



DAM SAFETY UPDATE

McNARY LEVEE SYSTEM

U.S. ARMY CORPS OF ENGINEERS

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What residents near dam-related levees should know

Living with flood risk-reduction infrastructure such as dams and levees comes with risk. Know your risk. Levees do not eliminate all flood risk, so it is important that residents behind levees are aware of the potential consequences should the levee breach, or not perform as intended. Living with dam-related levees is a shared responsibility of residents, local emergency management and the Corps (USACE). Know your role. Listen to and follow instructions from local emergency management officials. 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

The McNary Levee System, also known as the “Tri-Cities Levees,” is an appurtenant or dam-related structure to McNary Lock and Dam, and consists of three groups of levee segments along the banks of the Columbia River that provide flood risk reduction for portions of Kennewick, Pasco, and Richland, Washington. The levee group names are based on location and are identified as the Kennewick Levees, Pasco Levees, and Richland Levees. Lake Wallula behind McNary Lock and Dam is about 63 miles long and includes 242 miles of shoreline and a drainage area of 214,000 square miles. The McNary Levee System consists of about 16.8 miles of earthen levees and 11 operational pump plants that remove agricultural runoff, groundwater migration, and rainfall runoff. Construction of the McNary Levee System began in 1950 and was completed in 1954.

Risks associated with Levees in General

Levees reduce but do not eliminate the risk of economic and environmental damages and loss of life from flood events. When a flood exceeds the levee’s level of protection, large amounts of water may inundate the areas landward of the levees. A fully-functioning levee could be overtopped when a rare, large flood occurs, or a levee 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 and levees regularly. USACE implements short- and long-term actions on a prioritized basis when unacceptable risks are found at any of its dams and levees.

Risk Associated with McNary Levee System

Based upon the most recent risk assessment of the McNary Levee System in 2016, USACE considers these levees to be “Low Risk” dam-related levees because of the risks associated with internal erosion of embankment foundation materials, and overtopping of the embankments during infrequent flood events. The potential for loss of life is highest within the immediate vicinity behind the levees with the loss of life concerns decreasing substantially toward higher ground. Advance warning of problems and events plays a major role in protecting life and property.

The recent change to Low Risk removes the need for an Interim Risk-Reduction Measures Plan (IRRMP). Low Risk dam-related levees are not required to have an IRRMP, but the Walla Walla District may determine some risk reduction measures are still appropriate. In the past, the District reduced risk by updating the dam safety emergency action plan and creating levee breach maps.

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