,560 feet long and 170 feet high, and the top of the dam is 30 feet wide. The elevation of the top of the earthen embankment is 672 feet NAVD 29. The foundation consists of shale and sandstone bedrock.



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.

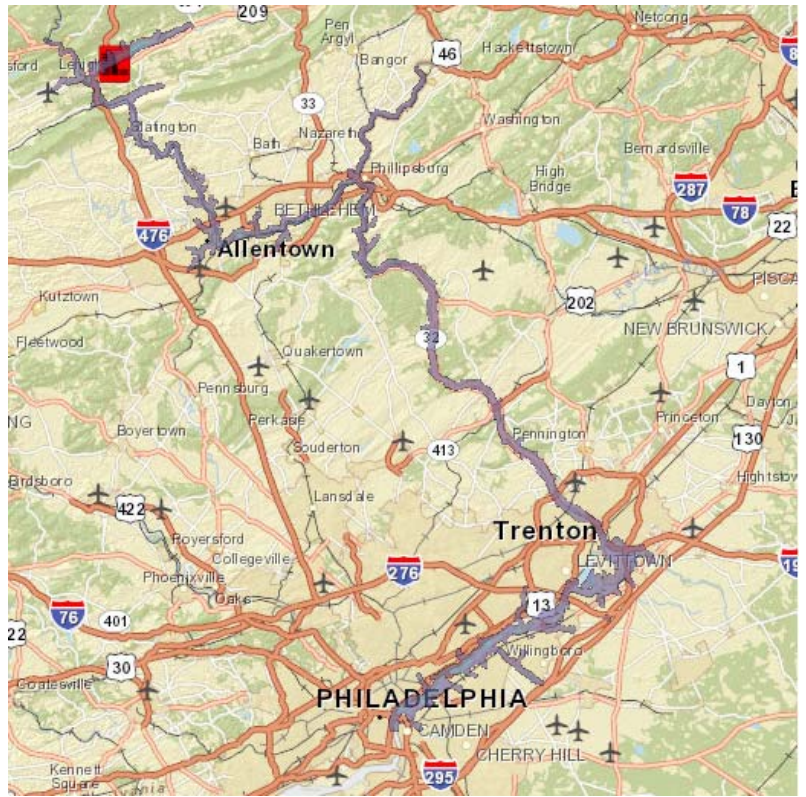
Benefits associated with Beltzville Dam: This dam has provided \$0.825 million in annual flood damage reduction since placed into service in 1970. During the 2006 flood alone, the dam prevented \$2.225 million in flood damages. The dam provides 39,836 acre-feet of water for water supply, and the annual water supply benefit was estimated in the feasibility study to be about \$3.648 million (updated to 2013 dollars). Annual recreational benefits to the area were estimated in the feasibility study to be about \$4.319 million (updated to 2013 dollars).

Risks associated with dams in general: Dams reduce the risk of damages and loss of life from inundation due to floods but do not eliminate this risk. Large amounts of water that could cause flooding downstream may have to be released when a flood exceeds the reservoir's storage capacity (such as during a large flood or storm event). This release could be damaging. A fully functioning dam could be overtopped when a very rare or infrequent, large flood occurs, or a dam could breach because of a deficiency, which raises the risk of property damage and life loss even further. This means there will always be inundation 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 Beltzville Dam: Based upon the most recent risk assessment in 2013, USACE considers this dam to be a moderate risk dam among its more than 700 dams. USACE has implemented interim risk-reduction to reduce this risk.

What residents should know: Dams do not eliminate all inundation 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 moderate risk in the communities downstream warrant increased efforts on the part of USACE, local emergency management officials, and residents to heighten awareness of the potential inundation risk associated with the dam.

The primary areas impacted should the dam breach with a full reservoir during a rare flood event, not perform as intended, or experience major spillway or outlet works flows are shown on the map. The potential for loss of life is highest within 15 miles of the dam and decreases substantially beyond 60 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 breach with a full reservoir during a rare flood event.



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

Recommendations for Residents	Beltville 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 for a dam breach with the reservoir at top of active storage / maximum high pool:</p> <ul style="list-style-type: none"> • Population at risk: 16,250 / 24,550 • Land and property at risk: \$1.5 billion / \$2.4 billion <p>Estimated non-breach consequences for the maximum spillway release:</p> <ul style="list-style-type: none"> • Population at risk: 5,140 • Land and property at risk: \$313 million <p>Flood damages prevented: \$33 million (1972-2012) National Inventory of Dams (NID) No.: PA00010</p>

Residents should listen to and follow instructions from local authorities. For more information, please contact the USACE Philadelphia District office using the information on this fact sheet. You can also contact your local emergency management office.

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