



The NFIP and Levees

Frequently Asked Questions

Q: What is a levee?

A: A levee is a man-made structure, usually an earthen embankment, designed and constructed in accordance with sound engineering practices to contain, control or divert the flow of water so as to provide protection from temporary flooding.

Q: How are levees different from dams and other flood protection structures?

A: A levee is built parallel to a body of water (most often a river) in order to protect lives and properties behind it from some level of flooding. A dam built for flood protection is usually designed to lower the amount of water going downstream of the dam during a flood by containing excess water and releasing it slowly over time. Unlike levees, dams may serve purposes other than flood control, such as providing water for irrigation, community water supplies and hydroelectric power.

Another flood protection structure is the floodwall, which FEMA considers and assesses the same as a levee for risk identification purposes. Floodwalls are similar to levees in that they are built parallel to a waterway in order to provide protection from flooding. They are usually found in more urban areas and are made of stone or concrete. Structures like floodwalls that are built in coastal areas and used to protect from tides and wave action are called sea walls.

Q: When were levees first constructed? Why have we become dependent on levees and levee systems?

A: Levees were first built in the United States more than 150 years ago. Farmers, traditionally drawn to the rich soils of floodplains, put many of the earliest levees in place to protect agricultural areas from frequent flooding. Since then, other levees have been built to protect urban areas. These structures were typically built to higher standards used by the U.S. Army Corps of Engineers (USACE). As rural areas of the country have undergone development and urbanization, businesses and homes have increasingly replaced farms, and now there are properties located behind levees that may not provide a sufficient level of protection. Both lives *and* properties behind many of the nation's levees now depend on an adequate assessment of the current level of protection provided and related flood risks.

Q: Why is it important to understand the risks associated with levees?

A: There are currently thousands of miles of levees across the country affecting millions of people, so it is important for individuals to understand the risks associated with living behind levees and the steps they can take to address these risks. It is important to note that no levee provides full protection from flooding — even the best flood-control system or structure cannot completely eliminate the risk of flooding. Levees are designed to provide a *specific level of protection*, and larger flood events can cause them to be overtopped, or fail. Levees also decay and deteriorate over time. Regular maintenance and periodic upgrades are needed to ensure that they retain their level of protection and continue to perform to their design. Maintenance can become a serious challenge as a levee system gets older. When levees do fail, they fail catastrophically — the damage may be more significant than if they levee wasn't present.





Q: Who is responsible for building and maintaining levees?

A: There is no one entity that is solely responsible for levee construction and maintenance. Some levees were originally built by citizens to protect their properties from flooding. Others were subsequently built by various federal, state, or local entities. The USACE has designed and constructed many of the nation’s levees, and is responsible for the maintenance of federally owned levees that are in the USACE system. Not all of the levees built by the USACE are federally owned, however. In most instances, levee ownership has been transferred to the state, or to another local or regional authority, which then becomes responsible for documenting and maintaining the levee.

Q: Is the current interest in levee safety related to Hurricane Katrina?

A: The devastation caused by Hurricanes Katrina and Rita brought the issues of levee policy, flood hazard management and flood insurance to the forefront of public debate and discussion. However, as administrator of the National Flood Insurance Program (NFIP), the Federal Emergency Management Agency (FEMA) has long been active and concerned with the protection of life and property behind levee systems. Recognizing the importance of risk assessment behind the thousands of miles of levees across the country, FEMA established detailed requirements — in Title 44 of the Code of Federal Regulations Section 65.10 — to guide the evaluation of levees and the mapping of levee-affected areas on flood hazard maps in 1986. To assure standard levee evaluation and mapping practices, FEMA issued guidance in the form of Appendix H to its comprehensive “Guidelines and Specifications for Flood Hazard Mapping Partners.” FEMA issued Procedure Memorandum 34, which re-emphasized FEMA’s 20-year-old levee policy and regulations and provided additional guidance to help communities with levees meet federal standards, before Hurricane Katrina hit the Gulf Coast last year.

Q: What is FEMA doing to address levee issues?

A: FEMA is responsible for identifying flood risks in areas behind levees through flood analysis and flood hazard mapping projects, including updating the nation’s flood hazard maps called Flood Map Modernization. In addition, FEMA has criteria for recognizing levees as providing protection against the one-percent-annual-chance flood. However, FEMA does not actually *examine or analyze structures* to determine their performance in a given flood event. The levee owner must provide documentation to show that a levee meets current design, operations and maintenance criteria. If the levee cannot be shown to meet FEMA criteria, the levee will not be mapped as providing adequate protection on the Flood Insurance Rate Map (FIRM) currently in effect. In addition to identifying risks behind levees, FEMA works in conjunction with its federal, state, local and professional/technical partners to bolster flood risk mitigation in communities across the country. Finally, because the risks associated with levees are real, FEMA strongly encourages flood insurance protection and adherence to evacuation procedures in *all* areas behind levees.

Q: What does it mean for a levee to be certified? How is levee accreditation different?

A: A levee is certified if evidence — typically a statement by a licensed professional engineer or federal agency responsible for levee design — has been presented showing that the structure meets current design, construction, maintenance and operation standards to provide protection from the one-percent-annual-chance flood. The levee owner is responsible for ensuring that the levee is being maintained and operated properly and for providing evidence of certification. If it can be shown that a levee provides the appropriate level of protection, then FEMA will “accredit,” or recognize, the levee as providing adequate protection on flood hazard maps, and the area behind it will be shown as a moderate risk zone (shaded X zone on flood hazard maps). FEMA accredits levees that meet the criteria and maps areas behind them as having a certain risk level, but does not perform the actual certifications.



Q: What happens if a levee is decertified or cannot be certified? What is FEMA’s role in the process?

A: FEMA has a responsibility to the public to identify the risks associated with levees that have not been certified, or that can no longer be certified. If a levee cannot be certified as providing protection from the one-percent-annual-chance flood, the levee will not be accredited by FEMA. Decertified or uncertified levees will not be depicted on flood maps as providing the required level of protection. The areas behind these levees will be mapped as a high-risk areas and flood insurance will be required for buildings behind the levee with a federally backed mortgage.

It is important to note that neither certification nor accreditation guarantees protection. All flood hazard maps showing levees will carry a warning that overtopping or failure is possible and that flood insurance and adherence to evacuation procedures are strongly recommended.

Q: What is a Provisionally Accredited Levee?

A: The inability to provide full and prompt documentation of a levee’s status does not necessarily mean that the levee no longer provides the level of protection for which it was designed. It also does not mean that the flood hazard map should show the levee as providing protection against the one-percent-annual-chance flood. FEMA has created the Provisionally Accredited Levee (PAL) designation to facilitate the certification process for communities whose levees are *reasonably expected to continue to provide* protection from the one-percent-annual-chance flood.

The clarified procedures for Provisionally Accredited Levees (PALs) are documented in FEMA Procedure Memorandum No. 43 (PM 43). A PAL is a levee that FEMA has previously credited with providing one-percent-annual-chance protection on an effective FIRM, and for which FEMA is awaiting data and/or documentation that will show the levee’s compliance with NFIP regulations. A PAL is shown on a FIRM as providing one-percent-annual-chance flood protection, and the area landward of the levee is shown as a Zone X (shaded) except for areas subject to residual flooding, such as ponding areas, which will be shown as a high-risk area (Special Flood Hazard Area). Under the clarified procedures provided in PM 43, levee owners will have up to 24 months to obtain and submit necessary data and documentation. A note clarifying the provisional nature of the Zone X designation will also be provided on the FIRM.

Q: How does the Provisionally Accredited Levee designation benefit communities?

A: Providing communities with current flood risk information is one of the primary goals of Flood Map Modernization. In the course of updating the nation’s flood maps, the issue of whether levees provide adequate protection needs to be taken into account. However, gathering full documentation regarding a levee’s condition can sometimes take months. If the issuance of new flood maps were delayed until all levee data was collected, existing flood maps would remain in effect, and more up-to-date flood risk information would not be available for other parts of the community. As such, many citizens would not have the most reliable information on which to base decisions regarding their flood risk, like the purchase of flood insurance.

The new PAL designation allows the release of new maps to go forward while giving communities additional time to compile the documentation needed to have their levees accredited. In doing so, it promotes a continuing dialogue between individual communities and FEMA regarding the current flood risks in areas behind their levees. The PAL designation and procedure also institutes a process to ensure that FEMA and the U.S. Army Corps of Engineers are working in collaboration to provide communities with consistent information about their levees. Even when a levee is provisionally accredited, the fact that no levee is free from risks is clearly communicated. A note on the FIRM alerts community members to the levee’s provisional status and associated risks — including the chance that the levee may fail or be overtopped.



Q: Where can I go for more information about a levee in my area?

A: There are several sources of information where you may be able to find information about a levee in your community:

- **Check your current Flood Insurance Rate Map** to see if your levee or other flood control structure is already shown on the map as providing protection against the one-percent-annual-chance flood. Community officials will have copies of the local toll-free FIRM on file for you to view. You can also order your own copy by calling the FEMA Map Service Center at 1-800-358-9616. Remember, no levee provides complete protection from flooding.
- **Call your local officials to request information about levees in your area.** Since most levee ownership and maintenance responsibilities have been turned over to communities, local agencies should have information about the levee and its operations and maintenance schedule.
- **Check with your U.S. Army Corps of Engineers district office.** To find contact information for your local district visit www.usace.army.mil/howdoi/where.html. The Corps will have information about any federally owned levees in your area and may have additional information about other levees as well.