



Flood Protection Structure Accreditation Task Force

March 2013

Logistics

- Global Mute to improve sound quality
- Questions welcome via chat function or email to hq-leveesafety@usace.army.mil
 - ▶ Will address questions as time allows
- Feedback requested by March 22 via <http://www.usace.army.mil/leveesafety>
- Session will be recorded
- Thank you for your time today

Bottom Line Up Front

- Community/sponsor has decision whether to participate in National Flood Insurance Program.
 - ▶ Has a key role in the accreditation process.
- USACE inspections and screenings do not collect all the information required for 44 CFR 65.10.
- Direct links recommended to be assessed and communicated more often. Includes when a levee no longer meets some 44 CFR 65.10 criteria.
- Risk assessments recommended to become the USACE methodology for accreditation decisions.

Outline

- Logistics
- Agency overview
- Task Force scope and approach
- Existing USACE levee activities and relationship with accreditation
- Task Force recommendations
 - ▶ Data exchange
 - ▶ Alignment
 - ▶ Risk assessments
- Summary then question & answer

External Stakeholder Webinars

- Thursday, March 14: 2:00 p.m. - 4:00 p.m. EDT
- Friday, March 15: 10:00 a.m. - noon EDT
- Monday, March 18: 10:00 a.m. - noon EDT
- Tuesday, March 19: 2:00 p.m. - 4:00 p.m. EDT

Who is Invited

- Levee Sponsor
- Elected Official
- Federal, state, or local government
- Private Sector
- Interested citizen

Agency Overview

FEMA Responsibilities

Mitigation

Any sustained action taken to reduce or eliminate long term risk to people and property from natural hazards and their effects.

Recovery
Putting a community back together after a disaster

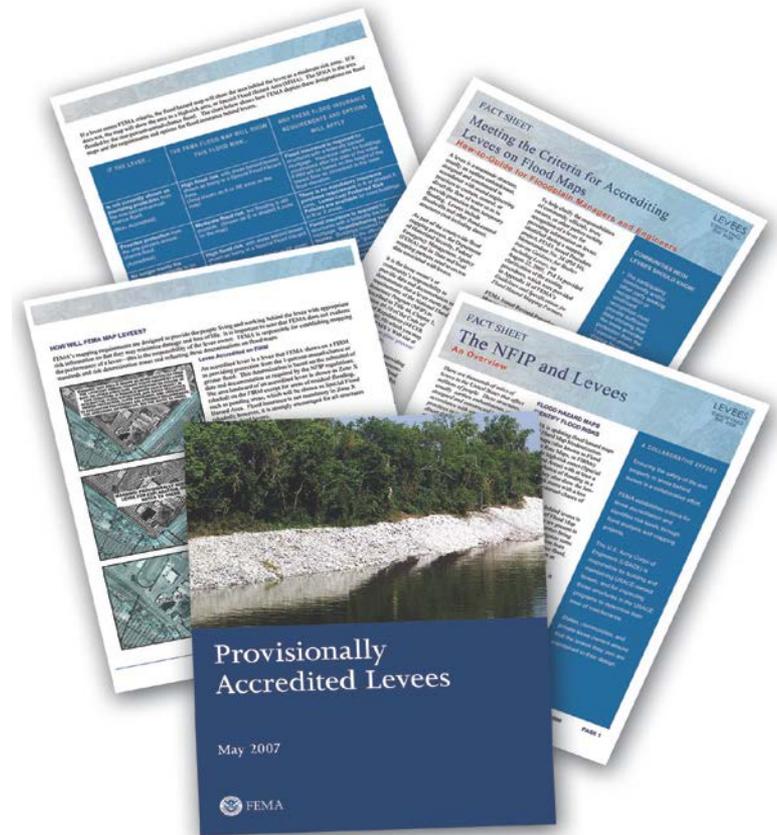


Preparedness
Getting people and equipment ready to quickly and effectively respond to a disaster before it happens

Response
Saving life and property during and immediately after a disaster

FEMA's Role in Levees

- Present flood hazard and risk information
- Establish appropriate risk zone determinations
- Establish mapping standards
- Accredit levee systems on FIRMs
- Produce outreach and communication materials
- Explain risk of living with levees



How Does a Levee System get Accredited?

- Levee certification/accreditation: the process of compiling the data and analysis to provide to FEMA to demonstrate 44 CFR 65.10 is met.
- Follow FEMA Procedure Memorandum (PM) No. 63, issued 09/02/2010, to demonstrate compliance with 44 CFR 65.10.

STEPS FOR ACCREDITATION FOR A LEVEE UNDER NFIP

Community
Joins
NFIP

Community
& Sponsor
Choose
to Seek
Accreditation
for Their
Levee

Sponsor Collects
Information and
Conducts Analysis
to Seek Accreditation
Per Requirements
of 44 CFR 65.10

Possible Data &
Analysis Sources:

- SPONSOR
- USACE
- A&E
- FEMA

Community
Submits
Accreditation
Request
Package

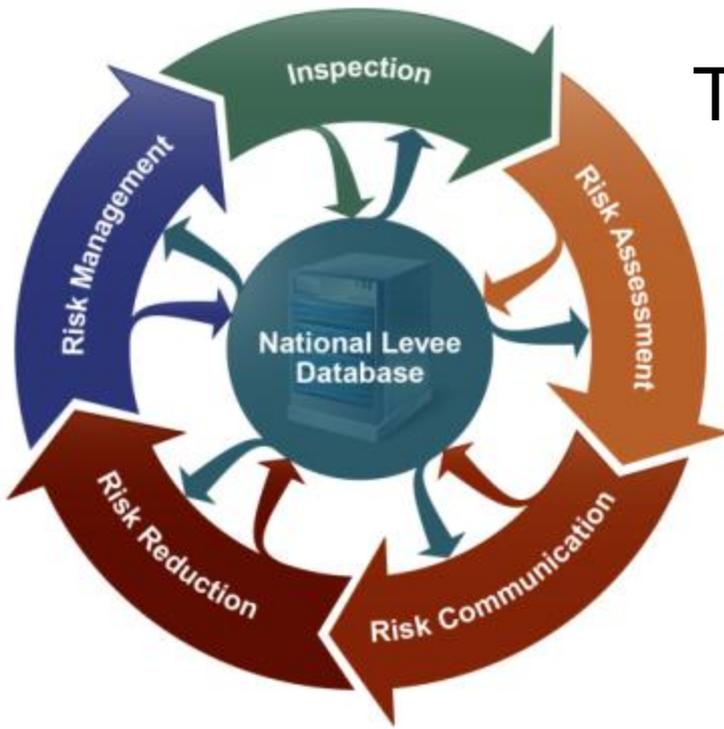
FEMA
Determines
if Levee is
Accredited

Sponsor
Continues
to Meet
O&M
Responsibilities

44 CFR 65.10 Requirements

44 CFR 65.10	General Requirement Description
Design Criteria	
65.10(b)(1)	Freeboard (Levee Height)
65.10(b)(2)	Closures
65.10(b)(3)	Embankment Protection
65.10(b)(4)	Embankment and Foundation Stability Analyses (including seepage)
65.10(b)(5)	Settlement Analyses
65.10(b)(6)	Interior Drainage Analysis and Mapping
Operations Plans and Criteria	
65.10(c)(1)	Closures – Operation Plans and Criteria - (includes sub-items)
65.10(c)(2)	Interior Drainage Systems – Operation Plans and Criteria (includes sub-items)
Maintenance Plans and Criteria	
65.10(d)	Maintenance Plans and Criteria
Certification of Package	
65.10(e)	Certification Requirements, As-Built drawings, etc.

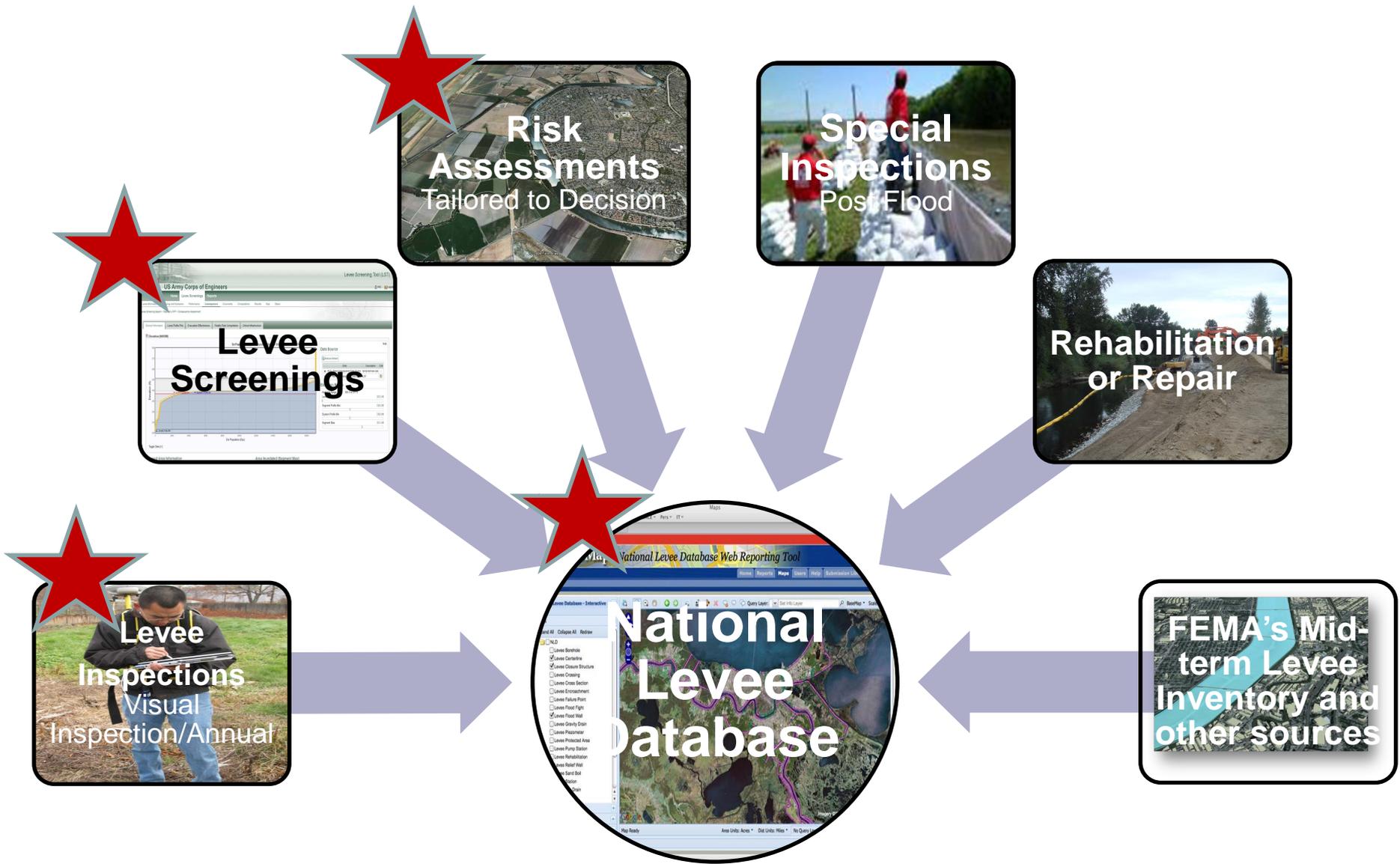
USACE Levee Safety Program Mission



The levee safety program mission is to ensure levee systems provide benefit to the Nation by working with sponsors and stakeholders to assess, communicate, and manage the risks to people, property, and the environment from inundation associated with the presence of levee systems.

USACE Authorities Related to Levees

- Project specific authorizations
- Continuing authorities to address studies, modifications, and technical assistance
- Public Law (P.L.) 84-99: Disaster preparedness, advance measures, emergency operations, and rehabilitation (also known as the Rehabilitation and Inspection Program or RIP)
- Section 221 of the Flood Control Act of 1970 (amended) requires that a written agreement with a non-federal sponsor, including operation and maintenance requirements. (Inspection of Completed Works Program)
- WRDA 2007, National Levee Safety Act



 - Task Force identified as most beneficial to align

Task Force Scope and Approach

FEMA-USACE Task Force (MAP-21)

H. R. 4348

One Hundred Twelfth Congress
of the
United States of America

AT THE SECOND SESSION

Began and held at the City of Washington on Tuesday,
the third day of January, two thousand and twelve

An Act

To authorize funds for Federal-aid highways, highway safety programs, and transit programs, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE. ORGANIZATION OF ACT INTO DIVISIONS.

TABLE OF CONTENTS.

(a) SHORT TITLE.—This Act may be cited as the “Moving Ahead for Progress in the 21st Century Act” or the “MAP-21”.

(b) DIVISIONS.—This Act is organized into 8 divisions as follows:

(1) Division A—Federal-aid Highways and Highway Safety Construction Programs.

(2) Division B—Public Transportation.

(3) Division C—Transportation Safety and Surface Transportation Policy.

(4) Division D—Finance.

(5) Division E—Research and Education.

(6) Division F—Miscellaneous.

(7) Division G—Surface Transportation Extension.

(8) Division H—Budgetary Effects.

(c) TABLE OF CONTENTS.—The table of contents for this Act is as follows:

Sec. 1. Short title; organization of Act into divisions; table of contents.

Sec. 2. Definitions.

Sec. 3. Effective date.

DIVISION A—FEDERAL-AID HIGHWAYS AND HIGHWAY SAFETY CONSTRUCTION PROGRAMS

TITLE I—FEDERAL-AID HIGHWAYS

SUBTITLE A—Authorizations and Programs

Sec. 101. Authorization of appropriations.

Sec. 102. Obligation ceiling.

Sec. 103. Definitions.

Sec. 104. National Highway System.

Sec. 105. Apportionment.

Sec. 106. National highway performance program.

Sec. 107. Emergency relief.

Sec. 108. Surface transportation program.

Sec. 109. Welfare or development.

Sec. 110. Highway use tax system projects.

Sec. 111. National bridge and tunnel inventory and inspection standards.

Sec. 112. Highway safety improvement programs.

Sec. 113. Congestion mitigation and air quality improvement program.

Sec. 114. Territorial and Puerto Rico highway program.

Sec. 115. National freight policy.

Sec. 116. Prioritization of projects to improve freight movement.

Sec. 117. State freight advisory committees.

Through Section 100226, FEMA and USACE are: ...directed to convene a joint task force with USACE to “better align information and data collected” under ICW with NFIP levee accreditation so that

1. Data can be used interchangeably.
2. Information collected for ICW is sufficient to satisfy accreditation.



Task Force Principles

- Life safety will not be compromised
- Ensure timely communication of information (transparency)
- Ensure local communities/sponsors continue to have the lead role in submitting a NFIP accreditation package
- Consider big picture recommendations – such as changes to 44 CFR 65.10

Task Force Challenges

- The two programs focus on different flood loadings:
 - ▶ FEMA – single event (1-percent-annual-chance flood)
 - ▶ USACE – full range of flood loadings (not just a single event)
- Implementation in the context of both programs evolving (ripple effect, schedules)
- Partial certifications and submittals
- Liability concerns in the private sector

Stakeholder Involvement

- Working in cooperation with the National Committee on Levee Safety
- Scaling stakeholder activities within constraints
 - ▶ Conducted a focus group meeting in February
 - ▶ March webinars (>200 groups registered through Mar 11)
- Feedback Received
 - ▶ There's confusion over data collected for USACE versus data needed for NFIP accreditation
 - ▶ Concern about the cost for NFIP accreditation
 - ▶ Confusion as to why an "Acceptable" to USACE cannot equal an "Acceptable" for NFIP purposes

Task 1: Alignment for Accreditation

- Identify current USACE and FEMA levee activities that could be modified
- Analyze potential modifications and assess impacts

Task 2: Interchange Data

- Analyze how well information is exchanged between USACE, FEMA, and sponsor
- Identify what products should be exchanged
- Develop and improve the process of data exchange

Limitations of Alignment

Two agencies, two programs, established and executed for separate purposes...

...aligned does not mean interchangeable

USACE Levee Inspections



- Performed for a variety of reasons:
 - To identify deficiencies that need monitoring or immediate repair
 - To determine if the non-federal sponsor is properly operating and maintaining levee
 - To determine eligibility for federal rehabilitation funding in accordance with PL 84-99

USACE Levee Screenings

- Limited engineering assessment of expected levee performance & consequences
- Uses best available data, but no new data is obtained
- Performance evaluated across the full potential loading range – not just the 1% event

Why Inspection + Screening ≠ NFIP Accreditation

Inspections, which focus on a sponsor's O&M, and

Screenings, which make use of available data to assess expected performance and consequences across the full range of expected loadings,

- Cannot provide the rigorous level of analysis required to reach a full NFIP Accreditation determination

Task Force Recommendations

Alignment

Where We Are Now

CURRENT ALIGNMENT DATA CONTRIBUTION



Alignment on Inspections

 Flood Damage Reduction Segment / System Inspection Report	
US Army Corps of Engineers® Name of Segment / System: _____ Public Sponsor(s): _____ Public Sponsor Representative: _____ Sponsor Phone: _____ Sponsor Email: _____ Corps of Engineers Inspector: _____ Inspection Start Date: _____ Inspection End Date: _____ Inspection Report Prepared By: _____ Date Report Prepared: _____ Internal Technical Review (for Periodic Inspections) By: _____ Date of ITR: _____ Final Approved By: _____ Date Approved: _____	
Type of Inspection: <input type="checkbox"/> Initial Eligibility Inspection <input checked="" type="checkbox"/> Continuing Eligibility Inspection (Routine) <input type="checkbox"/> Continuing Eligibility Inspection (Periodic)	Overall Segment / System Rating: <input type="checkbox"/> Acceptable <input checked="" type="checkbox"/> Minimally Acceptable <input type="checkbox"/> Unacceptable
Contents of Report: <input checked="" type="checkbox"/> Instructions <input checked="" type="checkbox"/> Initial Eligibility Inspection <input checked="" type="checkbox"/> General Items for All Flood Control Works <input checked="" type="checkbox"/> Levee Embankment <input type="checkbox"/> Concrete Floodwalls <input type="checkbox"/> Sheet Pile and Concrete I-walls <input checked="" type="checkbox"/> Interior Drainage System <input checked="" type="checkbox"/> Pump Stations <input checked="" type="checkbox"/> FDR System Channels	<small>Note: In addition to the report contents indicated here, a plan view drawing of the system, with stationing, should be included with this report to reference locations of items rated less than acceptable. Photos of general system condition and any noted deficiencies should also be attached.</small> <small>Note: This inspection rating represents the Corps evaluation of operations and maintenance of the flood damage reduction system and may be used in conjunction with other information for a levee certification determination for National Flood Insurance Program (NFIP) purposes if applicable. An Acceptable Corps inspection rating, alone, does not equate to a certifiable levee for the NFIP. It is recommended for levee systems currently accredited by the Federal Emergency Management Agency (FEMA) for NFIP purposes receiving a Corps Minimally Acceptable or Unacceptable rating be evaluated by the levee owner to determine the potential impacts to the certification for FEMA.</small>

- Routine or Periodic
- Completed annually
- Individual items rated
 - ▶ Acceptable
 - ▶ Minimally Acceptable
 - ▶ Unacceptable
- Overall system/segment rating also assigned

A fundamental purpose of inspections is to evaluate sponsors' operations and maintenance activities.

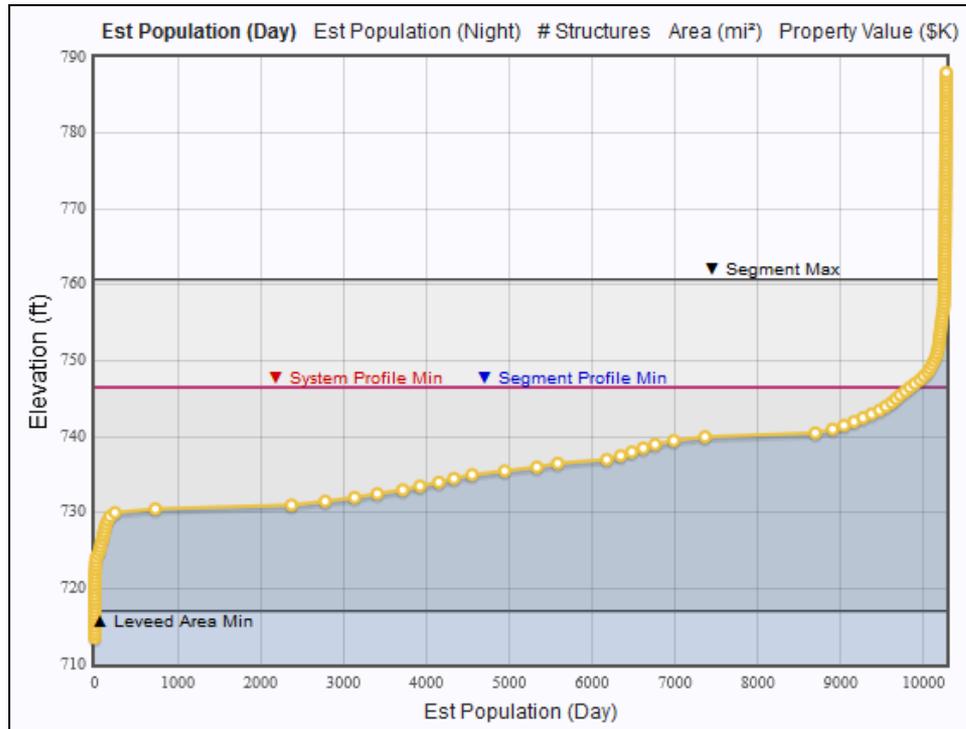
-this is one reason why an Inspection Rating cannot equal NFIP Accreditation

Activity	If USACE activity finds that...	Finding
Inspection Checklist	•If all inspection items related to O&M Plans are rated Acceptable	• Positive
	•If any inspection items related to O&M Plans are rated Unacceptable	•Negative
	•All other cases	•No Finding

Current USACE Inspection Checklist:

Rated Item	Rating	Rating Guidelines	
1. Operations and Maintenance Manuals	A	A	Levee Owner's Manual, O&M Manuals, and/or manufacturer's operating instructions are present.
		M	Sponsor manuals are lost or missing or out of date; however, sponsor will obtain manuals prior to next scheduled inspection.
		U	Sponsor has not obtained lost or missing manuals identified during previous inspection.

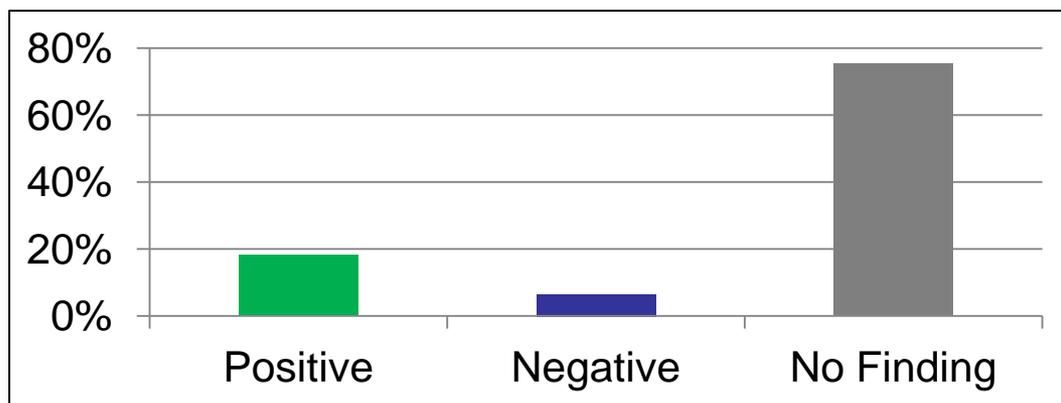
Alignment on Screenings



- USACE goal to complete initial screenings on all USACE levees by FY15
- Expected to revisit every 5-10 years or as needed
- Evaluate performance modes of various levee components
 - ▶ Embankments
 - ▶ Floodwalls
 - ▶ Closures
- Also includes assessment of consequences of inundation

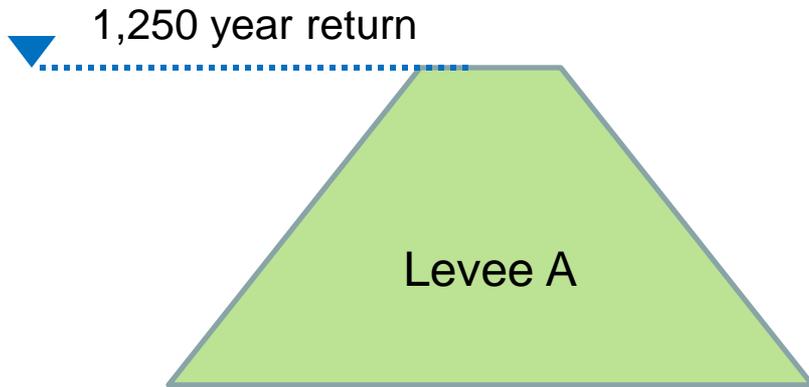
Activity	If USACE activity finds that...	Finding
Levee Screening	<ul style="list-style-type: none"> •If ACE for Overtopping is less frequent than 0.001 •If ACE for Overtopping is more frequent than 0.01 •All other cases 	<ul style="list-style-type: none"> •Positive •Negative •Inconclusive

Proof of Concept

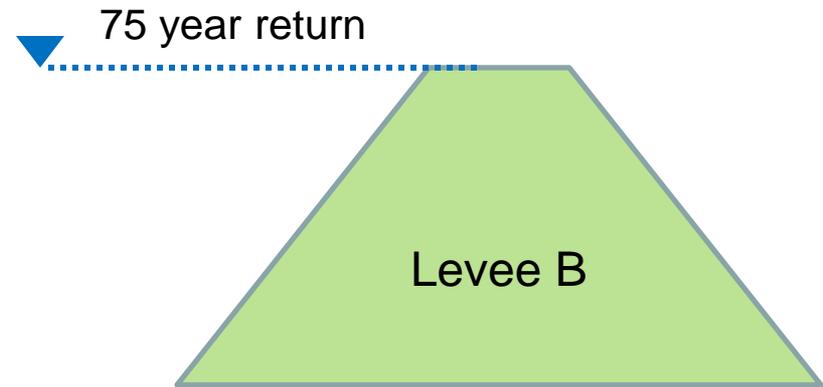


Results based on sample of levees screened to date (10% of portfolio)

Examples



Screening determines that ACE
for Overtopping ~ 1/1,250
With alignment, Levee meets
44 CFR 65.10(b)(1)



Screening determines that ACE
for Overtopping ~ 1/75
With alignment, Levee does not
meet 44 CFR 65.10(b)(1)

Alignment of Inspection Data

PROPOSED ALIGNMENT DATA CONTRIBUTION (not to scale)



Alignment of Screening Data

PROPOSED ALIGNMENT DATA CONTRIBUTION (not to scale)



Task Force Recommendations Risk Assessments

Risk Assessments

- Analysis covering a range of flood events and expected levee performance
- Systematic and repeatable
- Takes into consideration various data sources that deterministic approaches do not: historic performance, potential failure modes, instrumentation data
- Includes assessment of consequences of leveed area inundation

Why Risk Assessments?

- Results provide information for making risk management decisions
- Results include identification of risk drivers
 - this assists in prioritizing actions and determining sense of urgency
- Often allows decisions to be made based on less information and data than would be necessary for traditional approaches

Risk Assess. Implementation

- USACE has started to implement risk assessments based on screening results
- Currently, USACE plans to perform risk assessments on a few levees each year
 - ▶ Further implementation efforts are being evaluated
- Recommendation: Use detailed risk assessment to fully satisfy all NFIP requirements that are not inherently local responsibilities

Inspections + Screenings + Risk Assessment

PROPOSED ALIGNMENT DATA CONTRIBUTION (not to scale)



Task Force Recommendations

Data Exchange

Data Exchange and Usefulness, 1

- USACE/FEMA to implement standard processes to ensure info exchanged consistently
- USACE Inspections and Levee Screenings will specifically identify findings relevant to new or continuing NFIP accreditation
- Improved data exchange will mean sponsor and FEMA more directly informed when significant issues are discovered that could affect accreditation status

Data Exchange and Usefulness, 2

- Sponsor able to directly apply USACE activity findings to build accreditation package
- National Levee Database the primary tool for data transfer
- Caveat: USACE activities will often not produce conclusive findings for individual NFIP requirements

Recommendations Summary

- Improved alignment of current data and activities can result in a more complete “partial package,” although complete package unlikely
- Risk Assessments can answer the charge of “satisfy[ing] the flood protection structure accreditation requirements”
- In both cases, some portions of the NFIP package are produced by a local community

Overall Summary

- Community/sponsor has decision whether to participate in National Flood Insurance Program.
 - ▶ Has a key role in the accreditation process.
- USACE inspections and screenings do not collect all the information required for 44 CFR 65.10.
- Direct links will be assessed and communicated more often. Includes information that a levee may no longer meet a criteria in 44 CFR 65.10.
- Risk assessments will be the methodology used by USACE for accreditation decisions.

Questions and Answers

- Questions welcome via chat function or email to hq-leveesafety@usace.army.mil
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