



*Resources • Flood Control • Water Rights*

## MEMORANDUM

**DATE:** December 4, 2015

**TO:** Interested Stakeholders

**FROM:** Ric Reinhardt

**SUBJECT:** Changes in Administration of the NFIP to benefit Agriculture in the Sacramento Valley

*Prepared on behalf of the Lower Sacramento River/Delta North, Feather River, and Middle and Upper Sacramento River Regional Flood Management Planning Areas*

### Introduction

Rural and Urban Flood Management Agencies in the Sacramento Valley have been working with the California Department of Water Resources (DWR) and the Central Valley Flood Protection Board (CVFPB) to develop a vision of Flood Management for the entire Central Valley, including the rural portions of the Sacramento Valley.

Agriculture is the dominant land use in the Sacramento Valley and represents a necessary and vital component of our State's economy. Maintaining rural open space and agriculture is also an integral component of prudent floodplain management. Keeping land in agriculture prevents the conversion of the land to development. This helps to limit the population at risk in these basins and also helps to minimize damageable property. At times these agricultural lands might act as temporary storage during extreme high water events. Due in part to their connection to the land, farmers have traditionally helped to maintain levee systems adjacent to their operations better than urban neighbors. Finally, farmers are uniquely situated to assist with monitoring and flood fighting during high water events.

Thus, ensuring the long-term sustainability of agriculture in the floodplain is a fundamental goal of State and local agencies in managing flood risk in the Sacramento Valley. While agriculture in the Sacramento Valley is facing a number of challenges, the most significant threat from a flood management perspective are the changes FEMA has made to the Flood Insurance Rate Maps (FIRMs) that are used to administer the National Flood Insurance Program (NFIP). Improvements to FEMA's administration of the NFIP can have the dual benefit of promoting both wise use of the floodplain and helping agriculture avert disastrous impacts of FEMA's floodplain mapping under current policies and regulations. This paper discusses such an approach.

### Impacts of NFIP on Agriculture in the Floodplain

Through the NFIP, communities (cities and counties) regulate development in areas subject to flooding from a base flood, or a flood that has a 1-percent chance of occurring in any given year. Through the 1970s and 1980s, FEMA comprehensively mapped all communities in the United States to be either within, or not within, the base floodplain and thus appropriately delineated on FIRMs. The levee system in the Sacramento Valley is administered by the United States Army Corps of Engineers (USACE) under the authority of the Sacramento River Flood Control Project (SRFCP). At the inception of the NFIP, the USACE identified the SRFCP levees as meeting FEMA's 100-year requirements, which at the time was based on confirmation that the levees had three feet of freeboard when subjected to the 100 year flood. As a result, the original FIRMs for the SRFCP showed areas protected by levees to be in a Zone X (outside the base floodplain), not a Special Flood Hazard Area (SFHA) which is bound by the requirements of the NFIP floodplain development regulations.

In 2001, the Map Modernization Program was initiated by FEMA to update FIRMs that had become outdated and digitize those maps to reduce paper use and make them more easily accessible by the public. As a result of FEMA's Map Modernization Program and the limited financial ability of most rural communities to improve their levee systems to meet FEMA's current 100-year certification criteria, these rural agricultural communities have largely been, or will be, remapped into an SFHA. The restrictions on development in an SFHA, while effectively curbing development in the floodplain, do not provide the flexibility needed to sustain agriculture for communities that are only now being mapped into SFHAs. The strict regulations have made reinvestments, such as agricultural operation facilities, commercial facilities in support of agriculture, equipment repair facilities, livestock and crop processing facilities, and housing for agricultural operators or temporary farm workers financially infeasible and/or unattainable in these areas. In addition, because structures were constructed prior to floodplain restrictions, the existing structures were not designed with FEMA regulations regarding flood insurance in mind. However, as currently implemented, the result of the NFIP policies will be to replace vibrant agricultural communities with rural "ghost towns," which will have long-term, adverse impacts to the State's economy. In addition, once agricultural operations are not financially viable, land prices drop making these basins attractive places for future development. And while such development would come with levee improvements, it also comes with significant increases in residential risk.

### 2012 Central Valley Flood Protection Plan

The local agencies' vision for flood management in the Sacramento Valley was first established in the "Rural Flood Protection in the Sacramento Valley in Support of the Central Valley Flood Protection Plan (CVFPP)". This report was prepared by the Sacramento Valley Flood Control Action Work Group in November, 2011. This is a committee of the California Central Valley Flood Control Association (CCVFCA). The report provided in relevant part:

FEMA's current flood insurance rate map designations do not recognize the unique issues that agriculture faces in the Central Valley. These issues will have a profound effect on the continued viability of the rural and agricultural communities in the floodplain.

While we recognize that the federal flood insurance program is not administered by the State of California, we feel it is essential the State join with the rural interests to pursue changes to the NFIP that would create a new flood zone designation that would allow agriculture to remain viable in these rural areas. The benefit of this new zone would not only benefit California but the rest of the nation as other regions face levee decertification resulting in large swaths of agricultural areas being mapped into the regulatory floodplain.

The CVFPP, prepared by DWR and adopted by the Central Valley Flood Protection Board (CVFPB) in 2012, recognized the effect that FEMA's policies would have on the sustainability of agriculture in the floodplain. The CVFPP states in relevant part:

The State will work with FEMA's National Flood Insurance Program to promote the continued sustainable rural-agricultural economy and to examine opportunities to provide affordable flood insurance for low risk agricultural and farming structures in the floodplain.

#### A Renewed Effort to Improve NFIP Administration for Rural Areas

Since passage of the NFIP, the passage of Biggert Waters 2012 and subsequent legislation to stay its implementation have heightened concerns that current FEMA administration of the NFIP will have devastating consequences for the agricultural economy in floodplains. The farming community and local flood agencies have articulated their concerns in regional planning efforts and have formed a loose coalition to advance improvements. In addition, DWR has recently approved a grant to the Sacramento Valley flood management interests to pursue changes to the NFIP that could be approved within FEMA's administrative authority, meaning legislative changes would not be needed. While the grant identifies specific changes that will be explored, the intent is to be flexible enough to adapt to changes that have broad support from property owners, land use agencies, local and state Farm Bureaus and flood management, and environmental NGOs.

The scope for this effort proposes to explore three options that include:

1. Use of relief cuts to lower base flood elevations – This task would create an emergency response plan to excavate or remove portions of a levee in advance of, or immediately following, a flood that overwhelms levees, dams and/or other infrastructure of the protected basin. This plan would be coupled with (1) a floodplain mapping procedure, (2) flood zone designations, and (3) a floodplain management ordinance. The floodplain management ordinance is envisioned to limit residential development in the area that would be relieved of flooding by the levee relief cut.
2. Use of FEMA's existing Zone D – This task would explore the potential to use FEMA's existing FIRM Zone D designation and would involve drafting a model floodplain management ordinance that is envisioned to limit new residential development but allow for other structures that support agriculture and look at options to reduce the flood insurance rates for these areas.
3. Develop a wet floodproofing ordinance for agricultural structures – This task would include drafting recommendations for changes to FEMA's floodproofing requirements to accommodate the unique aspects of structures that support agriculture in the Sacramento Valley.

Other options that have been suggested include establishing a flood risk management model for rural areas that could allow for lower flood insurance rates or expanding the use of variances for agricultural structures. Such an approach would allow FEMA to develop a more actuarial rate based on assessing a series of risk factors, in contrast to FEMA's current approach which assumes that no levees exist to protect the rural basins. This approach may include the following actions:

1. Documentation of measures taken to eliminate or reduce non-agricultural development: conservation easements, zoning, agricultural easements, Williamson Act lands, agricultural mitigation fees, development impact fees, floodplain mapping, flood easements and other locally imposed floodplain management measures.
2. A written history of past levee performance with documentation of actions taken to address deficiencies. This will work best for basins that have not had a failure or ones that have had few failures with significant post-flood investment to correct the problems.
3. A basin emergency response (including flood warning and notification systems) and recovery plan.
4. A relief cut plan as described above.
5. A well-funded operation and maintenance plan with a record of maintaining the levee to a high standard.
6. An assessment of the levee system with:
  - a. Risk-based investment to correct known deficiencies.
  - b. A flood fight plan that identifies resources (personnel, equipment, supplies, funding) including regional coordination and mutual aid agreements. Annual documentation of flood fight training. Basin-wide, risk-based execution that includes prioritization of critical sites (item c. below), repair protocols (including design drawings) and advance measures.
  - c. A reasonable estimate of the likely frequency of inundation of the basin (to demonstrate low risk to the NFIP). This includes refinement of existing DWR fragility curves for all rural basins in the 2012 CVFPP model with new information and improvements.

The goal of this rural flood risk management model is to demonstrate how flood risk in a rural basin can be managed with little additional financial exposure to the NFIP while still allowing agriculture to thrive in these floodplains. Moreover, these measures may reduce the rising rate of risk in California floodplains over the long-term by supporting agricultural sustainability over development pressures that might otherwise occur.

The efforts identified above will be initiated in January, 2016 with the goal of completing these tasks by the end of 2016.



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