



*To advance the economic, social and environmental sustainability of Northern California  
by enhancing and preserving the water rights, supplies and water quality.*

## **Flood Protection in the Sacramento Valley Lessons Learned During the February Flood Threat February 27, 2017**

The past couple of weeks have been harrowing in the Sacramento Valley. On February 12, over 180,000 people on the east side of the Valley were ordered to evacuate due to concerns that Oroville Dams' emergency spillway could fail. With no advance warning, families fled for their lives. Businesses and whole communities were shut down for nearly a week, while the list of unanswered questions regarding this crisis grows longer. On the west side of the Sacramento Valley, the town of Maxwell flooded as a result of fast rising creeks. Throughout the Valley, the Feather, Sacramento, Yuba, American and other smaller streams continue to run dangerously high, pressing against levees, some of which were built nearly a century ago. Given that the entire region is saturated, communities are vulnerable to future storms and associated flood risks for the next several months. The Sacramento Valley's brilliant bypass system is again working remarkably well and showing its value by helping convey water away from cities and rural communities.

The flood risk is real. Thousands of families, their communities, their property and their livelihood are potentially in harm's way over the next several months. As local, state and federal officials evaluate the current flood dynamic and take steps to minimize the immediate threat (and lessen future threats) the Northern California Water Association has assembled a team of local agencies and experts. We offer the following recommendations:

- 1) Public safety is California's first priority. We strongly encourage the immediate development and implementation of a comprehensive plan by local, state and federal agencies to ensure public safety. A task force of leading individuals should be assembled immediately, reporting directly to the Governor. With the pattern of storms this year, several more months of the precipitation season remaining, and a fully saturated Valley, now is the time to re-double immediate efforts to fully manage flood flows in a safe manner that is protective of people and communities. This should include:
  - **Transparency in Communications.** The Department of Water Resources (DWR) must become more transparent during a crisis. Millions of people live downstream of Oroville Dam (including essential state infrastructure such as the State Capital) and people need to be given essential information regarding the Oroville complex and the other components of the flood protection system. It is important to understand that the recent evacuation process and the apparent risk to the region has led to many questions. DWR and other state and federal agencies must recognize the need to make a concerted effort to re-establish trust by communicating with people in the region in a straightforward and direct manner.

- **Immediate repairs to Oroville Dam.** We appreciate and further encourage the efforts by state and federal agencies to continue emergency actions at Oroville dam, the two spillways and powerhouse to physically shore up the facility to help get through the next several months. We strongly encourage the state to retain qualified private sector experts to assist the state and federal agencies in the design, planning and construction repairs to these facilities.
- **Assistance to local flood agencies.** Local Sacramento Valley flood control agencies, such as flood control districts, levee districts and reclamation districts, have recently mobilized to ensure levee stability and to protect people and property. After engaging in weeks of 24/7 work, including constant patrols, flood fights and emergency repairs, these people are unsung heroes, deserving of recognition for their tireless diligence. This recent crisis, however, has revealed, that, despite significant investments in flood protection, many of these local agencies still need additional logistical, technical and financial support to help protect these communities from flooding. Importantly, it appears that high water will be flowing against many of these levees for the next several months. This “elevation in time” presents serious structural risks for levees and related flood infrastructure. State and federal agencies should clearly recognize this risk and immediately be prepared to support these agencies to fight local breaches and to better prepare the levees to withstand this constant water pressure. Funding is often the most essential limitation for the local interests.

In this regard, we appreciate the Governor’s February 24 statement for near-term actions and particularly the Department of Finance letter calling for “Acceleration of Flood Control Investments” from Propositions 1 (flood protection component), 1E and 84. We encourage these funds and additional funds to be distributed as quickly as possible to high-priority areas in the Sacramento Valley.

- **Preventative Efforts in Dire Situations.** There seems to be general dynamic where flood protection efforts seem to wait until there is an emergency. Rather than wait for the emergency, the state and federal agencies should instead focus near-term efforts where there are dire situations that can be addressed before the emergency occurs.
  - **Coordinated Operations.** There have been many encouraging efforts that have been quietly helpful. For example, several local, state and federal agencies are coordinating their weather forecasts, water storage and river conditions, and facility management in a successful effort called the Forecast Coordinated Operations program. This collaborative endeavor includes DWR, the National Weather Service, Yuba County Water Agency, and other agencies who share information and management decisions to increase public safety.
- 2) The second priority is assuring availability of water supplies. Once we get through the immediate challenges for public safety this spring, there will need to be a concerted effort to make sure that Feather River water supplies are fully available throughout this year for numerous water suppliers in Northern California and throughout the state. Areas dependent

upon Feather River water supplies have suffered from reductions during the recent drought and full deliveries this year are important to help balance water supplies throughout the state. This will require coordination between water suppliers, DWR and its Division of Safety of Dams to assure that repair and maintenance plans are fully coordinated with water supply needs and no efforts are taken that limit the availability of water supplies.

- 3) The third priority is to sort through this year and learn from the experiences once public safety and water supplies are assured. We know the past several weeks are a powerful reminder that the Sacramento Valley is a major floodplain and the water system is first and foremost a flood protection system. There will need to be serious deliberations to assure that this flood dynamic does not occur again. We know that there have been repeated challenges at the Oroville complex over the past decade that will need to be addressed and there will need to be a major re-investment in the Oroville complex to modernize the dam and all of its related facilities. Other issues have to be examined. For example, there was also an additional one million acre-feet of water in Lake Shasta at the beginning of this water year as a result of conservative water management for salmon, which has proven extremely challenging for the Bureau of Reclamation to manage for flood protection without inundating the City of Redding and other areas in the Sacramento Valley. There will also need to be long-term investments by local agencies, matched by state and federal funding, to increase flood protection.

Additionally, these events have shown the need for progressive and modern water management. The recent transition between severe drought and a nearly catastrophic flood is a powerful reminder that we need storage to protect people in wet years and to serve various beneficial purposes in dry years, including cities and rural communities, farms, fish, birds and recreation. An off-stream regulating reservoir on the west-side of the Sacramento Valley (Sites Reservoir) is critical for all these important purposes in the Sacramento Valley, as well as providing statewide water system operational improvements. As of last week (mid-February), Sites Reservoir could have added 1 million acre-feet of water this water year, which could have helped avoid flooding in the town of Maxwell and would have taken pressure off the water system, while helping to save water for future years. This year clearly shows the benefit Sites Reservoir would have provided not only to local communities in Maxwell, but throughout the Sacramento Valley.

With the recent the interest in flood protection, there are many good resources. For a comprehensive understanding the flood control system in the Sacramento Valley, we recommend Robert Kelley's, *Battling the Inland Sea*. For a good local perspective, see George Basye's *Battling the River: A History of Reclamation District 108*.