

NFIP AND LEVEES: AN OVERVIEW

NFIP Definitions of Levees and Levee Systems

The National Flood Insurance Program (NFIP) defines a **levee** in Title 44, Chapter 1, 59.1 of the Section Code of Federal Regulations ([44 CFR 59.1](#)) as “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 in order to reduce risk from temporary flooding.” The NFIP regulations define a **levee system** as “a flood protection system which consists of a levee, or levees, and associated structures, such as closure and drainage devices, which are constructed and operated in accordance with sound engineering practices.” For the purposes of this fact sheet, levees and levee systems are referred to as “levees.”

Participating Communities and Levees

More than 22,000 communities participate in the NFIP by adopting and enforcing floodplain management ordinances to reduce future flood damage. In exchange, the NFIP makes federally backed flood insurance available to homeowners, renters, and business owners in these communities. However, the NFIP does more than make flood insurance available; it also supports local communities in their efforts to reduce the risk and consequences of serious flooding.

Communities that voluntarily join the NFIP are required to adopt floodplain management ordinances to minimize damage to properties located in mapped Special Flood Hazard Areas (SFHAs). SFHAs are areas that would be inundated by the 1-percent-annual-chance flood. The NFIP requires all new or substantially improved residential and commercial structures in the mapped SFHAs to be constructed at or above the elevation of the 1-percent-annual-chance flood, including SFHAs landward of levees.

The NFIP’s Community Rating System (CRS) is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements.

Understanding Flood Risk

Over the past 30 years, flooding has resulted in more fatalities in the U.S. than any other weather-related cause. Levees reduce risk from flooding events, but they do not eliminate it. Levee failures can also be caused by deficiencies such as improper maintenance, inadequate foundations, seismic activity, erosion, seepage, and burrowing animals. If a levee fails, the result can be more destructive to lives and property than if the levee had not been present. The possibility a flood will exceed the capacity of a levee always exists, no matter how well it is built and maintained. Levees are designed to manage a certain amount of floodwater and can be overtopped or fail during flood events exceeding the design level.

By understanding levees only reduce the risk associated with floods, residents, business owners, and communities can actively prepare for these events by considering proactive measures to reduce their risk. Communities, homeowners, and business owners that are better prepared recover quicker when the next flood occurs.

RISK MAPPING, ASSESSMENT, AND PLANNING PROGRAM (RISK MAP)

The Federal Emergency Management Agency’s Risk MAP Program delivers quality data that increases public awareness and leads to action to reduce risk to life and property. Risk MAP is a nationwide program that works in collaboration with States, Tribes, and Local communities using best available science, rigorously vetted standards, and expert analysis to identify risk and promote mitigation action, resulting in safer, more resilient communities.

As a result, flood insurance premium rates are discounted to reflect the reduced flood risk resulting from the community actions meeting the three goals of the CRS:

1. Reduce flood damage to insurable property;
2. Strengthen and support the insurance aspects of the NFIP, and
3. Encourage a comprehensive approach to floodplain management.

Identifying and Communicating Flood Risk in Areas Landward of Levees

Accurately identifying and communicating the flood risk reduction capabilities of levees is critical to the U.S. Army Corps of Engineers (USACE) and FEMA, which have been assigned certain technical and programmatic responsibilities by the U.S. Congress. Accurate identification of risk should be critical to community officials, property owners, and other citizens who live and work in levee-affected areas. Therefore, FEMA strongly encourages citizens living and working landward of levees to understand their flood risk and take action to reduce the risk to their families, businesses, and property. Working together, USACE and FEMA staff have identified thousands of miles of levees in the U.S. that affect the lives of millions of people by providing a specific level of flood risk reduction. While levees are located across the nation, communities in some states rely more extensively on them than others.

Levee Ownership and Maintenance

While a small percentage of levees are built and/or maintained by the USACE, the majority of levees are **not** owned or maintained by any Federal agency. Nearly 85 percent of levees in the [USACE Levee Safety Program](#) are locally owned and maintained. The USACE or other Federal or State agencies oversee the rest.

FEMA does not build, own, operate, maintain, or certify levees. FEMA levee responsibilities include identifying flood hazards and communicating flood risks in levee-affected areas. More specifically, FEMA determines and establishes appropriate flood insurance risk premium rate zone designations in areas landward of levees and reflects those zones on Flood Insurance Rate Maps ([FIRM](#)s). FEMA also develops mapping standards (including minimum design, operations, and maintenance criteria) that must be met before mapping a levee as accredited depicted as reducing the risks associated with the 1-percent-annual-chance flood. FEMA only accredits those levees that have met and continue to meet the minimum regulatory standards cited in Title 44, Chapter 1, Section 65.10 of the Code of Federal Regulations ([44 CFR 65.10](#)).

Levee or Dam?

Levees and dams are important parts of the U.S. infrastructure; however, they are not the same. A levee is designed for, and constructed alongside of, a river or other watercourse to manage or prevent flow into specific land regions. A dam is a manmade barrier stretching across the length of a river or body of water to divert or capture water flow, thus creating lakes and reservoirs and often providing a place for recreation and hydroelectric power for electricity.

Levees help create higher, sturdier boundaries than natural banks of rivers or watercourses and are built to reduce the risk of flooding from a certain level of flooding event. They are not built to hold back all floods.

Some dams are built to withhold massive amounts of water, releasing only as much as their operators intend. A dam built for flood retention is usually designed to lower the amount of water flowing downstream of the dam during a flood by containing excess water and releasing it slowly over time.

Mapping a Levee System as Accredited

A levee owner (e.g., local community, county, levee board, State or Federal agency) may request that FEMA map a levee system as accredited on a Flood Insurance Rate Map (FIRM). In such cases, it is the responsibility of the levee owner to provide FEMA with evidence (in the form of data or documentation) from a licensed Professional Engineer or Federal agency that the levee meets or exceeds the minimum NFIP requirements cited in 44 CFR 65.10. The area landward of an accredited levee system is shown as a moderate-hazard area, labeled Zone X (shaded), on the FIRM except for areas of interior drainage flooding, such as ponding areas, which will be shown as high-hazard areas, called Special Flood Hazard Areas (SFHAs).

FEMA accreditation of a levee does not guarantee protection; therefore, FIRMs carry a notice that overtopping or failure of levees is possible and flood insurance protection and adherence to evacuation procedures are strongly recommended.

Planning and Preparation

FEMA works with federal, state, tribal and local partners across the nation to identify flood risk and help citizens understand their risk. Many local officials have adopted protocols and procedures for ensuring public safety. Additionally, FEMA offers products with Risk MAP to help assess, visualize and communicate local flood risk that lead to action. Citizens should not assume someone else is doing the preparation; however, promoting public safety is everyone's responsibility.

Residents who live in flood prone areas and have a structure that, if flooded, would be expensive or impossible to replace are at the highest risk. FEMA encourages citizens and communities to prepare for a levee failure by taking steps to reduce risks from floods, including:

- Know the threat of flooding to homes and businesses
- Learn more about in-progress and planned levee projects that may have an impact on flood risk.
- Purchase flood insurance, even if the home or business is in a mapped moderate risk area landward of an accredited levee.
- Adhere to local floodplain management regulations for construction of new buildings and substantial improvements to existing buildings.
- Learn the local evacuation procedures and establish a family or business emergency plan.
- Consider floodproofing (where appropriate) and other protective measures, such as elevating furnaces, water heaters, and electrical panels and sealing basement walls to avoid seepage.

For More Information

- For additional information on flood insurance, read about the [NFIP](#).
- To learn more about the reality of levee risk, visit [Living with Levees: It's a Shared Responsibility](#).
- To see how levees work and how they can fail, please visit the [FloodSmart Levee Simulator](#).
- For additional information on flood hazard mapping, please visit [NFIP: Flood Hazard Mapping](#).
- For additional information on flood insurance for your home or business or to find an agent, please visit www.floodsmart.gov.
- For more information about the FEMA levee accreditation process, please visit FEMA's [levee resource library](#).
- For more information about the USACE and levees, visit the [USACE Levee Safety Program](#).