

# SUTTER BASIN, SUTTER & BUTTE COUNTIES, CA FLOOD RISK MANAGEMENT PROJECT

22 October 2013



**Figure 1: Yuba City Levee Breach 1955**

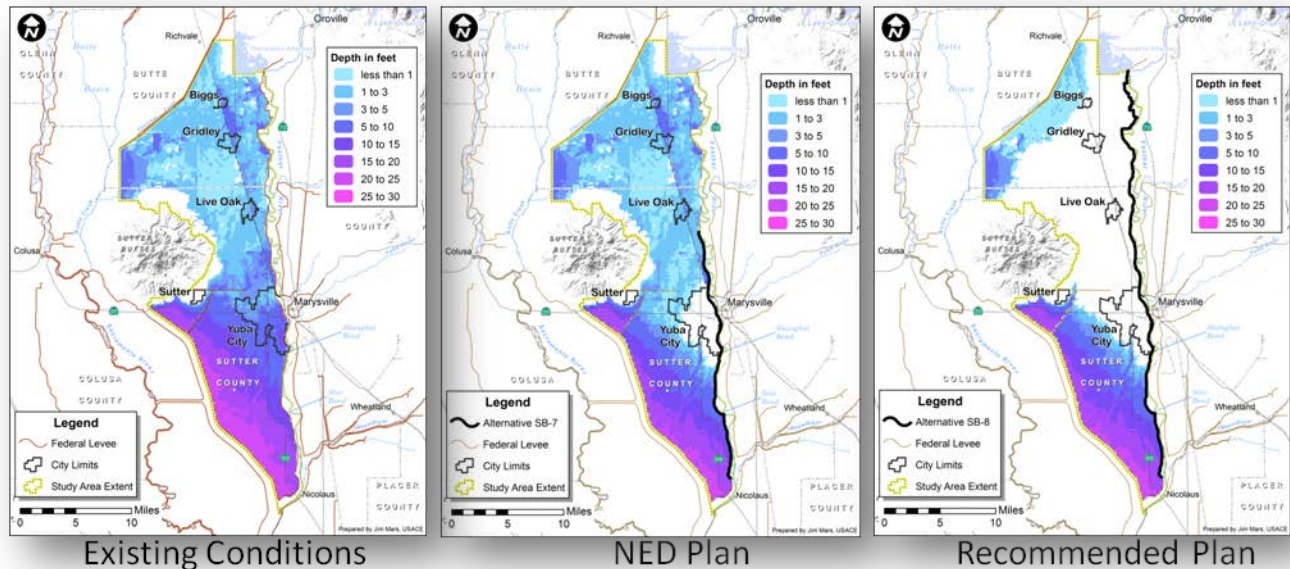
**ABSTRACT:** The purpose of the Sutter Basin Project is to reduce overall flood risk to the Sutter Basin study area consistent with the project objectives of reducing risk to life, health, and public safety, and reduce the risk to property damage due to flooding to the Sutter Basin area located in the Sutter and Butte Counties of California. The non-Federal sponsors are the State of California Central Valley Flood Protection Board (CVFPB) and the Sutter Butte Flood Control Agency (SBFCA).

The Sutter Basin is a 326-square-mile leveed area with a population around 95,000 people, and is located in northern California on the west bank of the Feather River. The study area is mostly encircled by historic project levees of the Sacramento River Flood Control Project (SRFCP), which was initially authorized by the Flood Control Act of 1917.

The Sutter Basin topography consists of interior broad and shallow floodplains with a northeast to a southwest flow toward the deeper southern basin. Floodplain modeling of existing conditions clearly shows that the leveed study area, excluding the highlands of the Sutter Buttes and the town of Sutter, has a high level of flood risk and significant public and life safety risk with potential levee breaches due to known geotechnical issues of underseepage and seepage through the levees on the eastern side of the Basin along the Feather River north of Yuba City.

Historically the Sutter Basin communities have experienced several flood events with loss of life and they continue to floodfight through every flood season. The residents, businesses, and local governments of Sutter Basin are keenly aware of their flood risk, which led them to create SBFCA, assess taxes specifically for reducing the flood risk, and formally seek partnership with CVFPB and the U.S. Army Corps of Engineers (USACE) to address flood risk with a feasibility study. When USACE's National Pilot Program for planning modernization was initiated in 2011, to develop a new risk-informed planning process paradigm, both SBFCA and CVFPB readily supported and signed on to be part of the developing and fast-moving pilot program to move the study to a faster execution.

Through the Pilot Feasibility Study formulation process, a National Economic Development (NED) Plan was determined and its residual flood risk evaluated. This residual risk evaluation identified a Locally Preferred Plan (LPP) that best addressed the residual risk of the NED Plan through additional fix-in-place levee measures. This LPP was approved by the Assistant Secretary of the Army for Civil Works and was identified as the Recommended Plan (See Figure 2).



**Figure 2: Comparison of Residual Flood Plains (1% ACE Composite Flood Plains)**

The Recommended Plan would further reduce the flood risk and address the residual risk left by the NED Plan for the northern population towns and the majority of Yuba City, and satisfy State of California urban area flood risk criteria as per the State Senate Bill 5.

The estimated total first cost for the Recommend Plan is \$688,930,000 (October 2013 price levels), for which the Federal share is estimated at \$255,268,000, and the non-Federal share is estimated at \$433,662,000. Federal cost sharing is capped at 65% of the NED plan as stipulated by the ASA (CW) in the memo approving the LPP policy exception. The non-Federal sponsors are responsible for operation, maintenance, repair, rehabilitation and replacement, at an estimated annual cost of \$450,000. Average annual flood risk reduction benefits are estimated at \$51,000,000. The Recommended Plan has an overall benefit-to-cost ratio of 2.4.

**REPORT DOCUMENTATION:** Pertinent documentation on the project, the results of the Civil Works Review Board, and subsequent Washington-Level Review Actions, are linked below:

- CWRB Agenda
- [Project Summary](#)
- [CWRB Briefing Slides](#)
- [CWRB Lessons Learned](#)
- CWRB Meeting Record
- State & Agency Review Comment Letters
- Documentation of Review Findings
- [Signed Chief of Engineers Report](#)
- [Advance Copy to Congressional Committees](#)
- ASA(CW) Memo to OMB
- OMB Response
- ASA(CW) Transmittal to Congress
- Signed Record of Decision
- Authorization

**ADDITIONAL INFORMATION:**

[South Pacific Division](#)

[Sacramento District](#)