



# The National Levee Rehabilitation, Improvement, and Flood Mitigation Fund

## The Current Situation

We are at a critical juncture in our nation's history – risks of loss of life, property damage, and damage to our natural environment behind levees are increasing. Levees across the nation often have been central tools in flood risk management, reducing the effects of floods on people, property, and the environment. The infrastructure that we depend on, including schools, roads, hospitals, water supply and wastewater facilities, and power generating facilities, also depends on levees.

Even though levees were originally constructed to protect property, often they have inadvertently increased flood risks by attracting greater development to the floodplain. In fact, many levees built to protect agricultural fields now protect large urban communities. The consequences of levee failure in these communities can be devastating.

But we as a nation have failed to pay attention to this essential piece of our infrastructure. The average age of levees within federal levee safety programs is approximately 50 years, and the age of many nonfederal levees can be much older—100 years or more. Levee infrastructure has the best practice (engineering codes) physically embedded in them at the time of construction, and in a sense, they become museums of the best practices of the past. In many instances, advancements in the state of the art for engineering and science have been considerable, leaving many levees with features that have serious design, construction, and operational inadequacies. The costs to rehabilitate these levees to the current state of the practice will be enormous.

## The National Levee Rehabilitation, Improvement & Flood Mitigation Fund

The NCLS has recommended an inventory and inspection of all the nation's levees to better identify the most critical levee safety issues, quantify the nation's risk exposure, and focus priorities for future funding (Recommendation 2). This inventory will likely enhance the recognition and realization of the deteriorating condition of many of the nation's levee structures and of the lack of a focused public policy to address the problem. Federal, state, and local levee owners will then need a funding source to assist with rehabilitating our aging and deteriorating levee infrastructure. Furthermore, even well constructed and maintained levees may not provide an appropriate level of protection for the people and property that now lie in the leveed area.

Today, many levee owners find it difficult to fund necessary levee rehabilitation and improvement work. Often, vital repairs are neglected, and these levees are subject to further deterioration due to lack of funds and neglect. Deterioration can lead to levee failure and great destruction and loss of life. The challenge at federal, state, and local levels continues to be securing adequate funding countrywide for levee rehabilitation.

### The National Committee on Levee Safety

Congress created the National Committee on Levee Safety to develop recommendations for a national levee safety program, including a strategic plan for implementation of the program. The NCLS adopted the vision of an involved public and reliable levee systems working as part of an integrated approach to protect people and property from floods, and has been working toward this goal since October 2008.

The NCLS recommendations for a National Levee Safety Program are based on three central concepts:

- Leadership via a National Levee Safety Commission that provides for participating state levee safety programs, national technical standards, risk communication, and coordination of environmental and safety concerns;
- Strong levee safety programs in and within all states that, in turn, provide oversight and critical levee safety processes; and
- A foundation of well-aligned federal agency programs and processes.

For more information on the NCLS and its recommendations for a National Levee Safety Program, please visit: [www.leveesafety.org](http://www.leveesafety.org).

While the leadership and technical standards of the National Levee Safety Program will contribute to reducing the risk to life and property and help improve the safety of our nation's levees, the safety of levees demands much more attention from national policymakers. Funding to address the many levee deficiencies that are expected to be discovered and documented is a critical aspect of the National Levee Safety Program, as proposed by the NCLS.

The NCLS has recommended that Congress authorize and fund a National Levee Rehabilitation, Improvement, and Flood Mitigation Fund for publicly-owned levees that are not federally operated and maintained (Recommendation 15). To promote the smartest, most cost-effective risk reduction measures, the fund would be available to rehabilitate, improve, remove, or replace levees (structural measures) as well as conduct nonstructural measures, so long as the combination of measures maximizes overall risk reduction. For example, in some communities, the greatest risk reduction may be achieved by removing the levee altogether and focusing on increasing land available for water conveyance and flood storage. The NCLS has recommended that the fund be cost-shared, with a 65% contribution of federal dollars and 35% matched by state and local dollars. It is also recommended that part of the nonfederal cost share could be met by implementation of nonstructural measures (e.g. buyouts, flood proofing, etc.).

### Structural and Nonstructural Measures

In general, "structural measures" is shorthand for any fixed or permanent structure and "nonstructural measures" encompasses any other actions that usually work at reducing risk to loss of life and economic damages by changing behavior through government regulation, persuasion, or economic influence. Examples of nonstructural measures in reducing risk related to levees includes flood proofing or elevating individual homes or businesses, relocating homes and businesses from flood prone areas, purchasing flood insurance, developing and practicing evacuations, etc.

### Proposed Eligibility and Priority of Fund

Because the intent is to address the areas that pose the greatest risk, the NCLS recommends that the fund initially be limited to only levee systems that protect existing urban areas that have a high damage potential based on a screening-level risk assessment. This risk assessment will be derived from inventory, inspection, and past performance data housed in the National Levee Database (Recommendation 2). Recognizing the important role of the Federal Emergency Management Agency (FEMA) in working with communities following a federally declared disaster, individual projects would only be eligible for funding pre-disaster. The fund would not replace or be a substitute for FEMA's Hazard Mitigation Grant Program.

The NCLS envisions that eligibility for the National Levee Rehabilitation, Improvement & Flood Mitigation Fund would have several requirements to assure that levee owners/operators maintain a high level of maintenance and engage in responsible activities related to the public protected by those levees.

To be eligible to receive federal assistance under the fund, the NCLS recommends that a grant applicant must:

- ❖ Provide the minimum data to populate the National Levee Database.
- ❖ Demonstrate the financial means to provide their cost share contribution for the initial rehabilitation and the financial assistance to operate and maintain the levee system in accordance with the National Levee Safety Code.
- ❖ Evaluate an array of nonstructural alternatives/activities, and where applicable identify a nonstructural/structural blend of flood risk management approaches, and demonstrate that the appropriate combination of measures is being implemented to best reduce flood risk.

- ❖ Engage in public outreach/notification.
- ❖ Provide buyer notification of flood risk.
- ❖ Promote purchase of flood insurance.
- ❖ Develop an emergency preparedness and response plan.
- ❖ Develop and implement an Inspection of Completed Works program.
- ❖ Provide a flood risk management plan as part of a public safety element of a general/master land use plan that demonstrates the local community plan to manage land use over time to move substantially towards the established national tolerable risk guidelines.
- ❖ Participate in the National Flood Insurance Program (NFIP) or be located entirely within one or more participating communities. Although the 1%-annual-chance (100-year) flood insurance standard required by the NFIP does not embody a levee safety standard for protection of life and property, participation in the NFIP demonstrates the community's commitment to review development and enforce at least the minimum standards of the NFIP to minimize harm in and around its floodplains, including areas of residual risk associated with levees.

To better understand the integrity of our levees and to prioritize funding, it may be necessary to do more extensive evaluations beyond routine inspections and preliminary studies. Some portion of early funding may be needed to assist states and local interests in conducting levee evaluations that will help inform the condition of levee systems and further facilitate prioritizing funding.

### Levee Safety and Federal Leadership

Two key questions are:

- ❖ Will the federal government find a way to assist levee owners or will future catastrophic levee failures with resulting property damage and loss of life continue to occur?
- ❖ Will the nation learn from the recent experiences of Hurricane Katrina and other significant flooding disasters that it is far better to invest in levee rehabilitation, improvement and flood mitigation rather than disaster relief and recovery (i.e., pay me now or pay me more later)?

It is a reasonable expectation of every US resident to be protected from foreseeable disasters such as levee failures. There is a critical need to create a federally administered levee rehabilitation, improvement and flood mitigation fund in order to repair our nation's unsafe levees. Additionally, paralleling such a federal initiative should be similar efforts for state and local governments to create their own loan or grant programs for levee rehabilitation. There is a great need to begin an assistance program at both federal and state levels to help levee owners with their rehabilitation efforts. This is a public safety issue.