



DAM SAFETY UPDATE

LITTLE GOOSE LOCK AND DAM

U.S. ARMY CORPS OF ENGINEERS

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What residents near dams should know

Living with dams and along rivers comes with risk. Know your risk. One of USACE's primary missions is to ensure that the inland navigation traffic can move safely, reliably, and efficiently and with minimal impact on the environment.

Living with locks and dams is a shared responsibility of residents, local emergency management, and the Corps. Know your role. Listen to and follow instructions from local emergency management officials. The Corps doesn't normally issue evacuation instructions. Contact your local officials to learn about flood risk management decisions in your area. Consider purchasing flood insurance.



For additional information, see:

http://www.damsafety.org/media/Documents/DownloadableDocuments/LivingWithDams_ASDSO2012.pdf.

<http://www.usace.army.mil/Missions/CivilWorks/DamSafetyProgram.aspx>.

<http://www.nww.usace.army.mil/Missions/DamSafety.aspx>.

Project Description

Little Goose Lock and Dam is a run-of-river dam that maintains a navigable pool for river traffic but does not store flood waters. It is located on the Snake River 70.3 miles above its confluence with the Columbia River. The dam is at the upper end of Lake Herbert G. West (Lake West), upstream of Lower Monumental Lock and Dam. Lake Bryan, with 10,025 acres surface area, extends behind Little Goose 37.2 miles to Lower Granite Lock and Dam. Little Goose provides navigation, hydroelectric power generation, recreation, and incidental irrigation.

Little Goose consists of a spillway, powerhouse, navigation lock, earth fill embankment, and fish passage facilities. Construction of the Little Goose dam began in June 1963 and the project was placed in operation in May 1970. The dam is 2,655 feet long and 98 feet tall. The powerhouse has 810 megawatts of electrical generation capacity. The Corps manages or holds easements to 5,398 acres surrounding Lake Bryan utilized for public recreation, wildlife habitat, wildlife mitigation, and water-connected industrial development. Approximately 150 acres are licensed to Washington State or the local port for recreation.

Public Safety is the Corps' Highest Priority

The U.S. Army Corps of Engineers' highest priority is public safety. While we cannot completely eliminate risk, we can reduce risk. The objective of the Corps' Dam Safety Program is to maintain public safety, make Corps dams safer and minimize risks. Since 2007, the Corps has used a risk-informed process to prioritize addressing dam safety deficiencies on a nationwide basis. Walla Walla District dams and appurtenant (dam-related) levees were screened and assessed for dam safety issues and deficiencies and their potential risk to the public. This led to a better understanding of specific conditions at dams, which has led to safety improvements. After dams and dam-related levees were assessed, the Corps categorized dams into five Dam Safety Action Classifications (DSAC) based on individual dam safety risk:

- DSAC 1: Very High Urgency
- DSAC 2: High Urgency

- DSAC 3: Moderate Urgency
- DSAC 4: Low Urgency
- DSAC 5: Normal

The dam safety classifications assist the U.S. Congress and the Corps in prioritizing funding for dam safety infrastructure improvements.

Little Goose Lock and Dam Status

Little Goose Lock and Dam was screened and classified as DSAC 3 “Moderate Urgency” in January 2009, primarily due to potential overtopping of the embankment and right abutment (at the railroad cut) under maximum flood conditions.

In July 2014, Little Goose Lock and Dam retained the DSAC 3 classification based on the results from the potential failure modes analysis and semi-quantitative risk assessment conducted in 2013.

The Little Goose DSAC 3 means for confirmed and unconfirmed dam safety issues, the combination of life, economic or environmental consequences with likelihood of failure is moderate. The Corps considers this level of life-risk to be unacceptable except in unusual circumstances. Currently there is no evidence to suggest an emergency situation exists or is about to occur.

Risks Associated with Dams in General

Every day, thousands of vessels move people, animals, and products across the country via the nation's inland rivers and harbors. This water traffic is a vital component of the nation's economy. However, the navigation infrastructure is aging. Over half of the locks and dams are over 50 years old, and the consequences of this aging infrastructure are increasing incidents of downtime, with disruption to river navigation, and a higher risk of major component failures. Both of which have significant economic risks. To manage these risks, the Corps routinely inspects and monitors its locks and dams. The Corps implements short- and long-term actions such as interim risk reduction measures (IRRM), on a prioritized basis, when unacceptable risks are found at any of its dams. Little Goose Lock and Dam IRRM include:

Completed/Resolved Interim Risk Reduction Measures (as of February 2015)

- Perform a tainter gate fit-for-service evaluation: Evaluation completed June 2012. Updates will be required as future inspections and data collection warrant.
- Perform potential failure mode analysis: Completed May 2013.
- Update the probable maximum flood: Update completed and approved August 2013.
- Complete spillway hydraulic study: Cancelled, no significant risk reduction benefit.

Ongoing/Remaining Interim Risk Reduction Measures (as of February 2015)

- Update the dam safety emergency action plan: Planned to be finalized for approval and distributed in FY2015.
- Develop a navigation gate and floating bulkhead placement and operation plan.
- Update emergency action plan inundation maps and generate water surface profile.
- Stockpile emergency material such as sand and gravel.
- Develop a navigation lock equipment flood damage mitigation plan.
- Recoat the tainter gate trunnion anchor caps with epoxy coating.
- Develop dam surveillance plan to address high water and emergency-related events.
- Conduct emergency exercises.

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