# UNITED STATES ARMY CORPS OF ENGINEERS ASSESSMENT OF BUCKEYE LAKE DAM

## Fact Sheet

Over the past year, the United States Army Corps of Engineers (USACE) conducted a study of the Buckeye Lake dam to assess its structural integrity and evaluate the potential risk of catastrophic failure. Their report, released March 11, 2015, can be found here: engineering.ohiodnr.gov.

The USACE's report identified serious problems with the dam, and significant risk to the public. Their report also made recommendations for immediate and longer-term steps that should be taken to prevent the unacceptable consequences of a catastrophic failure of the Buckeye Lake dam. Highlights of the study include:

- The likelihood of a catastrophic failure of the Buckeye Lake dam at normal pool level and above is high.
- A failure of the dam would include significant economic damages and probably loss of life.
- Immediate steps to reduce the risk of dam failure must be taken.
- Alternative long-term risk reduction measures include building a new dam or draining the lake.

**According to the USACE's review, the likelihood of dam failure is high especially because of "unprecedented" man-made defects.**

- The structural integrity of the dam has been significantly weakened by the more than 370 homes and other structures that have been sunk into the 4.1-mile earthen dam embankment.
- Portions of the dam have been dug away to accommodate pools and patios, utilities and drainage systems for the structures that are built into the dam. All of this has weakened the dam and undermined its stability, increasing the likelihood that it will no longer be strong enough to hold back the weight of the water behind it.
- Cracks, depressions and trees that have taken root in the dam have adversely affected the dam's structural integrity and increased the potential for failure.
- Tell-tale signs of critical weaknesses have been observed on the dam, such as significant seepage, subsidence, persistent wet areas and structural deterioration, including recent observations by USACE engineers of new weaknesses.
- The combined impact of these defects—none of which would be permitted for any new dam construction in America today as they violate acceptable dam construction standards—pose serious stability-related risks.

**A catastrophic dam failure would endanger the lives of more than 3,000 people who live and work near the dam and cause significant economic damage.**

- Approximately 3,000 people live within the projected dam-failure inundation zone and, if the dam were to break, face the potential of being hit by up to an 8-foot wave of water, mud and debris.
- The inundated area could stretch as far as Hebron, more than 2 miles downstream.
- Included in the potential inundation zone are Buckeye Lake Village, Hebron and a section of I-70, which would negatively impact more than 41,000 vehicles and trucks that utilize this section of the interstate each day.
- A catastrophic failure of the dam could result in the loss or damage to nearly 2,100 homes, 75 businesses, a police station, a fire station, a Head Start facility, a health care technical center and a wastewater treatment plant.

**Immediate steps are needed to reduce the risk of dam failure. USACE's recommendations include:**

- The water level should remain at a lower "winter pool" level to reduce stress on the deteriorating dam and provide more storage space during periods of excessive rainfall.
- No additional structures should be built into the dam, such as docks, utilities, pools and patios, in order to prevent further erosion of its remaining structural stability.
- Increased emergency preparedness measures should be taken at the dam, including the stockpiling of sandbags and fill material on site, as well as emergency response planning and exercises.

**ODNR's options include draining Buckeye Lake or replacing the dam with a new, modern structure.**

- The safest solution for eliminating the risk of flooding due to dam failure is to drain the lake permanently.
- Replacing the failing dam with a new structure that meets current dam safety standards would solve most of the immediate issues.
- If Ohio chooses to replace the dam, work should begin immediately to mitigate the real and current risks.