

House Committee on Transportation and Infrastructure
Subcommittee on Water Resources and Environment
Complete Statement by Mike Inamine
Sutter Butte Flood Control Agency
January 18, 2018

Good morning Chairman Graves, Ranking Member Napolitano and members of the Committee. My name is Mike Inamine, Executive Director of the Sutter Butte Flood Control Agency (SBFCA). Thank you for the opportunity to update this Committee on our efforts to manage flood risk on the Feather River just below Oroville Dam in northern California. Before beginning my testimony, I wish to acknowledge Congressmen LaMalfa and Garamendi; they are true partners who have supported our region's efforts from day one and throughout this remarkable past year. I would also like to thank the Chairman for his personal interest in the US Army Corps of Engineers' (Corps) project delivery process. As I will share in my testimony, SBFCA has benefitted from recent changes implemented by the Corps and a 21st century financing approach to deliver just-in-time flood protection that will hopefully support a new start construction designation in the forthcoming Corps work plan for fiscal year 2018 (FY18).

Background

I won't revisit the agency background provided during my previous appearance before this committee, but some brief context may be useful.

The Sutter-Butte Basin (Figure 1) covers 300 square miles along the west bank of the Feather River immediately downstream of Lake Oroville, the site of the spillway failure in February 2017. The basin is home to 95,000 residents and encompasses \$7 billion of damageable assets. The region has endured numerous floods, including the 1955 levee failure on the Feather River, which resulted in the deaths of at least 38 people. Numerous projects and programs have been implemented in the basin over the years to reduce flood risk, including the 36-mile, SBFCA-led Feather River West Levee Project (FRWLP) that began construction in 2013 and is now largely complete. All recent work has been funded by the State of California and a local assessment. Moreover, all work is consistent with Corps criteria and regulations, leaving just five miles of levee repairs to complete the federally authorized project. In other words, nearly 90 percent of the federal project originally authorized in 2014 has been completed at non-federal expense. If the project is given a new start designation in the 2018 work plan, the entire project can be completed within two federal fiscal years.

Expedited Section 408 Permission

When I appeared before this Committee last March, we were still regrouping in the aftermath of the near-failure of the spillways at Oroville Dam, the single most important flood control structure on the Feather River. For those of you who haven't spent much time in Northern California, it's important to note that the Feather River is the discharge channel of Oroville Spillway. My testimony at that time focused on a project-wide 408 permission that allowed

SBFCA to begin immediate repairs on the levee, again at 100 percent non-federal expense. The permission took almost two years to secure and our frustrations with the process are well documented in my earlier testimony. However, those efforts were immediately repaid, as all levees repaired by SBFCA performed well during this challenging year. Not surprisingly, the unimproved levees awaiting federal assistance--and in one case, federal permission--sustained significant damage and nearly failed.

Despite record rainfall, the Feather River water levels in 2017 were rather modest, yet damage to unimproved levees along the Feather River was significant. Typically a distressed levee undergoes two types of actions during and following a flood event. "Flood fights" consist of rapid and temporary construction that allows a distressed or failing levee to withstand the current flood event, and does not conform to an engineering standard. On the other hand, "Levee repairs," including those performed on an emergency basis, are permanent and meet current engineering standards. Levee repairs quite often require Section 408 permission as administered by the Corps. During the 2017 flood event, SBFCA and the State of California spent approximately \$5 million on flood fights and another \$28 million on levee repairs. I would like to highlight two locations that required flood fights and subsequent levee repairs.

The first location provides protection for 20,000 residents, as well as the major evacuation route that was used during the evacuation of 188,000 people during the Oroville Dam incident. A flood fight took place over five miles of unimproved levee, including the rapid placement of rock berms to avoid levee failure. Unsurprisingly, this site included the remaining authorized federal project that now awaits a construction new start and federal appropriations. Notably, the most deficient one-mile reach of levee was slated to be repaired by SBFCA prior to the 2017 flood season, but was delayed due to Section 408 procedures. SBFCA has since completed this critical levee repair. This year we experienced the very real public safety and financial risk associated with these types of delays in project delivery.

The second location is directly adjacent to downtown Yuba City and provides flood protection to 75,000 residents. This three-mile stretch of failing levee also required a flood fight during the 2017 flood season, followed by extensive repairs to provide reliable performance for the next flood season. 408 permission for this three-mile-long levee repair would normally take years to acquire. To their great credit, the Corps granted permission in about five weeks, facilitating the completion of a \$28 million levee repair just in time for the current flood season. Again, 100 percent of this cost was at non-federal expense. This expedited 408 approval was made possible by regulatory reform underway under the leadership of Corps Civil Works Director James Dalton. Following are some important takeaways from this project that have broader implications:

- 1) Oroville Dam: Without the national attention paid to Oroville Dam and the declared emergency, Corps 408 permission would not have been granted in time to finish the project before the subsequent flood season.
- 2) Engineering and Construction: SBFCA already had a deep team of experienced design consultants and construction resources in place and working on the FRWLP, thus the

design and construction spun up rapidly. This is rarely the case for levee emergencies, particularly in rural and/or economically disadvantaged areas of the Central Valley.

- 3) Funding and Financing: SBFCA financed the repair with bond proceeds intended for other work, and the State of California promptly committed to reimburse SBFCA.
- 4) Federal Permission: In contrast to Section 404 (Clean Water Act), Section 408 lacks emergency procedures. To access the more practicable 404 process, SBFCA was put in the awkward position of mapping just enough fill areas to create an impact on Waters of the US, while avoiding undue mitigation costs. This permission system doesn't function for emergency projects – only those who “game the system” will construct the necessary repairs.

Routine Section 408 Permission

Local agencies can often execute projects that were formerly the domain of Corps Civil Works faster, cheaper and sometimes even better if only due to the high motivation of those directly protected by these projects. Delivering the large or mega-projects is clearly best left to the Corps, but 408 projects that fulfill or complement most Civil Works projects should not only be accommodated but promoted by the federal government. We were pleased and grateful for the opportunity to comment on the Director of Civil Works', Memorandum for Major Subordinate Commands and District, Subject: *Further Advancing Project Delivery Efficiency and Effectiveness of USACE Civil Works* dated June 21, 2017, as documented in our comments with our fellow California Central Valley flood agencies in the letter dated October 17, 2017. We believe these recommendations not only support the Corps' primary mission for risk reduction but also leverage the efficiencies of local agencies by delivering more project for less money.

21st Century Corps Partnerships

Despite successfully navigating a difficult 408 process and constructing the vast majority of the federally authorized project, SBFCA now struggles to secure federal funding to finish the final five miles. California flood agencies like SBFCA are models for 21st century financing partnerships within the Corps process by bringing higher percentages of non-federal money to the table and delivering timely, Corps-compliant projects. However, SBFCA's efforts are not prioritized by the federal government as the project moves from the study to the budgeting phases of implementation.

As the non-federal sponsor, SBFCA has spent \$310 million to improve 36-miles of levee out of the total 41-miles of federal project authorized in 2014. What remains out of the \$689 million federally authorized project is just five miles of work at a total estimated cost of \$77 million. The federal cost share of the remaining project is \$49 million, which essentially leverages \$640 million of federal construction by non-federal sponsors—a fantastic deal by any measure. Furthermore, this calculation does not account for the early delivery of project benefits by SBFCA: since project benefits were realized years or perhaps even a decade before federal implementation, the benefit-cost ratio is significantly increased for the project. Our approach has been well received within the Administration and we are hopeful that our request for

funding to complete the federal project will be prioritized in a highly competitive environment. We are close to completing this authorized federal project, but we have exhausted our resources and simply cannot complete it without federal appropriations.

Thoughts on the Oroville Dam Incident

The Oroville spillway incident was a wake-up call for civil engineers around the world. Once again, we are reminded that infrastructure falls apart without ongoing, thoughtful investment. Just because a structure performed well for 50 years (or for levees, 150 years) is no assurance it will perform well tomorrow.

Historically, all major levee failures in our region have occurred before the water reached the top of the levee. Thus, while Oroville captured everyone's attention due to extensive media coverage and the catastrophic consequences of spillway failure, a rigorous risk assessment may well disclose that the biggest potential threat facing our community would be the sudden, unanticipated failure of the Yuba City levee in the middle of the night. This is due to the fact that dams and downstream levees are an integrated system, yet are built to wildly different standards. This disparity needs to be addressed for all public safety infrastructure before we spend limited public monies.

And finally, "stuff happens." Regardless of our preparations and planning, unexpected events will always occur. The importance of building resilience—the capacity to absorb the unexpected—into all of our major public safety structures was highlighted during this event, not only at the Oroville spillway, but throughout our imperfect and aging levee system. Whether for climate change, a spillway gate failure, changes in engineering practice, or a whole host of unknown unknowns, resiliency can and should be built into public safety infrastructure.

Path Forward

There are a number of measures that would greatly improve project delivery of important risk reduction projects, whether performed by local, State, federal or even private entities:

- 1) Don't rely on emergencies to get work done.
- 2) Public safety has already benefitted from the recent direction of Corps Civil Works Director James Dalton to delegate 408 authorities to Division and District offices. We applaud his appreciation for real-world difficulties faced by local agencies and hope to see these changes expanded and formally codified.
- 3) Prioritize Corps resources based on risk reduction delivered by a project. Currently, Corps Civil Works projects are prioritized over 408 projects, despite the fact that many California projects are large and strategic, delivering more public benefits and/or realizing those benefits faster than competing Civil Works projects.
- 4) Investment decisions would benefit from risk assessments of the entire flood control system that includes dams, levees, appurtenant structures and floodplains. At the

same time, we fully appreciate that years-long risk modeling could result in further delay of urgently needed risk reduction.

- 5) We look forward to implementation of the WRRDA 2014 pilot project that explores local agency construction of traditional Civil Works projects as well as other proposals to facilitate local or even private construction of these same projects.

Thank you for holding this hearing and your continued attention to these important issues.

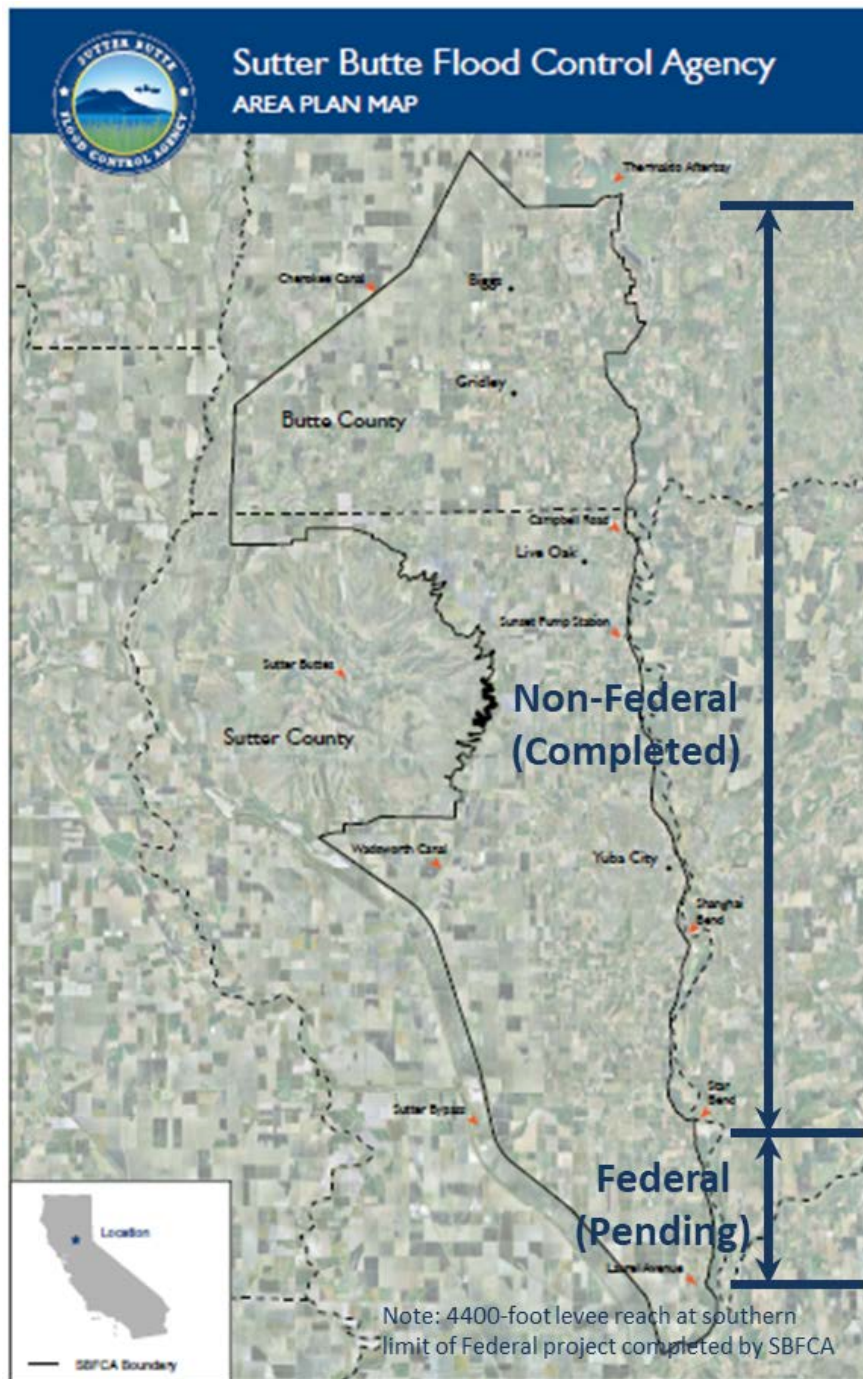


Figure 1. SBFCA Area Map showing limits of Feather River West Levee Project (Non-Federal) and Sutter Basin Flood Risk Management Project (Federal).