

## ITEMS TO BE HEARD

### 3860 DEPARTMENT OF WATER RESOURCES 0690 OFFICE OF EMERGENCY SERVICES

#### ISSUE 1: EMERGENCY FLOOD PROPOSALS

The Governor proposes to amend the current year budget with the following:

- \$387.1 million from Proposition 1 and 102.4 positions for the Department of Water Resources (DWR) to accelerate flood control projects over the next two fiscal years.

	Program Areas	Prop 1 Available	Total Appropriation
Delta	Urban Flood Risk Reduction	\$295	\$65
	Delta Levee Subventions		\$27
	Delta Special Projects		\$57.1
	"Statewide" Flood Risk Reduction		\$130
	Emergency Response		\$10
Central Valley & Coastal Watersheds	Coastal Watershed Flood Risk Reduction	\$100	\$27
	Central Valley Tributary Projects		\$50
	"Systemwide" Flood Risk Reduction		\$21

*\*Dollars in millions*

\$387.1

- \$3.0 million ongoing from the Dam Safety Fund for DWR to support 8 new positions to develop a focused Safety Re-Evaluation Program for a detailed review of appurtenant structures, beginning with the evaluation of 108 large spillways considered to pose the greatest downstream risk if they were to fail.
- \$5.3 million for DWR and Office of Emergency Services (OES) and 14 positions to implement a comprehensive approach to dam safety by requiring the development and review of inundation maps and emergency action plans.

These proposals are intended to address the aftermath of the recent atmospheric river storms.

**BACKGROUND**

**Flood Conditions in 2017:** The heavy rainstorms in recent months, referred to as “atmospheric rivers,” have reduced the areas in drought conditions to a small part of Southern California, according to the US Drought Monitor. Northern California has recovered from the five-year drought. Much of the Sierra Nevada, which provides the water supply for much of California, saw its rainiest and snowiest October-February period on record. The heavy precipitation has caused flooding, levee breaks, and sinkholes in some regions. These events, most notably the Oroville spillway breach, have generated concern over California's flood protection infrastructure. Even after the rains stop, the record high snowpack in the mountains could potentially generate more big flows in the late spring.

**Proposition 1** is a \$7.5 billion water bond measure approved in November 2014. The bond included a total of \$395 million for flood management projects. The bond language requires that all of the funding be allocated for “multi-benefit projects that achieve public safety and include fish and wildlife habitat enhancement.” Of the \$395 million total, \$295 million is specifically reserved to reduce the risk of floods and levee failures in the Sacramento-San Joaquin Delta. The remaining \$100 million can be used anywhere in the state.

**DWR's Dam Safety Program** is comprised of four basic safety activities; they include annual maintenance inspections, construction oversight, application reviews, and re-evaluation of existing dams.

There are 1,250 dams in California subject to the program and are inspected annually. These dams are currently classified in three categories consistent with federal definitions; high hazard (678), significant hazard (271) and low hazard (289). Two dams are under review for classification.

The current inspection process focuses heavily on the dam itself and includes a visual inspection of the appurtenant structures. The re-evaluation component of the program over the last 10 years has focused on the highest risk to California dams including a seismic re-evaluation of dams in areas that have a high probability of a major earthquake occurring. The recent seismic re-evaluation program has led to over \$1 billion in repairs to dams.

**Emergency Action Plans** are a critical component of a strong dam safety program. The plans outline the action steps that are taken to protect life and property. They include components of detection measures through inspections and maintenance, determinations of emergency levels based upon the threat of flooding, notification protocols for local government and the public, and other preventive measures dam owners/operators can take. The emergency plans utilize dam inundation mapping to guide actions and notification protocols since they show the potential area of flooding and its impacts.

**Inundation Maps**, which provide the basis for Emergency Action Plans, are maps that show where flooding may occur should a flood control system fail. It includes downstream effects and shows the probable path by water released due to the failure of a dam or from abnormal flood flows released through a dam's spillway and/or other appurtenant works. Furthermore, these maps are currently only required for a sunny day full dam failure scenario, and do not take into account a failure of an appurtenant structure or failure of downstream flood facilities such as a levee breach. Additional inundation maps are also needed for other critical flow control structures and saddle dams, which will be identified by DWR.

These maps are created at the time a dam is built or enlarged and are only required for a complete sunny day dam failure scenario. They do not take into account a failure of an appurtenant structure as occurred at Oroville. The DWR Division of Safety of Dams currently has no enforcement power to mandate completion of Emergency Action Plans or inundation maps.

**The Governor's Proposal.** With the requested resources, the Governor proposes for DWR to do a complete a reconnaissance of the geologic, hydraulic, hydrological, and structural adequacy of the identified 108 largest spillways in the State by October 1, 2017. By January 1, 2018, DWR will complete a thorough site investigation and evaluation of those spillways that are found to be potentially at risk. Immediate action such as emergency repairs or reservoir operation restrictions will be required of dam owners as necessary to reduce the risk of any spillway identified to be in poor condition as a result of the study. DWR will complete evaluations of the remaining spillways by January 1, 2019 and direct dam owners to make required repairs or restrict reservoir operations as needed.

The Governor proposes for DWR to re-classify jurisdictional dams as extremely high, high, significant or low risk. The DWR will require inundation maps and Emergency Action Plans for all jurisdictional dams allowing a waiver for low hazard dams. During regular inspections, DWR will track any dams where the hazard classification has changed and reassess the waiver as necessary.

The DWR will identify which scenarios beyond a complete dam failure require a separate inundation map. The dam owner will create the inundation map and submit to the DWR, which will be reviewed and approved by DWR's Division of Flood Management. The approved maps will then be posted publicly on DWR's website and linked to Cal OES' website.

Dam owners will be responsible for creating Emergency Action Plans in accordance with federal guidelines and based on their updated inundation maps. Cal OES will provide guidelines regarding the coordination between dam owners and local emergency management agencies to create local emergency response plans. Dam owners will submit the plans through DWR, who will work with Cal OES to review and confirm that plan components are acceptable for incorporation into and to guide local emergency response plans.

The dam owner will send the final Emergency Action Plans and inundation map to DWR, Cal OES and local emergency management agencies.

Cal OES will coordinate emergency response drills with dam owners and local emergency management agencies. The dam owner will be required to update the Emergency Action Plans regularly in accordance with federal guidelines and update the inundation maps every ten years or sooner if there is a change in dam status or change in downstream risk.

The proposal will provide DWR additional enforcement power over dam owners who are not complying with the new emergency plan/inundation maps requirements. The proposal will propose revisions to the Water Code to incorporate penalties such as fines and reservoir operation restrictions when dam owners violate DWR's directives and orders.

#### STAFF COMMENTS

As the climate changes, our flood control systems will continue to be pushed to the limit with extreme drought conditions and extreme rainstorms. We are mid-way through the rain season, but there is still a lot that we don't know in terms of additional risks and vulnerabilities in the flood infrastructure. Although there are immediate funding needs, it is important to find a sound solution. Here are some issues to consider when weighing this proposal:

- **What is the rationale for an urgent appropriation?** If passed in the next couple of weeks, we are looking at approximately a three-month advantage. Further, the proposal only dedicates \$10 million for emergency response activities. The administration already repurposed \$50 million of deferred maintenance funding for emergency needs.
- **Would these funds take us to a 200-year flood protection in all major metropolitan areas?** In 2007, the Legislature set 200-year flood protection (i.e. 1-in-200 chance of flooding every year) as the minimum for urban development in the Central Valley floodplain.
- **Are the various deadlines in the proposal feasible?** The proposal requires DWR:
  - By October 1, 2017, to complete a reconnaissance of the geologic, hydraulic, hydrological, and structural adequacy of the identified 108 largest spillways in the State.
  - By January 1, 2018, to complete a thorough site investigation and evaluation of those spillways that are found to be potentially at risk.
  - By January 1, 2019, to complete evaluations of the remaining spillways and direct dam owners to make required repairs or restrict reservoir operations.

- **What is the rationale behind how the \$381 million Prop1 funds are allocated?** Should the allocations prioritize regions, or types of projects (levees, flood bypasses, dams)? Or extent of risk? Or connection to the Central Valley Flood Protection Plan? The proposal does not provide any insight on reasoning behind the proposed categories nor what prioritization criteria will be used for selecting specific projects within each of those categories.
- **Is this funding plan part of a larger plan to deal with flood management?** It is unclear whether this proposal is integrated with other flood management efforts.
- **What are the Legislature's priorities for expending these funds?** The Legislature has authority to decide on how to spend flood funding by category. This proposal takes this authority away from the Legislature. Further, the proposal does not contain budget language to codify the plan, which means the administration could later change its plan and direct the funding in a different way without legislative notification or approval.

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**Staff Recommendation: Hold Open**

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