



# Levee Safety Program

**U.S. ARMY CORPS OF ENGINEERS**

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## Location

Nationwide

## State(s)

IA, IL, MN, MO, WI

## Congressional District(s)

IA-1, IA-2, IA-3, IA-4, IL-11, IL-13, IL-14, IL-15, IL-16, IL-17, IL-18, IL-2, IL-3, MN-1, MN-7, MO-6, WI-1, WI-2, WI-3, WI-5, WI-6

## Description

The U.S. Army Corps of Engineers flood damage reduction mission began with the 1917 Flood Control Act although some projects in the District had dual roles prior to this date that were funded under Navigation. The 1917 Act gave the Corps a significant role in flood activities nationwide, to include the protection of life and property behind federal program levee systems. Hurricane Katrina's and Rita's devastation in 2005 brought levee safety to the forefront of public awareness. The findings of subsequent investigations into the flood damage reduction system's performance in New Orleans clearly pointed to the need for a comprehensive and risk-informed approach to national levee safety, including periodic reassessments.

Subsequent to that event, Congress enacted the National Levee Safety Program with passage of the 2007 Water Resources Development Act, Title IX. This was reauthorized under the 2014 WRRDA. The Corps' Levee Safety Program emphasizes the role of levees in flood damage reduction to avoid loss of life and property damage. The program will help achieve three goals:

- 1) Reduce risk and increase public safety through an informed public, empowered to take responsibility for its safety;
- 2) Develop clear national levee safety policies and standards; and
- 3) Maintain sustainable flood damage reduction system that meets public safety needs.

Congress appropriated limited funds for the Corps to initiate a national levee inventory and assessment program to determine the status and condition of the federal program levee systems in the nation. The District is currently creating an inventory of levees that may have a limited federal construction role and will seek HQUSACE interpretation of the legislative mandate to inventory "federally constructed" levees. Including over 300 currently questionably identified levees may add approximately 100 or more additional levees into the Levee Safety Program. These levees are yet to be inventoried in the National Levee Database and assessed through the Periodic Inspections and Levee Risk Screening.

The American Recovery and Reinvestment Act (ARRA) of 2009 provided \$90 million for the Corps of Engineers to conduct Periodic Inspections of levees covered by the Levee Safety Program. Supplemental appropriations are allowing additional Periodic Inspections and levee Risk Screenings.

The data gathered from these inventories will help identify risks associated with levee systems across the nation.

## **USACE Levee Safety Program -**

The program is divided into three areas:

- 1) Levee Inventory
- 2) Technical Risk Assessments
- 3) Revised Inspection of Completed Works Procedures.

**Levee Inventory** - The Corps completed an initial survey of federal program levee systems in July of 2006 and developed a national database (see National Levee Database project description) to capture information about each levee, including the location and last recorded inspection rating.

The initial nationwide Corps NLD survey included approximately 2,000 levees (approximately 154 levees in the District), encompassing approximately 13,000 miles, in the Corps Inspection of Completed Works (ICW) and Rehabilitation and Inspection (RIP) programs. Many of these projects were authorized by Congress for federal construction and later turned over to state and local sponsors to operate and maintain. The levees included in this

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initial survey are those USACE program levees which currently maintain "active" status. The Rock Island District Federal interest levees include approximately 700 miles of levees out of approximately 21,000 miles of Levees in the Rock Island District. Additional levee may be determined to fall under the category of federally constructed raising the district total using the 2007 legislative criteria.

**Technical Risk Assessment -**

Beginning in 2008 the Corps is assessing all of the levees in the Districts NLD inventory. The assessment was expected to take an additional five years to complete and was begun in earnest in 2010. The program continues to be implemented as funds are appropriated. The Corps has been refining an analytical methodology to evaluate the risk associated with levees in the national database. The levee risk screening it is being tested for accuracy and effectiveness with results being released to the levee local sponsors. The Rock Island District has completed the first phase of the Levee Risk Screenings and has been communicating results of the screening to levee sponsors and state officials.

In the USACE LSP Risk is defined as the probability of a loading event occurring times the probability of non performance of the system times the consequences (lives and property behind the levee). The USACE procedures are to undertake levee risk screenings that will identify where higher risks may justify the more complex risk assessments. Currently the District has approximately 3/4 of the levees within the District pending an assignment to a classification. This classification of Risk is the Levee Safety Action Classification or LSAC. Once a levee has a final LSAC, the USACE will reach out and engaged with that levee system. With a focus of assisting the sponsors, and the public, in understanding conditions that are driving the risk and the actions which can be taken to manage the risks in the system.

**Revised Inspection of Completed Works Procedures -**

The Corps is in the process of consolidating guidance and will incorporate risk assessments into the current Inspection of Completed Works program. The information from the technical risk assessments will clearly identify reporting requirements to local communities, states, and other federal agencies. This phase is ongoing.

**Summarized Project Costs**

|                                                                        |                                             |
|------------------------------------------------------------------------|---------------------------------------------|
| Federal costs for PI and Risk determination of current levee inventory | See attached Historical funding document    |
| Non-Federal Cost                                                       | \$0                                         |
| Total Cost                                                             | See attached FY 15-20 program cost document |
| Federal Allocations through FY 2016                                    | 23,065,970                                  |
| Scheduled Federal Allocation for FY 2017                               | \$800,000                                   |
| Balance to Complete next five year program without additional levees   | \$24,472,000                                |

**Financial Status**

**Historic LSP Funding and Experienced deficit**

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|       | ICW Budget | Levee Risk Screening Funds Received | Periodic Inspection Funds Received | Special project -Federal interest determination | Special project - Mainstem levee NLD resurvey | Total Funds Received | Estimated District Deficit |             |
|-------|------------|-------------------------------------|------------------------------------|-------------------------------------------------|-----------------------------------------------|----------------------|----------------------------|-------------|
| FY 09 | 1,453,628  |                                     | 0                                  | 6,554                                           | 0                                             | 0                    | 1,460,182                  | \$6,554     |
| FY 10 | 596,132    |                                     | 0                                  | 1,900,906                                       | 0                                             | 0                    | 2,497,038                  | \$1,900,906 |
| FY 11 | 470,638    |                                     | 0                                  | 470,830                                         | 0                                             | 0                    | 941,468                    | \$470,830   |
| FY 12 | 567,458    | 598,798                             | 4,963,787                          |                                                 | 0                                             | 0                    | 6,130,043                  | \$5,562,585 |
| FY 13 | 643,772    | 658,351                             | 1,715,900                          |                                                 | 0                                             | 0                    | 3,018,023                  | \$2,374,251 |
| FY 14 | 815,760    | 1,880,800                           | 2,211,700                          |                                                 | 0                                             | 0                    | 4,908,260                  | \$4,092,500 |
| FY15  | 819,720    | 1,527,309                           | 177,477                            |                                                 | 0                                             | 0                    | 2,524,506                  | \$1,704,786 |

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|-------|-----------|-----------|------------|---------|---------|------------|--------------|
| FY16  | 796,950   | 291,600   | 0          | 248,400 | 249,500 | 1,586,450  | \$789,500    |
| Total | 6,164,058 | 4,956,858 | 11,447,154 | 248,400 | 249,500 | 23,065,970 | \$16,901,912 |

|                                            | ICW Budget | Levee Risk Screening Funds Received | Periodic Inspection Funds Received | Special project -Federal interest determination | Special project - Mainstem levee NLD resurvey | Total Funds Received | Estimated District Deficit |
|--------------------------------------------|------------|-------------------------------------|------------------------------------|-------------------------------------------------|-----------------------------------------------|----------------------|----------------------------|
| Annual Funding needs for compliant program | 800,000    | \$619,607                           | \$1,430,894                        | \$31,050                                        | \$31,188                                      |                      | \$2,112,739                |

Current Financial needs to execute the District Levee Safety Program through FY 20 are shown in a .PDF attachment. Little or no funds are expected to be available from District resources to maintain this program at the legislatively required levels.

Current historical program costs are shown in the attachment. This attachment highlights the shortfall in district funding that was made up by funding obtained through the national Levee Safety Program.

### **Additional Project Information**

For additional information, please visit the Corps web-site:

<http://www.mvr.usace.army.mil/Missions/FloodRiskManagement/LeveeSafetyProgram.aspx>

### **Major Work Item (This Fiscal Year)**

Routine Inspections, Special Projects and Risk Screening of Levees active in the Corps Programs.

### **Major Work Item (Next Fiscal Year)**

Routine Inspections, Special Projects, Risk screening, NLD update, and floodwall risk examination.

### **Authority Details**

National Levee Safety Act of 2007 contained in 2007 WRDA Title IX, WRRDA 2014

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