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 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.

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:

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

The USACE National Levee Database

Since 2006, the US Army Corps of Engineers (USACE) has been working to develop a National Levee Database for the approximately 14,000 levee miles within its authorities. In 2009, USACE launched a major effort to perform detailed engineering inspections on the levees in their program and populate their National Levee Database (NLD), a key component of their Levee Safety Program. Periodic Inspections were funded by a one-time, $90 million appropriation through the American Recovery and Reinvestment Act of 2009. The USACE and FEMA are also working to integrate levee data collected by FEMA’s National Flood Insurance Program (NFIP) into the NLD, which will increase the total number of miles of levee systems in the NLD and add important data points about those levees. However, the 14,000 miles of levees included in the USACE database plus the NFIP levee information add up to only a small portion of the estimated 100,000 miles of levees owned and operated by other federal agencies; state, tribal, and local governments; levee boards; and private interests. Current authorities allow the USACE to include information voluntarily submitted by other entities in the NLD, but provide no authority to inventory, inspect, or collect data on levees outside their programs.

The Need for a National Inventory of Levees

Although we do know that there are levees in all 50 states, the total mileage, location, and condition of levees in the nation—and the population and property they protect—remain unknown. Preliminary estimates indicate there may be more than 100,000 miles of levees across the United States, with tens of millions of people living and working behind them.

To make better flood risk management decisions, we must understand more fully the situation under which we are living—namely the location and condition of our nation’s levees. Until we have baseline information, gathered through inventory and inspections, we will not be able to efficiently or cost-effectively: 1) identify the most critical levee safety issues; 2) quantify the nation’s risk exposure and true cost of maintaining levees; 3) focus priorities for future funding; and 4) have data on which to base risk assessments. Because watercourses do not adhere to political boundaries and actions, and performance of one levee system impacts communities downstream and on the other side of a river, data collection on the location and condition of levees must be conducted in a consistent and comprehensive manner across the nation.

Attributes of the National Levee Database

The NLD is a state-of-the-art, geospatially enabled relational database. It was designed to include attributes of levees and floodwalls relevant to design, construction, operations, maintenance, repair, inspections, and potential for failure. It requires data on certain minimum attributes to ensure nationwide consistency, but also includes many additional optional fields useful for informing levee management decisions at a local or regional level. In addition, the NLD contains population data, which will allow for the assessment of the potential life loss and economic and property consequences of any overtopping or breach. Tools being developed for the NLD will allow stakeholders, such as state and local agencies and levee owners/operators, to load, view, modify, and share project-related data, documentation, and information.

For more information on the NCLS and its recommendations for a National Levee Safety Program, please visit: www.levesafety.org
An inventory of all the nation’s levees is the first step in understanding this important aspect of flood risk management; it is important to know what levees are out there and their condition, including public and private levees. Then, we can assess the reliability of these levees, quantify the population and public and private property behind these levees, and prioritize where limited public funds should be spent.

The NCLS is working with USACE to develop a plan for soliciting voluntary levee data for the NLD from other federal agencies, as well as state and local agencies, levee owners and operators, and nongovernmental organizations. While this effort will likely increase the information in the database, relying on voluntary contributions has many challenges, such as tight budgets, concerns about data security, incompatibility of database formats, data access, and resolving conflicting data from multiple sources. The importance of better understanding the location and condition of the nation’s levees makes it critical that we employ a consistent, national approach to inventorying and understanding our nation’s levees.

The National Committee on Levee Safety’s Recommendations

Recognizing the critical importance of a complete inventory of the nation’s levees, the NCLS has recommended the expansion of USACE’s National Levee Database (NLD) to include information generated from a one-time, federally funded inventory and inspection of all the nation’s levees (Recommendation 2). All state, tribal, and local governments should cooperate with the federal government in providing minimum basic information on levees in their jurisdiction for inclusion in the NLD, including location information (including global information system information) and the general condition of each levee, set out in the National Levee Safety Act of 2007.

Specifically, the NCLS recommends that:

- The NLD include levee performance data, for example how a levee performs during and after a flood event.

- The NLD include periodic inventory and inspection updates. An initial inventory and inspection of all the nation’s levees should be done by USACE, with updated information provided by states on an ongoing basis. Section 9004 of the National Levee Safety Act of 2007 (33 USC 3303) should be amended to require all state and local agencies to provide data necessary to maintain the NLD (such participation is now voluntary) after the initial inventory and inspection has been completed.

- USACE develop guidelines related to both the open and limited dissemination of data in the NLD in cooperation with the Department of Homeland Security, states, tribes, local governments, and levee owners/operators.

- Public and private organizations with interest and/or expertise in levee safety should be invited to peer review the NLD and the types of information used in the database.

Due to the urgency of understanding the location and condition of the nation’s levees, NCLS recommends that Congress act now to expand USACE authorities and funding to conduct a one-time inventory and inspection of all the nation’s levees and expand federal efforts to collect performance data on levees.

Because the NCLS recommends that the NLD include information on all of the nation’s levees, not just those participating in the USACE Levee Safety Program, they also recommend that after the National Levee Safety Commission is created (Recommendation 1), responsibility for maintenance of the NLD and collection of state and local updates should be conducted by the Commission.

NCLS Definition of a Levee

A manmade barrier (embankment, floodwall, or structure) along a watercourse constructed for the primary purpose to provide hurricane, storm, and flood protection relating to seasonal high water, storm surges, precipitation, and other weather events; and that normally is subject to water loading for only a few days or weeks during a year. Levees also may be embankments, floodwalls, and structures that provide flood protection to lands below sea level and other lowlands that may be subject to water loading for much, if not all, portions of the year, but that do not constitute barriers across watercourses or constrain water along canals.

This levee definition does not apply to shoreline protection or river bank protection systems such as revetments, barrier islands, etc.

-Recommendations for a National Levee Safety Program, Pg 33