

Statement of  
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and David N. Kennedy, Director,  
Department of Water Resources  
State of California  
Final

Before the  
House Committee on the Interior

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Sacramento, California sits at the confluence of two major rivers, the Sacramento and the American. The Sacramento River watershed captures nearly one-half of all the runoff in Northern California. Flood events in this watershed are controlled by an extensive system of dams, levees, weirs, and bypasses acting collectively to reduce peak flows and guide floodwaters away from developed urban areas in the watershed. The American River is the Sacramento River's second largest tributary. It drains a watershed covering 2,100 square miles. In contrast to the Sacramento's watershed, the American River watershed is relatively short and steep, descending over 10,000 feet in about 100 miles before reaching a 110,000-acre floodplain that covers much of urban Sacramento. Consequently, the flood threats to this floodplain tend to arise quickly and seem to defy prediction.

The central question before you today is not merely an environmental one; the issue before you is a question of providing public safety with minimal environmental consequences. The solution for the Sacramento area is to build a "dry dam" designed to provide 200-year flood protection for the area's residents and property.

The American River currently has dedicated seasonal flood storage only in Folsom Reservoir, which is situated on the doorstep of the floodplain immediately east of urban Sacramento. When this dam was constructed in the 1950s, it was believed to provide 250-year flood protection for the Sacramento area. Just six years ago, rainstorms in the watershed almost caused a flood of disastrous proportions. The 1986 storm, in conjunction with other large storms which had occurred over the previous 25 years, changed the hydrology and statistics for the area. Reevaluations of hydrologic conditions within the watershed have now documented that Folsom Reservoir affords only a 63-year level of flood protection. Folsom is designed to release floodwaters at a maximum rate of 115,000 cubic feet per second down a 23-mile floodway. Over its last 11 miles, the floodway narrows and is

bounded by high earthen levees as the river channel itself winds through the most highly developed portion of the city.

The 200-year floodplain of the American River contains over 140,000 structures, including the residences of nearly 325,000 people, and \$30 billion of damageable property, including \$2.4 billion of federal, State, county, and city government structures. A flood which exceeds the capacity of the existing system would cause catastrophic loss of life and property. In particularly low areas near the levees, where many of the residents live, depths would rapidly exceed 15 to 20 feet and inundations would last a long period of time. Even a slower overtopping of the levees would pose a significant threat to life--as there are few evacuation routes--and cause massive property damage.

To address this flood threat, the U.S. Army Corps of Engineers has taken the lead, working with The Reclamation Board and Sacramento Area Flood Control Agency, in a phased effort to protect the Sacramento area from flooding from both the Sacramento and American Rivers. That phased effort consists of implementation of a program to:

1. Restore the structural integrity of the existing Sacramento urban area levee system in the near-term (expected to be completed by late 1992); and
2. Provide a long-term solution (high level of flood protection) to the flood problems in the Sacramento area stemming from the American River. The Auburn flood detention dam (known as the "200-year dry dam") is the primary element of this phase.

The State of California and SAFCA, as the nonfederal sponsors, have funded about \$5 million toward the \$10 million cost of the feasibility study.

The Corps and SAFCA are separately exploring the feasibility of providing interim flood protection sufficient to satisfy minimum Federal Emergency Management Agency flood insurance requirements (annual probability of 1-in-100) by increasing seasonally reserved flood control space at Folsom Lake until a long-term solution can be implemented. A Final EIS and Corps recommendation on this proposal is expected in November of this year.

In fulfillment of our dual role as lead agency under the California Environmental Quality Act and lead nonfederal sponsor for the Corps' study, The Resources Agency and its departments have completed an exhaustive review of the long-term flood protection solution presented in the Corps' American River Watershed Investigation Feasibility Report and environmental

documents. The State review of the reports focused on developing a State response to several significant issues.

The first issue dealt with the most feasible way to provide appropriate flood protection to the area. The Corps performed a reconnaissance-level analysis of about 50 alternatives, including several multipurpose alternatives, screened those to the 27 most viable plans, and then selected 6 action plans for detailed economic and environmental analysis. Three of the six alternatives provide 100-year FEMA-level protection and the remaining three provide 150-year, 200-year, or 400-year levels of protection, respectively.

There are environmental impacts associated with all of the action alternatives. However, in comparison to the consequences of not taking any action to provide additional flood protection, the environmental impacts of the proposed dry dam are relatively minor.

Some have argued that the 100-year (FEMA)<sup>1</sup> alternative or the 150-year alternative should be implemented. The Corps' economic studies indicated that potential flood damages were greater for the 100-year (FEMA)<sup>1</sup> and 150-year alternatives, than for the 200-year dry dam. If either of those alternatives were chosen, more new development would occur in the area, due to the lifting of the FEMA building limitations. Such development would effectively increase both human and economic risk by allowing additional exposure to less than adequate flood protection in the area. We are very concerned that the lower-level flood protection alternatives, which provide additional flood protection by increasing the height of the already high levees through the low-lying, urbanized portions of Sacramento, have a high public safety risk. We believe that implementation of such an alternative would be irresponsible when a flood detention dam alternative is feasible, as it is in this case. Many major metropolitan areas which exist adjacent to major rivers, and are protected by an integrated system of upstream dams and local levee systems, have substantially greater flood protection than Sacramento. New Orleans and St. Louis have 200-year protection, Omaha has 250-year protection, and Tacoma, Kansas City, and even Dallas, are provided protection against a 500-year flood event (a flood event which is statistically projected to occur once every 500 years--or which has a one-in-500 chance of occurring in any year).

<sup>1</sup> The 100-year FEMA level of protection--as calculated using FEMA criteria--equates to 85-year level of protection as calculated using Corps criteria. Unless noted as a FEMA level of protection, all level-of-protection figures are calculated using Corps criteria.

Based on extensive analysis, public testimony, and an evaluation of the merits and problems associated with alternative proposals, we believe a 200-year dry dam to be the best and most effective way to provide reasonable public protection against the flood threat and minimize the environmental impacts to the canyons and other sensitive areas.

As the final environmental impact study notes, a dry dam will occasionally cause some degree of inundation of the American River canyon, with consequent minor environmental damage. The U.S. Fish and Wildlife Service has identified the potential loss of 1,382 acres of river canyon habitat due to direct project impacts. Current studies show that the impact to the canyon from inundation and sloughing could be further reduced by lowering the detention pool drawdown rate through careful attention to design of the outlets of the dam.

Results of the initial USF&WS habitat evaluation and analysis indicated that 51,987 acres along the South Fork American River (a 38:1 mitigation ratio) would be required to compensate for general wildlife habitat losses over the life of the project. An additional 2,700 acres are needed to mitigate for valley elderberry longhorn beetle impacts. In a recent letter to the Washington Level Review Center, USF&WS revised the general wildlife mitigation figure downward to about 7,000 acres. There are still some reservations about the impact assessment and the mitigation planning models which both the USF&WS and the Corps used. However, the 7,000-acre figure now quoted by USF&WS is no longer as significant a departure from the 5,400 acres of mitigation proposed in the Corps' report as was the case with previous USF&WS calculations. Therefore, we believe that this difference can be mediated during the detailed mitigation planning phase of the project.

The State has consistently insisted that the proposed flood control dam at Auburn maintain "neutrality" with respect to a future multipurpose dam on that site, that is, to neither facilitate nor preclude a future expansion. The decision whether to expand the dry dam into a multi-purpose one must be made in the future after the feasibility studies now in progress, are complete; current authorization should neither require nor preclude future expansion. Part of that commitment to "neutrality" involves balancing the construction of a dam in the Auburn canyon with the scenic and recreational values which are present there.

Governor Pete Wilson continues to support establishment of a national recreation area in the canyons, and, consistent with his commitment that the structure itself should be neutral and should neither facilitate nor preclude the larger dam, any such designation must follow the authorization of a flood control structure and ensure that the NRA classification would neither

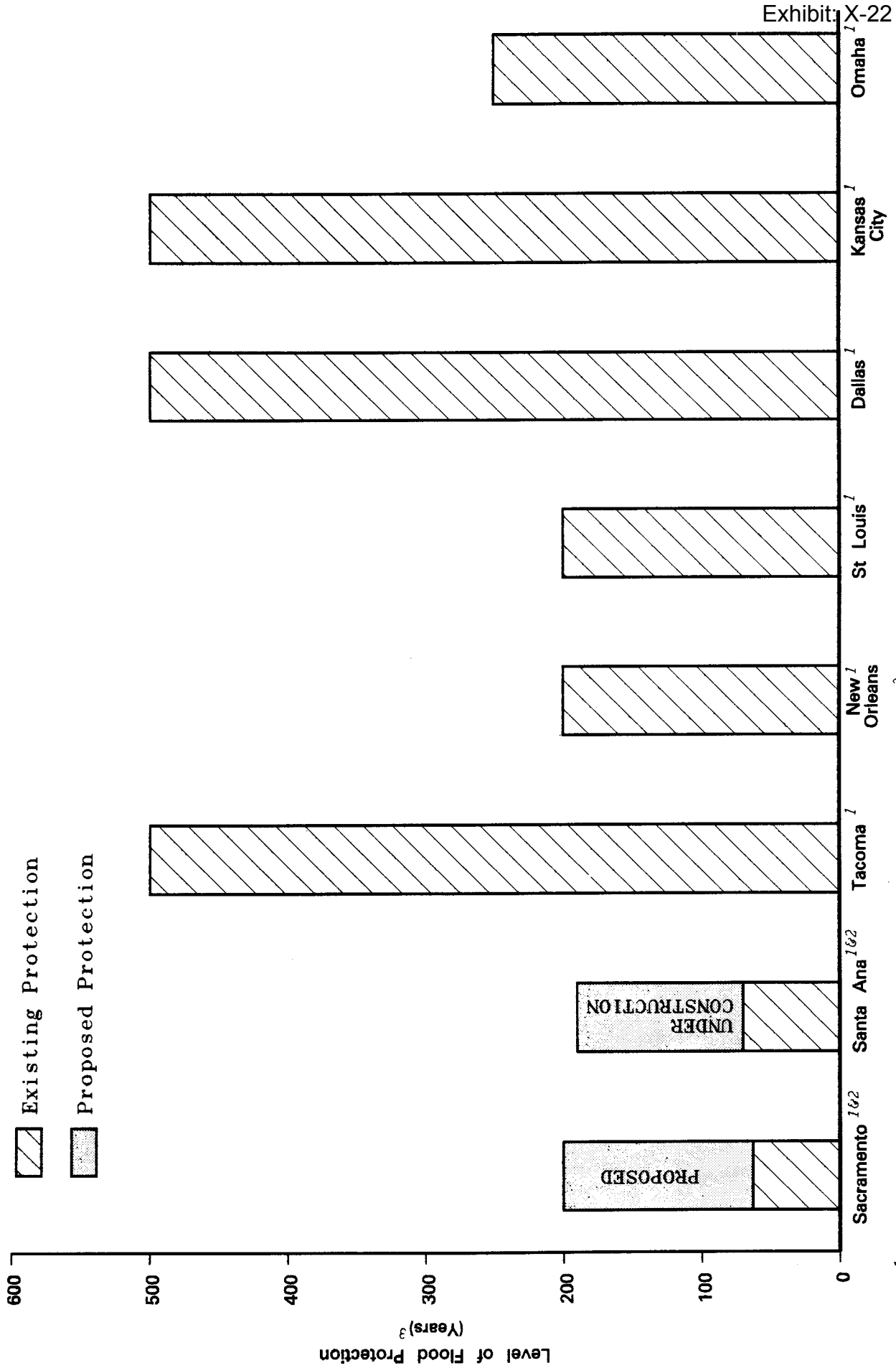
preclude nor facilitate permanent inundation, should a full-service dam be authorized in the future. "Neutrality" of the flood control project will be advanced by ensuring that all of the values present in the Auburn canyon area, as well as the potential benefits of a full-service dam, are recognized by Congress in any decision which is made that impacts those lands.

A second part of our commitment to "neutrality" for the flood control project is ensuring that the physical features of the dam neither facilitate nor preclude a future multi-purpose facility. We support a joint independent consulting review board to advise the State and the Corps on project design. This board would provide technical confirmation that the flood control dam would not create "significantly greater economic, procedural, or other impediments to expansion of the project" than would otherwise occur.

Since the February 1986 flood, over \$10 million has been spent by public agencies on a comprehensive flood control investigation. These studies have demonstrated that the only reliable way to provide the level of flood protection Sacramento needs is by the construction of a flood detention dam at Auburn. The decision whether to expand the dry dam should be made in the future when and if the local communities can guarantee funding for the expansion.

It is more than six years since the near-disastrous February 1986 flood on the American River, yet the Sacramento area continues to face one of the most severe threats of flooding in the nation. With over 325,000 people and \$30 billion in property at risk, the Sacramento area must have at least a "200-year" level of protection. Any impacts that the flood control dam would have on the river canyons are regrettable, but it is a price we must pay to provide adequate protection for the human lives and property that the Corps' studies show cannot be adequately protected in any other way. Given the magnitude of life and property at risk in the American River floodway and the adjacent floodplain, Congress must act immediately to authorize this project and, by doing so, restore the level of flood protection that is necessary for a highly developed urban area.

# EXISTING LEVELS OF FLOOD PROTECTION FOR COMPARABLE METROPOLITAN AREAS



<sup>1</sup> Metropolitan area is protected by levee system and is subject to rapid, deep, and catastrophic flooding.

<sup>2</sup> These projects were formulated to achieve a high level of flood protection while minimizing adverse social and environmental impacts, thus gaining the greatest public acceptance.

<sup>3</sup> "200-Year protection" will contain a design storm with an annual probability of occurrence of 1-in-two hundred.

# Sacramento Area



**Note: Height of levee with respect to adjacent residences (15' to 20').**