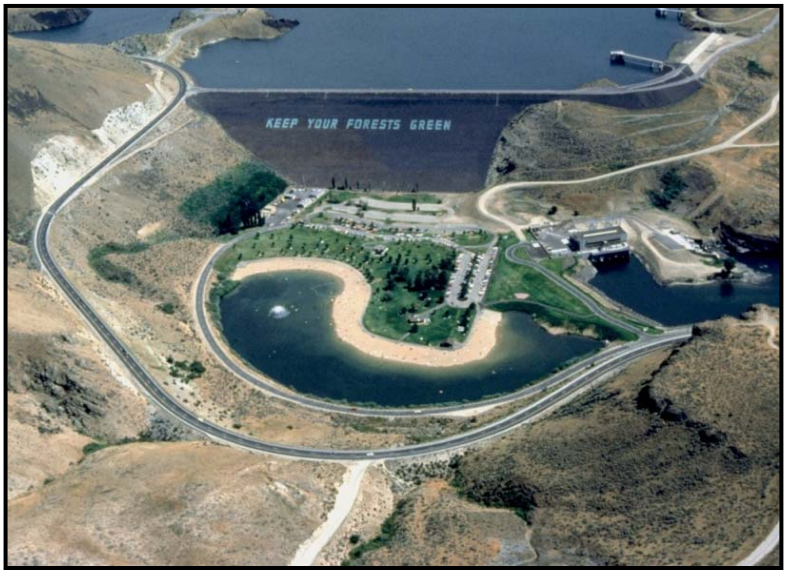
DAM SAFETY UPDATE
LUCKY PEAK DAM and LAKE

U.S. ARMY CORPS OF ENGINEERS **BUILDING STRONG®**

What residents near dams should know

Living with flood risk-reduction infrastructure such as dams and levees comes with risk. Know your risk. 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.



Living with dams is a shared responsibility of residents, local emergency management, and the U.S. Army Corps of Engineers. 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

Lucky Peak Dam and Lake are located on the Boise River, about 10 miles upstream from Boise, Idaho. The dam, owned and operated by the Walla Walla District Army Corps of Engineers, provides flood control, irrigation, hydropower, and recreation. It is estimated to have prevented over a billion dollars of flood damage since it was constructed.

Lucky Peak Dam is a rolled earthfill embankment dam about 1,700 feet long at the crest and with a maximum height of 340 feet above the streambed. The emergency spillway on the left abutment has a 600-foot long free overflow concrete ogee crest. The project includes two gate-controlled outlet tunnels and a power plant.

Lucky Peak Lake has 45 miles of shoreline and a surface area of 3019 acres. At full pool the lake has a storage capacity of 306,000 acre feet.

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.

Lucky Peak Dam Status

Lucky Peak Dam was screened and classified as DSAC 3 “Moderate Urgency” in January 2009 because there is an unconfirmed potential for foundation seepage and piping and because of the potential for foundation instability during a large earthquake.

The Lucky Peak 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

Dams reduce but do not eliminate the risk of economic and environmental damages and loss of life from flood events. When a flood exceeds a reservoir's storage capacity such as during a large flood or storm, significant amounts of water may need to be released, causing damaging flooding downstream. 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, both of which pose risk of property damage and loss of life. This means there will always be flood risk to be managed. To manage these risks, the Corps routinely inspects and monitors its 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. Lucky Peak Dam IRRM include:

Completed Interim Risk Reduction Measures (as of February 2015)

- Conduct a potential failure mode analysis: Completed.
- Dam safety instrumentation evaluation: Analysis of existing instrumentation was completed in FY2011. and recommended two additional piezometers. These instruments were installed in November 2011.
- Update the dam safety emergency action plan: Revision completed September 2012.
- Update emergency action plan inundation maps: Update completed September 2012.

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

- Updating the dam surveillance and monitoring plan to address updated potential failure modes and emergency-related event monitoring: planned for FY2015.
- Conduct emergency exercises: A tabletop type emergency exercise with local officials and outside agencies was conducted in September 2011. This is planned to be a recurring measure.

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