



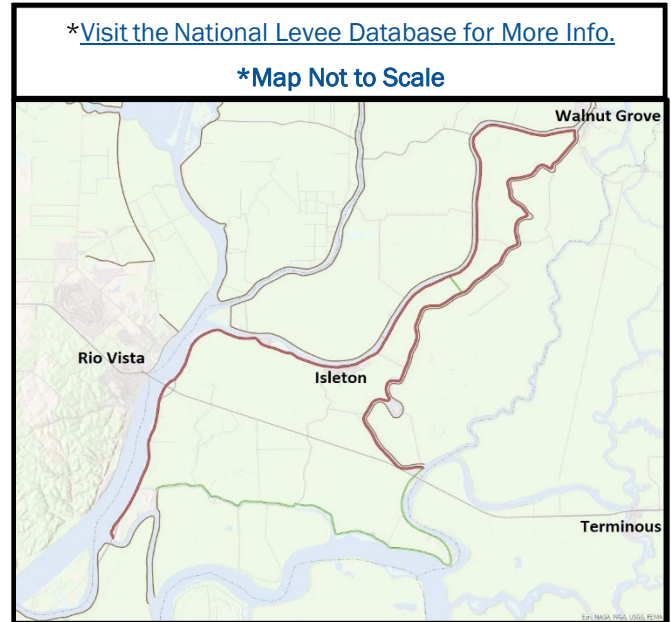
# KNOW YOUR RISK

## LEVEE INSPECTION RESULTS GUIDE FLOOD RISK PRIORITIES

### UNDERSTANDING YOUR RISK

#### What Was Inspected?

The map to the right shows the entire Brannan-Andrus LMD – RD 0556 levee system (red and green boundary lines). The enclosed area would be prone to flooding in the absence of a levee. The levee system reduces the risk of flooding for Brannan and Andrus islands from flood waters in the Sacramento River, San Joaquin River, Mokelumne River, Sevenmile Slough, and Georgiana Slough. The town of Isleton is the most populated area included in the leveed area with the rest of the Brannan and Andrus islands used as agricultural lands. About 29 miles of the levee system (red boundary lines, segments considered part of the federal project) were inspected in January and February of 2021 by the US Army Corps of Engineers (USACE). The southern boundary of the leveed area consists of three non-project levee segments (green boundary lines), which were not inspected by USACE. For more information about this levee system, visit the National Levee Database at <https://levees.sec.usace.army.mil/>.



#### What Did We Look For?

Anything that may negatively impact the levee integrity, inhibit operations and maintenance, or prevent emergency response personnel from conducting their operations (such as flood fighting) was noted. Flood risk and levee condition are dynamic. Levees change over time: banks erode, closures rust, animals burrow, and pipes wear out. Ongoing vigilance is needed to reduce the risk associated with flooding.

#### Levee Inspection Findings

USACE identified unacceptable items that could impact levee performance in future flood events. The most critical items impacting levee performance include encroachment, closure structure, slope stability, erosion/bank caving, animal control, vegetation growth, sod cover, settlement, depression/rutting, and riprap revetments & bank protection related issues. Based on the recent inspection, the referenced levee system is inactive in the Public Law 84-99 rehabilitation program. Activities underway to improve the levee system can be found in the REDUCING YOUR RISK section of this newsletter.

#### Example Inspection Observations



**Encroachments:** Unpermitted encroachments, such as the retaining wall shown above that cuts into the levee prism, have not been evaluated to determine the potential to negatively impact the levee.



**Animal Burrows:** Animal burrows into the levee slope may allow for a preferred path for floodwater. An effective animal control program can help reduce the risk associated with burrows.

## Example Inspection Observations—Continued



**Erosion of Levee Slopes:** The waterside earthen levee slope has eroded at different locations, likely as a result of river flows. Repair of the slope and placement of slope protection, such as riprap (rock), may protect the slope from additional erosion.



**Pipes Through the Levee:** Every pipe that extends through the levee needs a waterside closure, such as a valve or gate. This is to prevent possible flow of water from the river to the landside. Open pipes like this without closure can lead to potential flooding on the landside.

## REDUCING YOUR RISK

### Corrective Actions Underway

Two local maintaining agencies (LMAs) perform operation and maintenance activities for the Brannan-Andrus Levee Maintenance District (LMD) and Reclamation District (RD) 0556 levee system. These agencies include Brannan-Andrus LMD and RD 0556. Since the last USACE levee inspection (2011), improvements have been made in the categories of emergency flood fight supplies and equipment, flood preparedness, and emergency response training. In addition to enhanced routine maintenance, several repair projects have been completed to remedy issues such as seepage, settlement, and cracking. Over the last 15 years, Brannan-Andrus LMD has leveraged over \$50M in State and Federal grants to perform the enhanced maintenance, construct levee rehabilitation projects, and improve flood emergency preparedness. The LMAs are committed to continuing to work together to maintain and improve the levee system.

### Challenges

While great progress has been made, challenges lay ahead. LMAs will need landowner and State/Federal support to help with levee encroachment compliance. Additional grant funding is needed to continue the progress made over the last 15-years with enhanced maintenance and levee improvements. Changes in climate will make flood frequencies and flood volumes even more unpredictable.

### What You Can Do

Understanding your risk is important. But it's also important to know that when you live behind a levee there will always be flood risk. Here are some tips to help you prepare for a potential emergency.

- Make a plan for your family
- Build an emergency supply kit
- Visit [Ready.gov](https://www.ready.gov) for more ideas and resources

For more information on the USACE Sacramento District Levee Safety Program, please visit:  
[www.spk.usace.army.mil/Missions/Civil-Works/Levee-Safety-Program](https://www.spk.usace.army.mil/Missions/Civil-Works/Levee-Safety-Program)