

Statement of
Lester A. Snow
Director, California Department of Water Resources

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Committee on Resources
Subcommittee on Water and Power

**Concerning “Protecting Sacramento / San Joaquin Bay-Delta Water
Supplies and Responding to Failures in California Water Deliveries”**

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Introduction

Committee Chairman Pombo, Subcommittee Chairman Radanovich, and members of the Subcommittee, I appreciate the opportunity to appear before you today to discuss flood issues in the Bay-Delta watershed of California. Governor Arnold Schwarzenegger and his administration have warned that California faces a multi-faceted flood crisis. Tragically, it took the lethal and destructive force of Hurricane Katrina to draw attention to flood threats in California, where the potential for catastrophic flooding is even greater than it was in New Orleans.

In January 2005 Governor Schwarzenegger released *Flood Warnings: Responding to California’s Flood Crisis*. This white paper identified the challenges associated with flood management in California: California’s flood protection system is comprised of aging infrastructure with major design deficiencies. Many of our levees were built as part of the federal flood control system more than a century ago using primitive designs and construction techniques. These levees have been further weakened by deferred maintenance. Funding for maintenance and repair of levees has dwindled over time as governments at the federal, state, and local level struggle to meet all their financial commitments.

Meanwhile, escalating development in floodplains increases the potential for flood damage to homes, businesses, and communities. In the Sacramento-San Joaquin Delta there is another threat: levee failure can jeopardize reliable water supplies for farms and cities across two-thirds of the state. This is because a levee failure in this Delta region would draw salt water into Delta channels, rendering this water too salty to deliver to farms and cities served by the Central Valley project, the State Water Project, and local projects that draw water from the Delta.

Our flood management responsibilities include both prevention and emergency response. I will describe activities related to both, but will focus on prevention. In this regard I would like to focus on two particular aspects of the Schwarzenegger administration flood efforts, and our view of the federal role in these efforts. These two aspects include the Governor's declaration of a flood emergency to expedite repair of critical erosion sites identified by the U. S. Army Corps of Engineers, and the increasing vulnerability of the Sacramento-San Joaquin Delta including the State and federal interests that are put at risk by this vulnerability.

Levee System State of Emergency

On February 22, 2006 Governor Schwarzenegger and Senator Dianne Feinstein led a Congressional delegation on an aerial tour of Central Valley levees. They viewed some of the 24 critical erosion sites in the Sacramento Valley and the Delta identified in December 2005 by the U. S. Army Corps of Engineers. Many of these sites have deteriorated further since their identification by the Corps in December, due to flood flows that occurred in California river systems on or about New Year's Day 2006.

In response, Governor Schwarzenegger on February 24, 2006 declared a state of emergency for the state's levee system. He directed the California Department of Water Resources to repair these 24 sites during this calendar year, and he made available approximately \$100 million in State reserves to fund this emergency work.

Erosion can take its toll on any levee system, but it should not come as a surprise that most of these critical sites are along the Sacramento River. The levees of the Sacramento River were intentionally designed by the U.S. Army Corps of Engineers to erode. During California's Gold Rush, placer mining in the Sierra Nevada washed entire mountainsides into local streams and rivers. This silt deposited in riverbeds of the central valley, increasing flood risk at the very time that farms were being established throughout the valley. In response, levees were built to contain the floodwaters. These levees were intentionally built very close to the channel in order to keep water velocity high and scour this sediment out of the river systems.

Today, these narrow channels have been too successful. The gold rush silt has long since been washed out of the system, but the erosive force of the river continues to eat away at the levee system. Today, the levees protect not only farms, but also hundreds of thousands of people who live and work in central valley cities and towns. All together, more than \$47 billion in infrastructure is protected by central valley levees.

At the existing levels of funding and capacity to plan and carry out levee repairs, correction of these 24 sites by State and federal agencies could take up to four years. By then, the river will have eroded additional sites that will further threaten lives and property. The “business as usual” approach will eventually result in a catastrophic flood that will destroy businesses and take lives.

To avoid catastrophe, we must eliminate this backlog of repairs. Governor Schwarzenegger has taken several proactive steps to improve our flood protection. He has augmented the State’s budget for flood management efforts, and he has proposed a very large investment in flood management as part of his Strategic Growth Plan. But these efforts, while very beneficial to our efforts to protect Californians from flooding, are not sufficient. That is why the Department of Water Resources has been tasked with carrying out a monumental erosion repair program this year. We have enlisted the support and cooperation of other State agencies to ensure that we can plan, design, permit, and construct repairs this year.

We are also working closely with our federal partners at several agencies as we prepare for this massive repair program. I would like to brief you today on the status of two areas of interaction: responsible streamlining of environmental permitting under federal emergency procedures, and crediting to obtain eventual federal cost-share funding for the work that California will carry out this year.

Environmental Permitting. Levee maintenance and repair projects ordinarily require several environmental permits before they can proceed, and environmental permitting has sometimes been blamed – accurately or not – for delaying levee projects. In California we have been proactively addressing this situation. Last year I convened a committee of policy-level managers from State and federal agencies to consider how we might appropriately avoid, minimize, or mitigate for the environmental impacts of levee work in ways that would allow the projects to be implemented quickly. One tool we are investigating is the use of mitigation banks so that project mitigation is taken care of in advance of the levee work itself.

In consideration of this levee emergency, we propose to formalize and expand this committee as a Levee Repair Executive Oversight Committee. The purpose of this committee is to ensure that the federal and state agencies responsible for permitting and environmental compliance work together in an expeditious and cooperative manner to perform the critical levee repair work this year. We will depend on this interagency committee to help us meet the challenge of addressing State and federal permitting in ways that allow us to protect the environment and stay on schedule.

The Governor’s emergency declaration allows him to waive certain State requirements such as those related to the California Environmental Quality Act. However, we have been able to proceed in an environmentally sensitive manner

by relying on emergency procedures available to State regulatory agencies. In this way we can comply with environmental protections while we are improving our flood protection. California encourages federal permitting agencies to take the same protective, yet flexible, approach. We have already been engaged in discussions with the Department of the Interior and received Interior commitment to use emergency permitting procedures available to the U. S. Fish and Wildlife Service.

Federal Cost-Share Crediting. The federal government has traditionally been a partner to States and communities in providing funding for flood control repairs and improvements. Using available funding, the U. S. Army Corps of Engineers was prepared to repair five of the 24 erosion sites this year. The horrifying images of Hurricane Katrina's aftermath have reinforced the fact that the failure of flood control facilities can have devastating consequences. California cannot wait years to complete the repair of erosion sites that the Corps has already designated as critical.

Therefore, Governor Schwarzenegger has pledged funds from State reserves so that emergency repairs can be made this year without waiting for traditional cost-sharing. We will, in effect, provide credit to the federal government for its share of the funding to complete repairs at ten erosion sites. The Governor has asked the Corps to arrange for California to be reimbursed by the federal government under appropriate cost-share formulas without the need for prior approval of credit agreements

The Increasing Vulnerability of the Delta

No region of California faces a greater long-term threat of catastrophic failure than the Sacramento-San Joaquin Delta. This area is not a river delta in the classic sense. It is a 700,000 acre region within the Central Valley of California where the Sacramento and San Joaquin Rivers come together in a maze of channels and sloughs and flow to San Francisco Bay. The lands surrounded by these channels have come to be called islands but, again, they are not islands in the classic sense. They are in fact more like New Orleans – lands with elevations below sea level that are protected by fragile levees.

Of course, there are differences between our Delta islands and New Orleans. The levees built to protect the homes, businesses, and citizens of New Orleans provided 250 year flood protection. The Sacramento-San Joaquin Delta is a mostly agricultural region. Only a small fraction of the 1100 miles of levees that protect the Delta islands are Project levees. Most are privately built levees, first constructed over a century ago. Very few of them offer even 100 year flood protection.

This level of protection was sufficient for the agricultural region of a century ago, but many changes have taken place in the Delta. The peat soils of the Delta have subsided, gradually lowering the elevations of Delta islands. Some of these parcels are now more than 20 feet below sea level. As California grew during the 20th Century, two great water projects were built to meet the demands of central valley farms and coastal cities. Today both the federal Central Valley Project and the State Water Project are vitally dependent on fragile Delta levees to protect water supply and water quality. Other infrastructure now crosses the Delta, and is dependent on the continued stability of Delta levees, including state highways, railroad lines, water supply pipelines that serve much of the San Francisco Bay area population, energy transmission lines, and petroleum pipelines to name a few.

As our dependence on the Delta has grown, so has the threat of catastrophic failure of Delta levees. Traditionally we have viewed the flood threat of winter storms as the greatest vulnerability of the Delta. We recognize that this threat has grown over time as the Delta islands have subsided, requiring taller levees to protect them. Today we recognize that global climate change poses additional threats. The careful hydrologic records we have kept since the 1940's have already documented the changes that are taking place. Over the next century we expect sea level in the Delta channels to rise by a foot or more. At the same time, we expect warmer storms to produce higher peak flood flows.

Today there is a growing realization that the Delta also faces threats from seismic events. An earthquake could liquify the foundations of Delta levees and cause catastrophic flooding that would devastate the economy of California and the nation. We have considered the effects that a 6.5 magnitude earthquake in the Delta region would have. This magnitude earthquake may have about the same occurrence probability as a hurricane like Katrina. Such a temblor could cause 30 levee breaches, flooding 16 islands in the Delta. 300 billion gallons of salt water would be drawn into these subsided islands from San Francisco Bay. The salt in the Delta would render it useless as a water supply source, shutting down the Central Valley Project and State Water Project for several months. When water deliveries could resume, they would be smaller in quantity and much lower in quality than Californians have come to expect.

California's economy would be severely affected. Economic losses would easily reach \$30-40 billion in the five years after the earthquake. Thirty thousand jobs would be lost. Agriculture in the San Joaquin Valley would be greatly impacted. And all these economic effects would ripple throughout the nation and the global economy.

Both the State and federal governments have taken proactive steps to address catastrophic failure of Delta levees. Congress authorized \$90 million in the CALFED authorization bill in 2004 for the U.S. Army Corps of Engineers to assess Delta risks and undertake reconstruction and enhancement of Delta

levees. Two weeks ago the Corps released a draft Sacramento-San Joaquin Delta Report, identifying and prioritizing potential levee stability projects in the Delta. We urge Congress to support an active role for the Corps in the Delta by appropriating the full authorization so that the Corps can participate as a partner in our efforts to protect the Delta.

Together with the Corps, California is working to develop the Delta Risk Management Strategy that Congress called for in the CALFED authorizing legislation. By 2008 this effort will help us to better understand all the risks to Delta levee stability, quantify what is at stake when catastrophic failure occurs, and provide long-term options for Delta protection.

At the same time that we develop long-term options for Delta protection, we must be prepared to respond to failures in the Delta and throughout the system when they occur. We have organized our institutions to be as responsive as possible. For example, the operations centers for the State Water Project and the Central Valley Project are located at the same facility that houses our Flood Operations Center and the regional office of the National Weather Service. In this way, communication and coordination among the project operators, the forecasters, and the flood fighters can be rapid and seamless. When a flood emergency is declared, our flood management staff can function 24/7 alongside those who are forecasting flood events and those who are managing dams and reservoirs.

A good illustration of our coordinated response came in June 2004 when a Delta levee at Jones Tract failed. Working with the Governor's Office of Emergency Services, we activated our Standardized Emergency Management System, or SEMS. DWR and OES coordinated a response that included establishment of an incident command center in the field and the involvement of the local levee district, the county, several state agencies, Reclamation, and the Corps.

Recognizing that the Delta must be protected in both the short term and the long term, Governor Schwarzenegger has proposed substantial funding to protect what we have in the Delta, respond to emergencies, and implement the long-term plans we will develop in the coming months. The Governor's Strategic Growth Plan initially included over \$900 million in proposed funding to protect Delta levees and he subsequently proposed increasing this amount to \$1.5 billion.

Conclusion

California faces unprecedented threats from catastrophic flooding. Some of the risk is attributable to our own action or inaction: we depend on century-old levees to protect our growing population and economy, we have not always maintained these levees as well or as promptly as we should, and we have pursued land uses in the Delta and elsewhere that have caused subsidence or increased the

risk to lives and property. We are also improving our understanding of the risk we face: our engineers are learning more about the faults that may lie hidden within levees, we have the knowledge to update flood zone maps, and we are gaining an understanding of the increased risk posed by climate change. Tragically, it has taken the misfortune of Hurricane Katrina victims to focus attention on similar risks in California.

We are ready to make the investments and do the work necessary to improve our flood security. The Schwarzenegger administration issued a white paper in January 2005 calling attention to California's crisis, sponsored flood management reform legislation at the State level, increased the State budget for flood management, proposed general obligation bond investments for flood protection, is leading the development of a Delta Risk Management Strategy, described a Delta disaster scenario that highlighted the profound threat and spurred action, and declared an emergency due to critical erosion in our levee system. We are successfully partnering with federal agencies to better understand the risks, to repair and improve the system, and to expedite the permitting processes associated with levee construction.

We hope that the Congress will recognize the severity of flood risk in California, appropriate funding for traditional cost-shares and new authorizations to fund the work of the Corps in the Delta, and help California improve our level of protection against catastrophic flooding.

Thank you for the opportunity to testify before this Subcommittee. I would be happy to answer any questions that the members may have.

Attachments:

Governor's Emergency Proclamation of February 24, 2006
Governor's Letter of February 27, 2006 to President Bush
Governor's Executive Order of March 6, 2006
Governor's Letter of March 6, 2006 to General Strock