

U.S. Army Corps of Engineers Levee Safety Program

National Levee Database Public Roll Out

Eric C. Halpin, PE

Special Assistant for Dam and Levee Safety



US Army Corps of Engineers
BUILDING STRONG



Webinar Housekeeping

- Must be on phone call for sound.
- Please mute your phone.
- Chat box in bottom right corner for questions or issues.



Agenda

- National Levee Database Basic Information
- National Levee Database Public View
- What Can I Find in the NLD
- More Data: Partnerships with Federal Agencies, States and Tribes
- Risk Communication/Emergency Management
- Questions



National Levee Database

- *“Authoritative Database that Describes the Location and Condition of the Nation’s Levees, and the Potential Consequence Behind Those Levees”*



WRDA 2007

▶ **“SEC. 9004. INVENTORY AND INSPECTION OF LEVEES.**

▶ (a) LEVEE DATABASE.—The database shall include—

- (A) Location information of all Federal levees in the Nation (including global information system information) and,
- For non-Federal levees, such information on levee location as is provided to the Secretary by State and local governmental agencies;
- (B) utilizing such information as is available, the general condition of each levee; and
- (C) An estimate of the number of structures and population at risk and protected by each levee that would be adversely impacted if the levee fails or water levels exceed the height of the levee.



National Levee Database

http://nld.usace.army.mil

National Levee Database - Home

National Levee Database - Home

http://nld.usace.army.mil/egis/f?p=471:1:619860514011430::NO

US Army Corps of Engineers
National Levee Database

Home Reports Maps Help About NLD Contact Us

Feedback Login

Welcome to the National Levee Database

The National Levee Database (NLD), developed by the U.S. Army Corps of Engineers (USACE), is the focal point for comprehensive information about our nation's levees. Authorized by Congress in 2007, the database contains information to facilitate and link activities, such as flood risk communication, levee system evaluation for the National Flood Insurance Program (NFIP), levee system inspections, flood plain management, and risk assessments. The NLD continues to be a dynamic database with ongoing efforts to add levee data from federal agencies, states, and tribes.

Here is what is available in the NLD:

- Majority of levees located within the USACE Levee Program
- Reports on levees in the NLD located within your state, zip code, or address
- Various federal database resources integrated into NLD such as the National Weather Service
- Feedback link for you to provide comments on the NLD
- Contact Us tab if you need assistance or have questions

▲ Please Note: The NLD currently contains the majority of levees within the USACE program. The NLD does not contain all levees located in the United States.

Maps Search and view levees using the interactive map	Help Download user manuals, quick guides and videos on how best to use the NLD
About NLD View presentations, documents on the rollout of the NLD	Contact Us Please contact us for assistance with the NLD.

Reports

View searchable reports depicting levee system and segment information

Simple Reporting Search for NLD levee data by specified search criteria and search for levees by address	Advanced Reporting Navigate through customized reports	Find Levees Near Me Zip Code <input type="text"/> Distance <input type="text"/> miles <input type="button" value="Submit"/>
--	--	---

Page #: 471:1



NLD Public View

[HTTP://NLD.USACE.ARMY.MIL](http://nld.usace.army.mil)

- Status
 - ▶ Still under construction
 - ▶ Almost all Corps data collected and loaded
 - ▶ Not all levees are included in this database
- Comments welcome
 - ▶ Feedback tab
- Official Release October 27



BUILDING STRONG®

National Levee Database Public View

National Levee Database - Maps

http://nld.usace.army.mil/egis/?p=471:32:3431200563224563::NO

US Army Corps of Engineers
National Levee Database

Home Reports Maps Help About NLD Contact Us

National Levee Database - Interactive Map

Layers

Expand All Collapse All All Off Redraw

- ESRI ArcOnline Services
- NLD
 - Levee Borehole
 - Levee Centerline
 - Levee Closure Structure
 - Levee Crossing
 - Levee Cross Section
 - Levee Encroachment
 - Levee Flood Wall
 - Levee Gravity Drain
 - Levee Piezometer
 - Leveed Area
 - Levee Pump Station
 - Levee Rehabilitation
 - Levee Relief Well
 - Levee Station
 - Levee Toe Drain
- USACE Civil Works
- Federal
- Imagery
- Real Time Weather
- Precipitation Accumulation
- FEMA
- NRCS Web Services
- US FWS Web Services

Legend

Search

Map Ready

RI AR Off SV Off OV Off TF Off CS Dist Area No Query Layer [-90.53696, 30.07266] LL (WGS84)

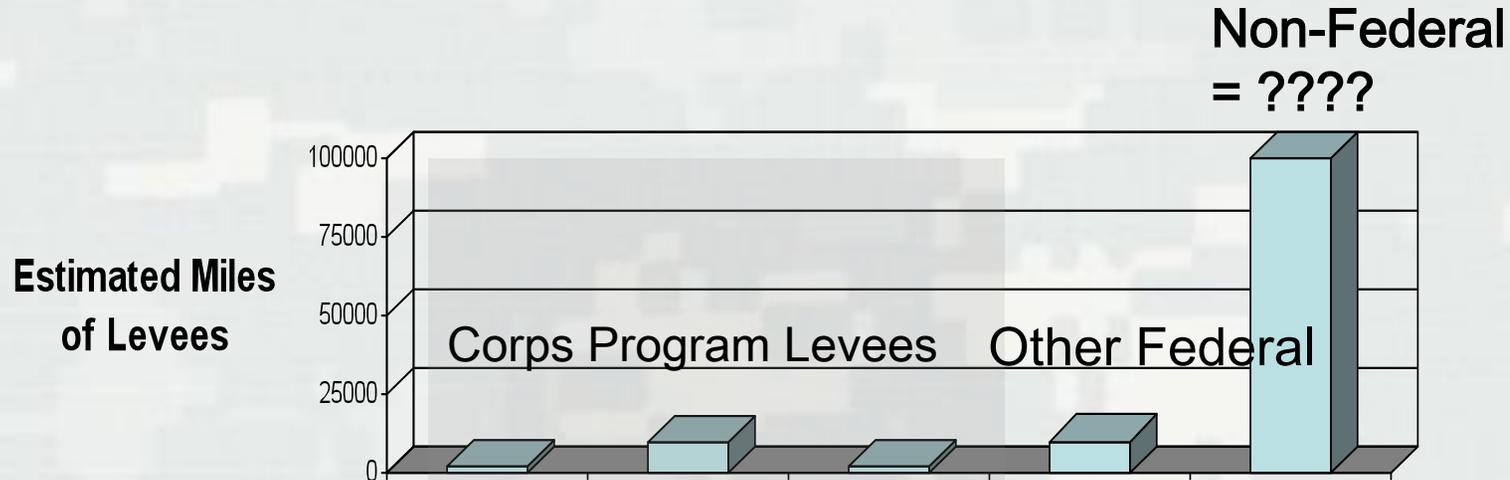
- >2,789 Segments and >2,065 systems
- Known miles today = 14,685
- Miles Completed = 13,506 = 92%
- Miles under contract = 1,179 = 8%



BUILDING STRONG®

How many miles of levees ?

- FEMA and USACE levees
- State, local, and other federal agencies is an unknown number



Public View of NLD

- Goal to allow public to view maximum amount possible within the NLD
- Security concerns require that some information remain safeguarded
 - ▶ Critical infrastructure
 - ▶ For Official Use Only Information
- Example:
 - ▶ Levee Periodic Inspections
 - Can see Executive Summary
 - The entire report is not viewable



National Levee Database

What Can I Find?

- Is there a levee near me?
- What was the last inspection rating for a levee?
- What is the inspection rating for a levee?
- How many levees are located in my State, County?
- Is there a list of levees within my State, County?
- Is there information on details about levees?
- Can I see a report with information on levees?
- Are there other sources of information ?



Find a Levee Near Me

- Allows search based on zip code, State, County, City, or your own address
- Search shows list of levees within that area
- Select a particular levee, select map icon, and see physical features or basic information



National Levee Database

http://nld.usace.army.mil

National Levee Database - Home

National Levee Database - Home

http://nld.usace.army.mil/egis/f?p=471:1:619860514011430::NO

US Army Corps of Engineers
National Levee Database

Home Reports Maps Help About NLD Contact Us

Feedback Login

Welcome to the National Levee Database

The National Levee Database (NLD), developed by the U.S. Army Corps of Engineers (USACE), is the focal point for comprehensive information about our nation's levees. Authorized by Congress in 2007, the database contains information to facilitate and link activities, such as flood risk communication, levee system evaluation for the National Flood Insurance Program (NFIP), levee system inspections, flood plain management, and risk assessments. The NLD continues to be a dynamic database with ongoing efforts to add levee data from federal agencies, states, and tribes.

Here is what is available in the NLD:

- Majority of levees located within the USACE Levee Program
- Reports on levees in the NLD located within your state, zip code, or address
- Various federal database resources integrated into NLD such as the National Weather Service
- Feedback link for you to provide comments on the NLD
- Contact Us tab if you need assistance or have questions

Please Note: The NLD currently contains the majority of levees within the USACE program. The NLD does not contain all levees located in the United States.

Reports

View searchable reports depicting levee system and segment information

Simple Reporting

Search for NLD levee data by specified search criteria and search for levees by address

Advanced Reporting

Navigate through customized reports

Find Levees Near Me

Zip Code

Distance miles

Page #: 471:1



Find a Levee Near Me

National Levee Database - Find Levees Near Me

National Levee Database - Find ...

http://nld.usace.army.mil/egis/f?p=471:61:619860514011430::NO::

Google

US Army Corps of Engineers
National Levee Database

Home Reports Maps Help About NLD Contact Us

Feedback Login

Find Levees Near Me

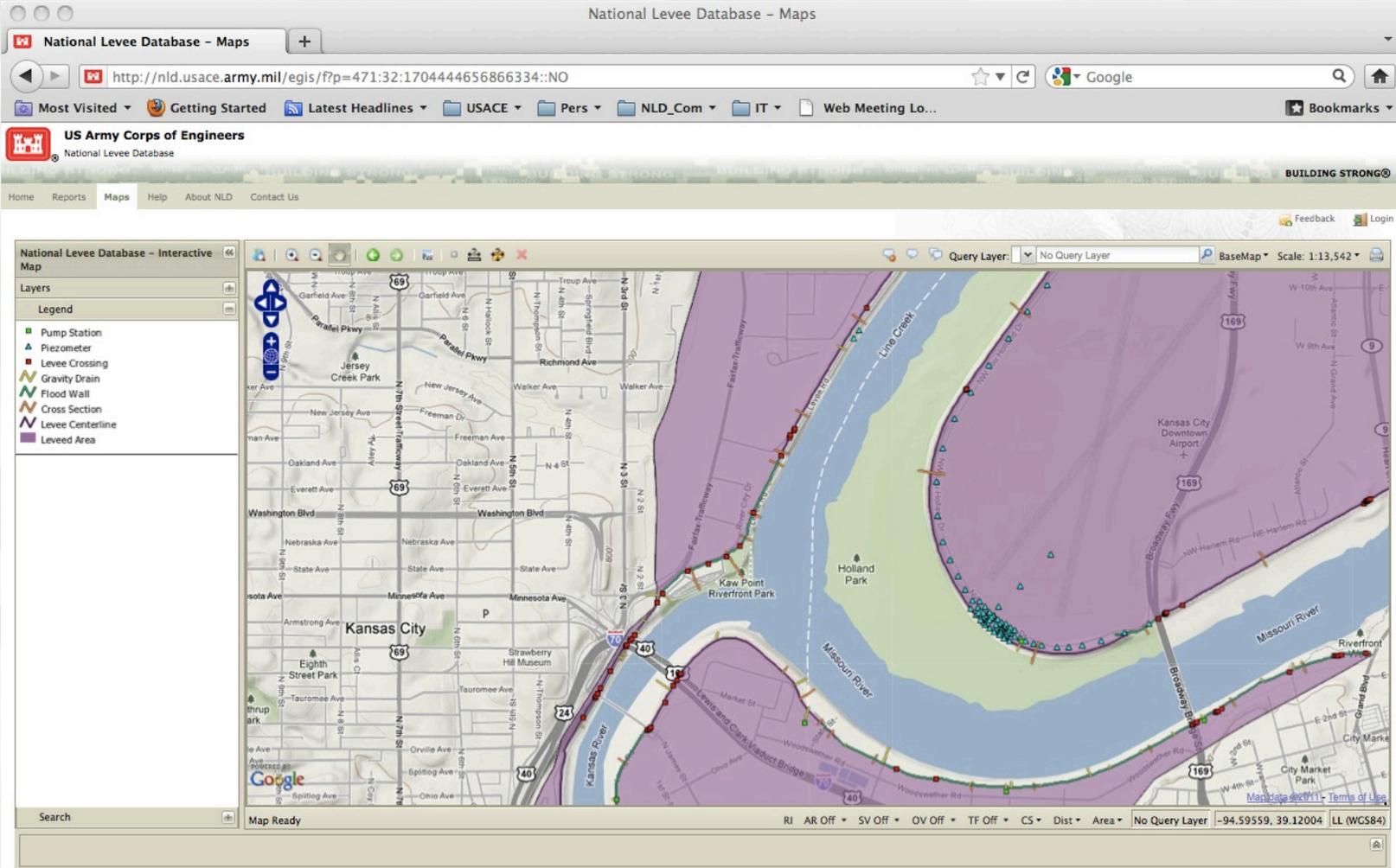
Zip Code

Distance miles

Actions

	System Name	Cong District	States	Counties	FEMA	Num Segs	Total Length	Map Url	Inspection Type	Inspection Rating	Inspection Date
	L-594-575 (8W-PV-Waubonsie)	Iowa - 05	Iowa	Fremont County	Region 7	3	12.8069		Routine	MINIMALLY ACCEPTABLE	09-SEP-10
	L-594-601	Iowa - 05	Iowa	Fremont County, Mills County	Region 7	4	14.5058		Routine	MINIMALLY ACCEPTABLE	21-SEP-10
	L-601 - Watkins Ditch RB - Watkins DD	Iowa - 05	Iowa	Mills County	Region 7	1	3.2615		Routine	MINIMALLY ACCEPTABLE	14-MAY-08
	L-611-614-MoRiv LB & Upr Pony Crk Ditch LB & L1BLB	Iowa - 05, Nebraska - 02	Iowa	Mills County, Pottawattamie County	Region 7	1	21.1194		Periodic	MINIMALLY ACCEPTABLE	14-SEP-10
	L-624-627-611-614 - Mosquito Cr & Upper Pony Cr	Iowa - 05	Iowa	Pottawattamie County	Region 7	2	7.3922		Periodic	MINIMALLY ACCEPTABLE	14-AUG-10
	L-611-614 - Upper Pony Creek LB & Lat 1B RB	Iowa - 05	Iowa	Pottawattamie County	Region 7	1	2.2927		Periodic	UNACCEPTABLE	14-APR-10
	L-624 MO River & Indian LB & Mosquito Creek RB	Iowa - 05	Iowa	Pottawattamie County	Region 7	1	8.8606		Periodic	MINIMALLY ACCEPTABLE	14-JUL-10
	L-627 MO River LB & Indian Creek RB	Iowa - 05	Iowa	Pottawattamie County	Region 7	1	15.0331		Periodic	MINIMALLY ACCEPTABLE	14-JUL-10
	Omaha - Missouri River RB	Iowa - 05, Nebraska - 02	Iowa, Nebraska	Douglas County, Pottawattamie County	Region 7	1	13.2599		Routine	MINIMALLY ACCEPTABLE	18-MAY-09
	R-613 - Platte LB & Papillion RB & MO	Nebraska - 01,	Nebraska	Sarpy County	Region 7	1	8.629		Routine	MINIMALLY ACCEPTABLE	14-SEP-10

National Levee Database Levee Features



BUILDING STRONG®

National Levee Database Reports

- Standard Reports:
 - ▶ Segment or System Detail/Feature Reports
 - Shows levee features and other information
 - ▶ Authorization
 - Levee Project Information by USACE District
 - ▶ Segment Inspection Report
 - ▶ Simple Reports
 - Select dropdown fields to view information
- Customize Your Own Report



National Levee Database Simple Report Example

National Levee Database - Simple Reporting

http://nld.usace.army.mil/egis/f?p=471:60:3045724790087225::NO::P60_SUBMITTED:1

US Army Corps of Engineers
National Levee Database

Home Reports Maps Help About NLD Contact Us

Feedback Login

Simple Reporting

States: Add State
Nebraska

County:

FEMA Region:

Organization:

PAL Status:

RIP Status: Any Active Inactive
 Not Enrolled Not Eligible NA

	Organization	System Name	States	Cong. District	Counties	FEMA Region	Number of Segments	Total Length	Link to Map	Inspection Type	Inspection Rating	Inspection Date
<input type="button" value="Search"/>	OMAHA	West Papio LB & Big Papio RB	Nebraska	Nebraska - 02	Sarpy County	Region 7	2	7.4928	<input type="button" value="Map"/>	Routine	MINIMALLY ACCEPTABLE	27-AUG-10
<input type="button" value="Search"/>	OMAHA	R-616-613 - MO Riv RB & Papillion Cr LB	Nebraska	Nebraska - 02	Sarpy County	Region 7	1	9.668	<input type="button" value="Map"/>	Routine	MINIMALLY ACCEPTABLE	08-SEP-08
<input type="button" value="Search"/>	OMAHA	R-613 - Platte LB & Papillion RB & MO River RB	Nebraska	Nebraska - 01, Nebraska - 02	Sarpy County	Region 7	1	8.629	<input type="button" value="Map"/>	Routine	MINIMALLY ACCEPTABLE	14-SEP-10
<input type="button" value="Search"/>	OMAHA	NESARP84 - West Papio RB - 96th-Big Papio	Nebraska	Nebraska - 02	Sarpy County	Region 7	1	5.0146	<input type="button" value="Map"/>	Routine	MINIMALLY ACCEPTABLE	12-OCT-10
<input type="button" value="Search"/>	OMAHA	NEDOUG16 LB & Little Papio LB - L St to Copper Cr	Nebraska	Nebraska - 02	Douglas County Sarpy County	Region 7	2	3.0345	<input type="button" value="Map"/>	-	-	-
<input type="button" value="Search"/>	OMAHA	NEDOUG16 - Big Papio RB - L St to Thomson Cr	Nebraska	Nebraska - 02	Douglas County	Region 7	1	3.2842	<input type="button" value="Map"/>	Routine	MINIMALLY ACCEPTABLE	27-AUG-10



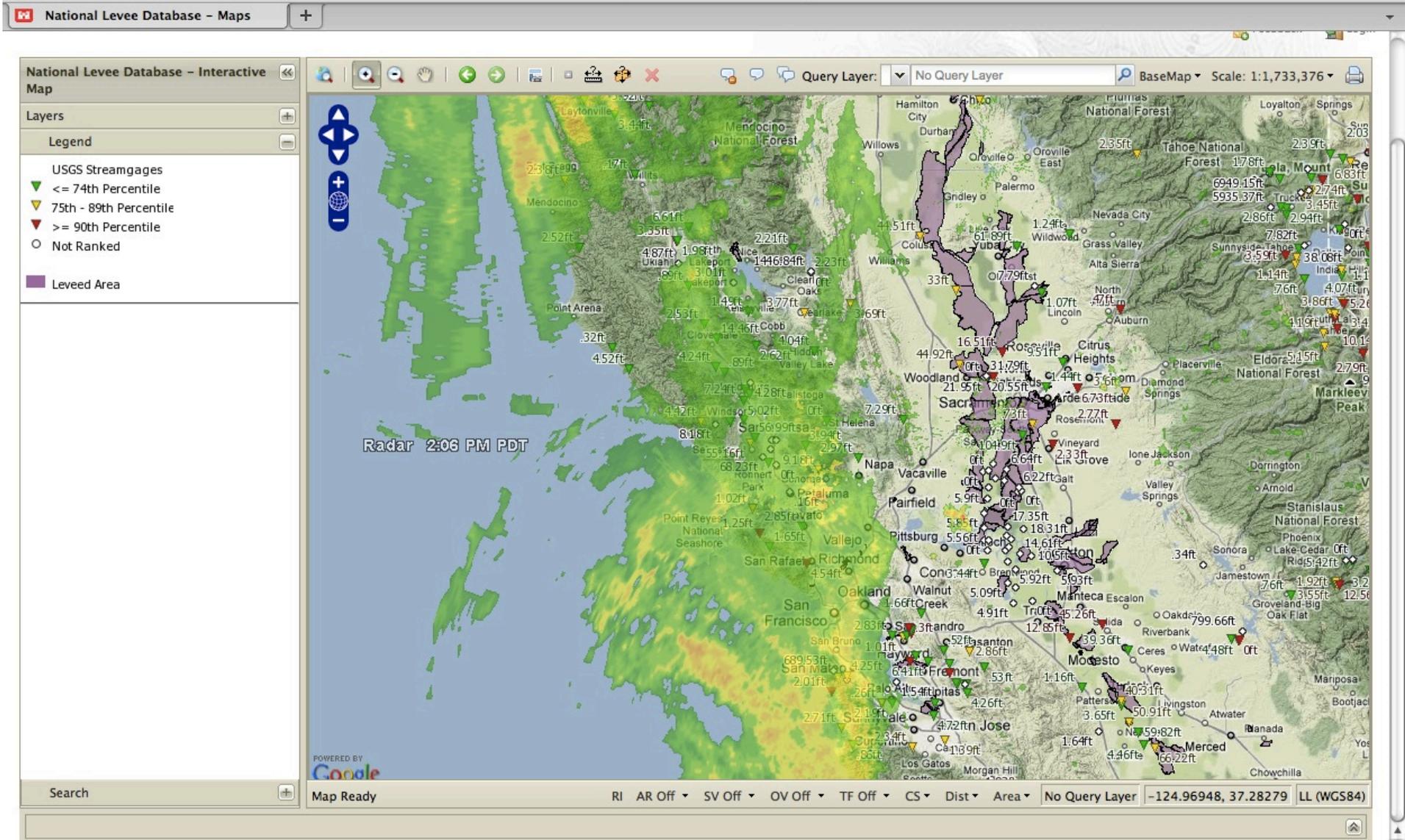
Other Sources of Information Integration of Databases

- DOT
 - ▶ Fiber Optic Lines
 - ▶ Regional Fiber Optic Lines
 - ▶ Oil and Gas Pipeline
 - ▶ Electric Transmission Line
- EPA
 - ▶ Regulated Facilities
 - ▶ EPA Regions
- NOAA
 - ▶ Stream gages Observed
 - ▶ Steam gages Forecasted
 - ▶ River Outlook
 - ▶ Real Time Radar
- NPS
 - ▶ Historic Properties



Real-Time Data Integration

National Levee Database - Maps



Data Integration with other services

National Levee Database - Maps

National Levee Database - Interactive Map

Layers

Expand All Collapse All All Off Redraw

- ESRI ArcOnline Services
 - NLD
 - Levee Borehole
 - Levee Centerline
 - Levee Closure Structure
 - Levee Crossing
 - Levee Cross Section
 - Levee Encroachment
 - Levee Flood Wall
 - Levee Gravity Drain
 - Levee Piezometer
 - Leveed Area
 - Levee Pump Station
 - Levee Rehabilitation
 - Levee Relief Well
 - Levee Station
 - Levee Toe Drain
- USACE Civil Works
 - Federal
 - EPA
 - FEMA
 - National Atlas
 - NOAA
 - Streamgages Observed
 - Major Flooding
 - Moderate Flooding
 - Minor Flooding
 - Near Flood Stage

Legend

Search

Map Ready

RI AR Off SV On OV Off TF Off CS Dist Area No Query Layer -121.50493, 38.60225 LL (WGS84)

More Data: Partnership with Federal Agencies, States, Tribes

- FEMA MLI Integration
 - ▶ Region VII
- California Levee Database Integration
- Pilot Study with Miami Conservatory, Miami County Ohio
- Outreach efforts
 - ▶ Webinars
 - ▶ Workshops
- Steering Committee Leadership



Steering Committee Members

- National Committee on Levee Safety
- Association of State Flood Plain Managers
- National Association of Flood and Stormwater Management Agencies
- Association State Dam Safety Officials
- American Rivers
- State of California
- Federal Emergency Management Agency
- Homeland Security
- Bureau of Indian Affairs
- State of Louisiana
- U.S. Army Corps of Engineers
- Natural Resources Conservation Service/Dept Agriculture



Risk Communication Applications

RISK COMMUNICATION

EMERGENCY MANAGEMENT

FLOODPLAIN MANAGEMENT

LEVEE RISK SCREENING

ENVIRONMENTAL MANAGEMENT

WATER MANAGEMENT

PLANNING AND ZONING

MITIGATION PLANNING

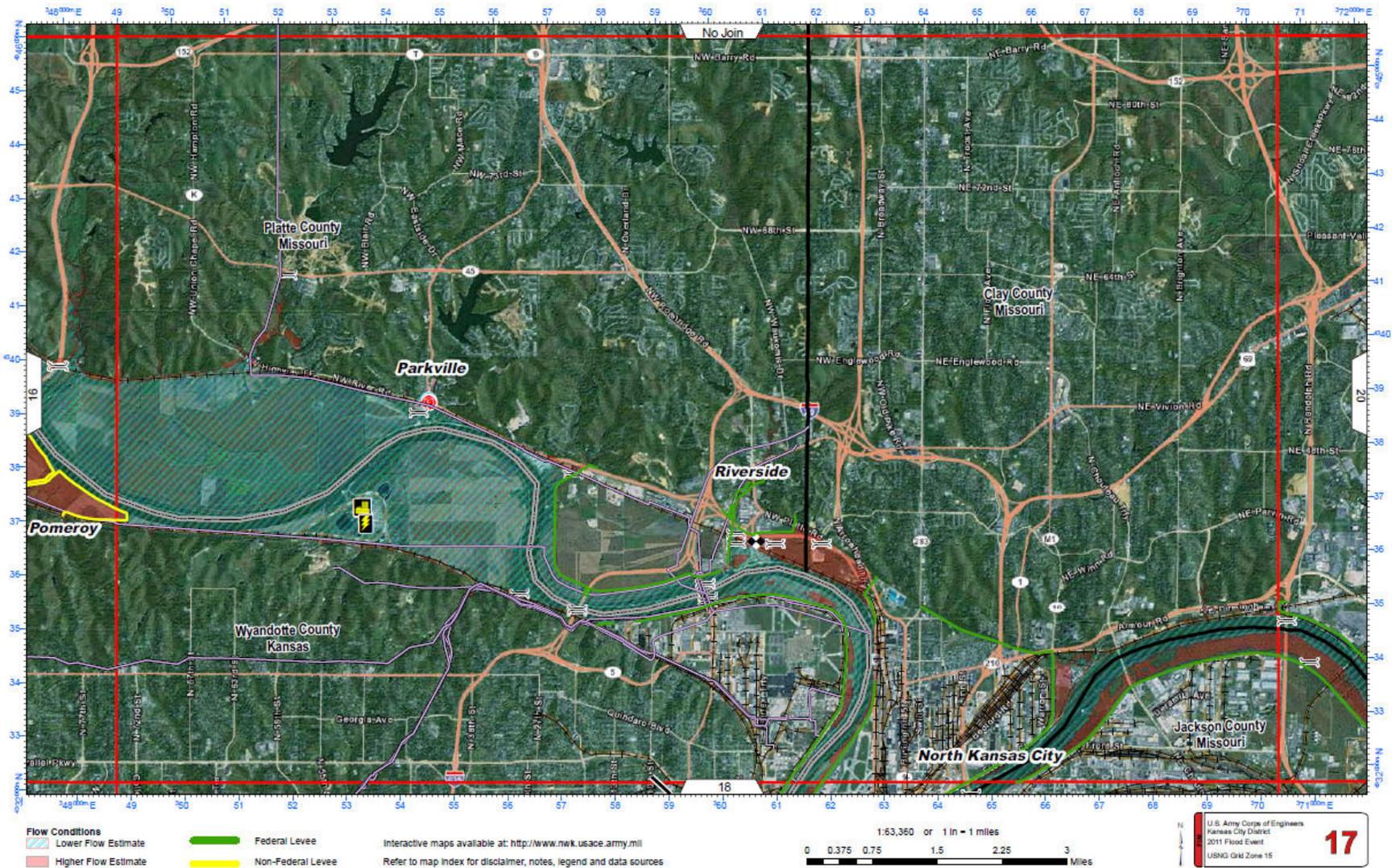


BUILDING STRONG®



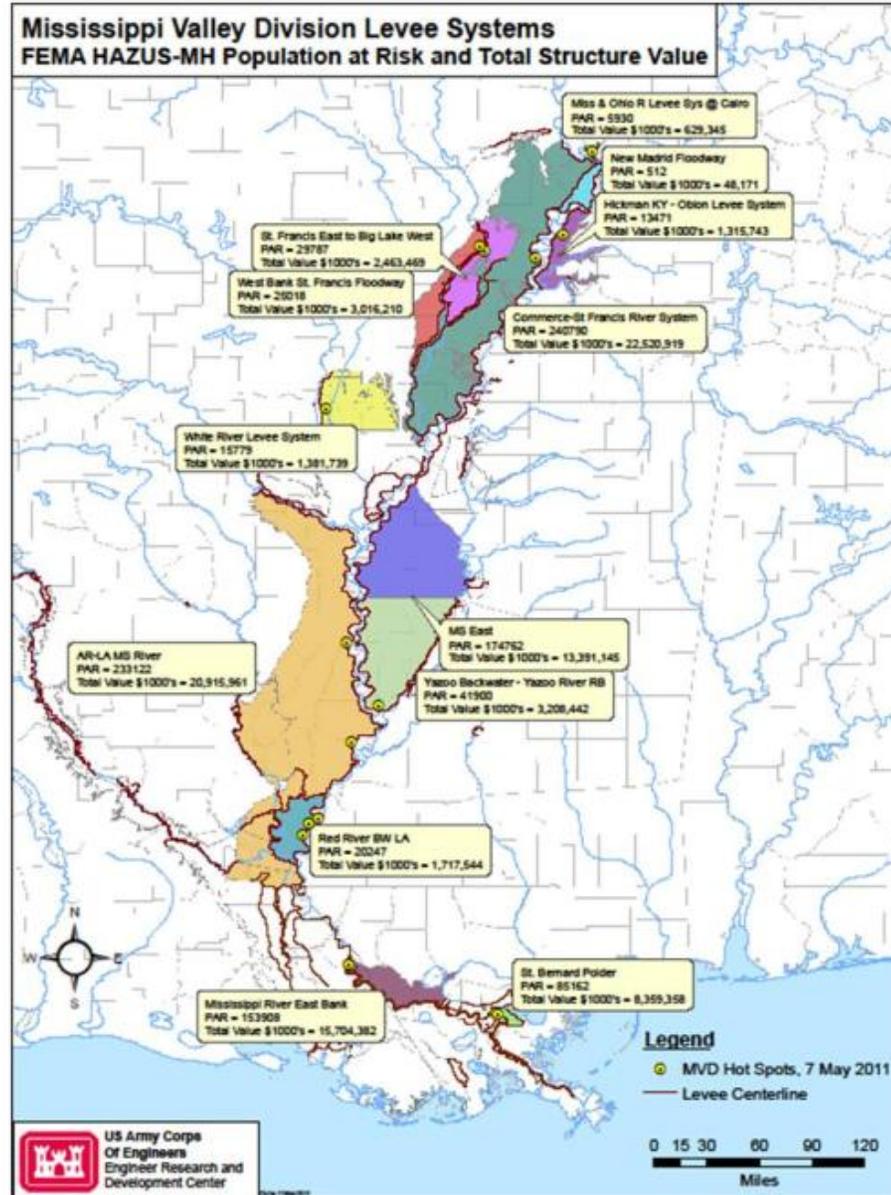
2011 Flood Event Long Range Projection

04 June 2011



BUILDING STRONG®

Mississippi River Mapping



NLD Data Integration for EM

The screenshot displays a GIS application window titled "UOC" with multiple tabs, including "Freeboard Values". The interface is divided into several key sections:

- Layers Panel (Left):** Lists various data layers under "CorpsMap UOC". The "2011 Spring Flooding" folder is expanded, showing sub-layers like "MVD" and "NWD". The "NWD" folder is further expanded, listing items such as "Spill Location", "USACE Dams - Missouri River", "NWD Areas of Interest", "Flathead River", "NWK Flood Fight Locations" (checked), "Missouri River Basin", and "Ongoing Flood Fight". Other folders include "Inundation Models", "USACE Civil Works", "USACE Military", "NOAA Stormtracks", "Federal", "US Data", "World Base Map", "Imagery", "USGS Web Services", and "NRCS Web Services".
- Map View (Center):** Shows a topographic map of a river area. Key features include "Canon Breach", "Missouri River", "Kimsey Pumping Through Levee", "Canon", "Kimsey-Holley Pump Thru Levee", "Canon Test", "Warrt Over", "Overtop Pkg Lot", "Canon", "500r", "R500 Sta.12", "R500", "500 R 36+00 station? Aka Big Barn", "Fg", "Iowa Point", "497L Sinkhole At C", "500R Sand Boils In Ditch", "R500 Sta157+00", "497L Burrows4", and "486L Mill Creek Bridge Overtop".
- Query Results Panel (Right):** Displays search results for a query. It includes a table with "Name" and "Value" columns. Two results are shown, each with an image and a caption.

Name	Value
	
Caption	a line of sand boils in the drainage ditch. it looks like a sand lense surfaces here
Notes	
Collection	Sand Boil Point
Item	500R Sand Boils In Ditch
Date (CDT)	24 Jun 12:42 pm
Image/Video	
Caption	sand boils in the ditch
Notes	

The bottom status bar shows "Map Ready", "RI", "AR Off", "SV Off", "OV Off", "TF Off", "CS", "Dist", "Area", "NWK Flood Fight Locations", coordinates "-95.14864, 39.93672", and "LL (WGS84)".

Resources to Help You

- Help Desk
 - ▶ 1 -877-LEVEEUS
- Home Page About NLD Tab
 - ▶ Webinars
 - ▶ Information on upcoming events
- Home Page Help Tab
 - ▶ User Manuals
 - ▶ How to Quick Guides
- Home Page Contact Us
 - ▶ List of contacts for issues/comments



Levee Safety Program Principles



- Life-safety will be held paramount in the risk management decisions.
- Open and transparent communications with Stakeholders.
- Risk informed decisions.
- Shared Risk Responsibility and Accountability.
- NLD is one aspect of Levee Safety Program
- Recommendation of National Committee on Levee Safety to create national database of information



2011 Update on National Levee Database

DISCUSSION



BUILDING STRONG®

Contact Information

- Cathi Sanders Project Manager
Catherine.R.Sanders@usace.army.mil
- Bryan Baker Technical Project Manager
Bryan.E.Baker@usace.army.mil



Extra



The National Levee Database is a state of the art tool that can help the nation visualize, understand, and then effectively manage many of the complex issues related to levees and communities in which they are integral to, including how all levels of government can work together with the public to develop shared solutions to flood risk.

The NLD is a foundational element of the levee safety program in the Corps, as well as that envisioned for an eventual National Levee Safety Program.

The launching of the public access to the National Levee Database is our opportunity to work together to make the information complete, relevant, and powerful to all that have a stake in the levee environment

