

LEVEE SAFETY ACTION CLASSIFICATIONS and THE NATIONAL LEVEE DATABASE

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LEVEE SAFETY PROGRAM

Started after Hurricane Katrina

- Modeled after the Dam Safety Program
- Focus on Risk Reduction

National Levee Database

- Levee Safety Action Classifications: Determines the magnitude of the risk and can be categorized by urgency.
- Risk Characterization: Explanation of the Levee Safety Action Classification and what elements (**Hazard, System, or Consequences**) were determined to be drivers.

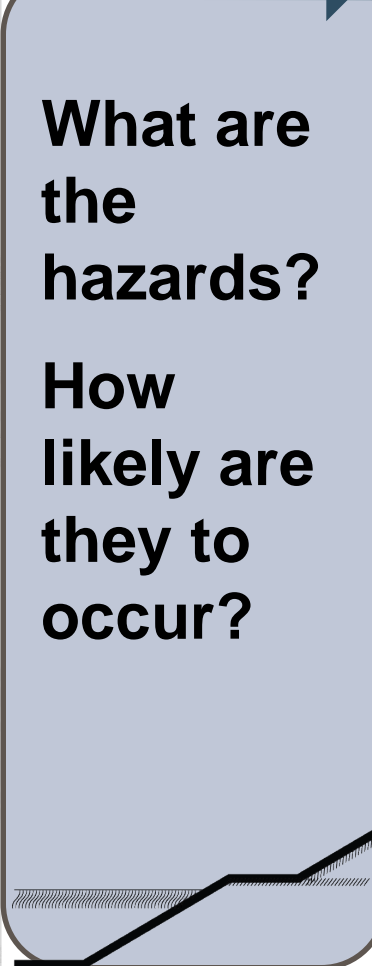


Levee Safety Action Classification

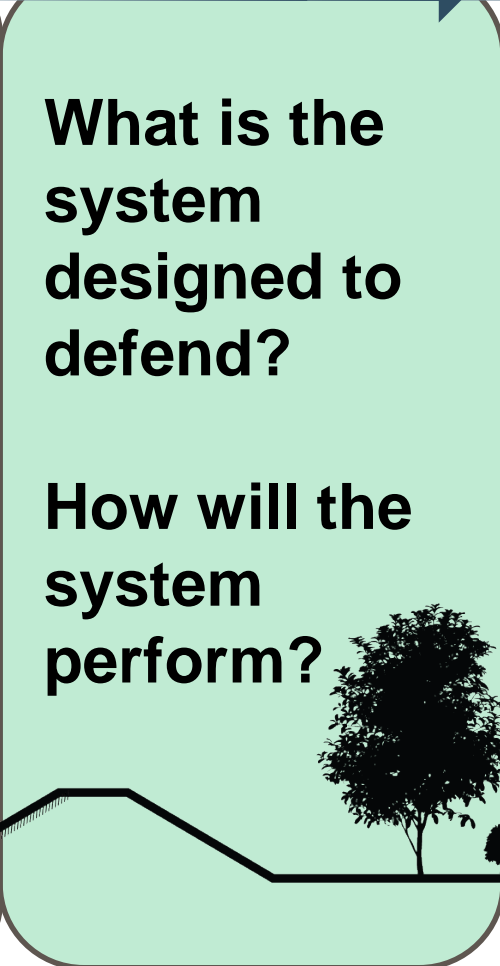
Comprehensive risk assessment to candidly communicate an area's flood risk

Hazards + Performance + Consequences = LSAC (Risk Classification)/ Risk Characterization

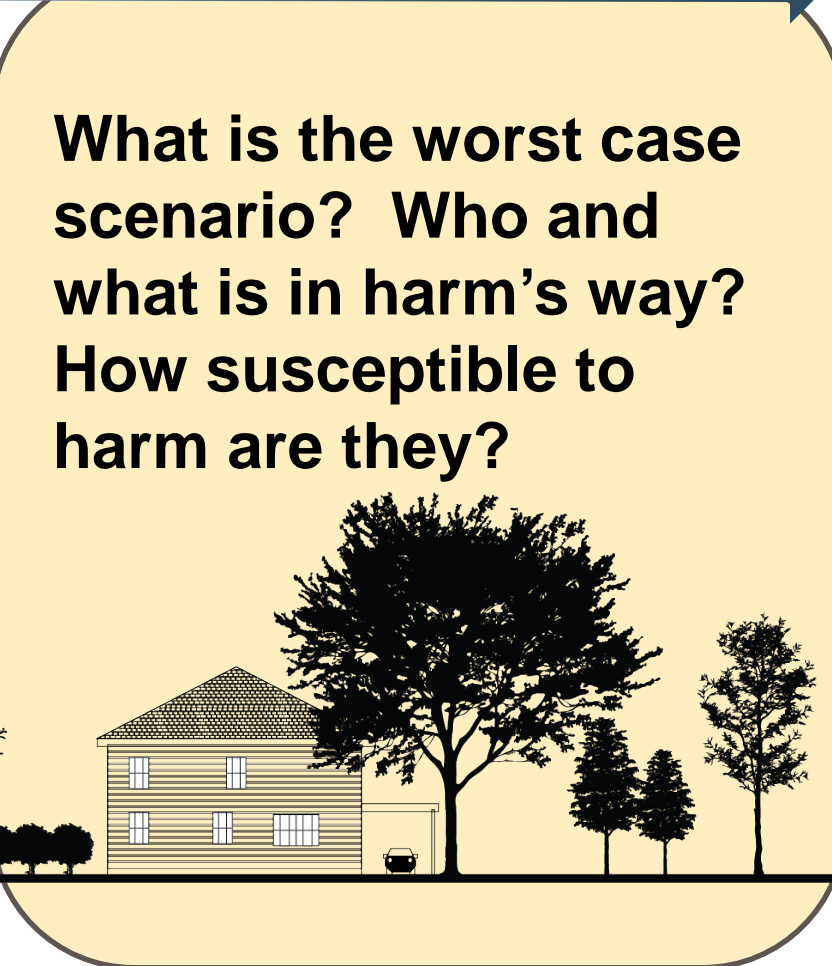
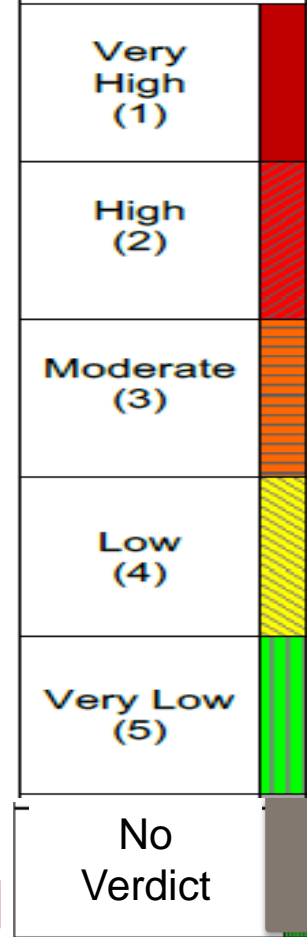
What are the hazards?
How likely are they to occur?



What is the system designed to defend?
How will the system perform?



What is the worst case scenario? Who and what is in harm's way?
How susceptible to harm are they?

Weight of “Consequences” in determining LSAC

(Snapshot: Sacramento River, CA)

- East and West bank of the river levee system expected to perform similarly
- Risk of riverine flood event is the same
- *Consequences are significantly different*



RISK CHARACTERIZATION

SCALABLE RISK ASSESSMENTS

5

Hazards

- Hydraulic Event
- Hurricane
 - Riverine
 - Rainfall
- ~Probability

Performance

- Historical Performance
- Levee Construction
- Performance Ratings
- Embankment
 - Floodwall
 - Closures
- Evacuation Effectiveness
- Planning
 - Awareness
 - Flood Warning Effectiveness

Consequences

- Population
- Infrastructure
- Environmental Losses



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LSACs

LSACs are used to:

Improve risk communication

- Define risk for area
- National Levee Database
- Partnership

Inform residual risk

- Evacuation plan
- NFIP

Look at worst case scenarios

- Regional and national impacts

Help with prioritization

- Identify which systems to fund

LSACs DO NOT

LSACs do not *change or replace*:

Inspections

- Routine and Periodic inspections are only part of one element of the LSAC

NFIP

- Does not change status in NFIP
 - LSACs are not an evaluation of FEMA's levee accreditation standards

Condition of a levee system

- A robust levee system may be High Risk simply due to the consequences

MISSISSIPPI RIVER EAST BANK

7

- **LSAC:** High
- **Hazards:** Annual High Water Event on the Mississippi River
- **Performance:** Historically performed well
Expected to perform as designed in future

- **Consequences:** **532,300** people
151,200 Structures
\$81 billion Infrastructure
(Based on the 2010 Census)

} **Primary
Risk
Drivers**



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NEW ORLEANS EAST AND WEST BANK

- **LSAC:** High
- **Hazards:** High likelihood of tropical storms and hurricanes
Annual High Water Event on the Mississippi River
- **Performance:** Performed designed during past events
Continued Improvements and expected to perform in future events
Good Community Awareness
- **Consequences:** **913,700** people
325,700 Structures
\$170 billion Infrastructure
(Based on the 2010 Census)

**Primary
Risk
Drivers**

Additional Information: Active Sponsors and Good Community Awareness



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National Levee Database

levees.sec.usace.army.mil

← National Levee Database

HOME SEARCH DASHBOARD MAP MORE SIGN IN

Angola R Mississippi River East Bank

Location Sorrento, Ascension Parish, Louisiana USACE Districts New Orleans FEMA Regions 6

SUMMARY SYSTEM SEGMENTS RISK FEMA - NFIP/FIRM FEATURES PROFILE INSPECTIONS ATTACHMENTS

Project Description

VIEW

The Louisiana Levee System (LLS) was developed to protect the Lower Mississippi Valley along the Mississippi River in the 1700's. As settlements developed along the river, the levee system was expanded and a line of protection was established by the mid-1800's. However, numerous flood events (1849, 1850, 1882, 1912, 1913, and 1927) occurred despite this system being in place. Therefore, raising and strengthening of the levees continued into the 1920's. The flood of 1927 was the most disastrous in the history of the Lower Mississippi Valley, which resulted in failure of existing levees and extensive flooding of populated areas. Levees were breached, cities, towns, and farms were laid to waste, crops were destroyed, and industries and transportation were paralyzed. Out of the 1927 flood developed the Flood Control Act of 1928, which committed the federal government to a comprehensive and well defined program of flood control. This legislation authorized the Mississippi River and Tributaries (MR&T) Project. The MR&T Project is a comprehensive project for the control of floods in the Alluvial valley of the Mississippi River, i.e. the Lower Mississippi River below Cape Girardeau, Missouri. The MR&T Project is the largest flood control project in the world, which includes a combination of features along the main stem of the Mississippi River and its tributaries. The four major elements of the MR&T project are:

- 1) Levees for containing flood flows;
- 2) Floodways for the passage of excess flows past critical reaches of the Mississippi;
- 3) Channel improvement and stabilization in order to provide an efficient navigation alignment, increase the flood-carrying capacity of the river, and for protection of the levee system; and
- 4) Tributary basin improvements for major drainage and flood control, such as dams, reservoirs, pumping plants, auxiliary channels, etc.

The levees of the Mississippi River Levees (MRL) Program, a portion of the MR&T project, are designed to protect the Lower Mississippi River Valley against the project flood by confining flow

Risk Characteristics

VIEW

Levee Safety Action Risk Classification **Not Screened**

People at Risk **532,295** Structures at Risk **151,220** Property Value **\$81.2B**

Risk Characterization Summary **In Progress.**

Structure and Features

VIEW

Total Miles **105.62** Length of Embankment (miles) **105.62**

FEMA - NFIP/FIRM Information

VIEW

Levee System Status on Effective FIRM Accredited

Latest Inspections

VIEW

Segment Name (Date) - Inspection Rating
New Orleans District - Upper Bonnet Carre (11/15/2016) - Minimally Acceptable
Pontchartrain LD - Above Bonnet Carre (11/02/2016) - Minimally Acceptable
Metro. Council of Baton Rouge LD (11/02/2016) - Minimally Acceptable
Pontchartrain LD - Above Bonnet Carre (10/22/2015) - Minimally Acceptable
Metro. Council of Baton Rouge LD (10/22/2015) - Minimally Acceptable

Key Documents

VIEW

PI Executive Summary

Segments

VIEW

Metro. Council of Baton Rouge LD

New Orleans District - Upper Bonnet Carre

Pontchartrain LD - Above Bonnet Carre

Map view showing levee system boundaries in red and blue.

Legend: Categorize by, Basemap: Basic, LEGEND

Coordinates: 30.727081, -91.226327

Scale: 10 km

Address: 15R XQ 69818 00699

Risk Characterization Summary: PLEASE NO system. It is... The risk assessment is High for Private with moderate likelihood of... to about 75% fighting to protect those concerned maximum safety people remain fact that big