
**CONGRESSIONAL HEARING ON
AMERICAN RIVER FLOOD CONTROL
OPTIONS**

**Held in
State Capitol, Room 4203
Sacramento, California**

**Friday, November 6, 1987
9:30 a.m.**

STATEMENT OF THE
CALIFORNIA DEPARTMENT OF WATER RESOURCES *
BEFORE
CONGRESSMAN VIC FAZIO'S
FACT FINDING HEARING
ON
FLOOD THREATS ALONG THE LOWER AMERICAN RIVER

At your July 25 hearing, I described a four-month reconnaissance study that we were undertaking of the potential for construction of a small Auburn Reservoir under State sponsorship. The Department's study began with analysis of the Corps of Engineers' March 1987 report that emphasized the serious risks of flooding facing major portions of the Sacramento metropolitan area along the lower American River. The Corps' March report and its newly released Information Paper outline a number of options to provide additional protection against flooding. Some of these options would protect against floods expected to be exceeded on an average of only once in 200 years; other options would provide lesser degrees of protection.

Because of the serious consequences of levee failures in the Sacramento area, the Department of Water Resources strongly supports providing a high level of flood protection. In fact, the Corps' data indicate there is economic justification for higher than the 200 or 250-year protection that has been considered thus far. The logic for a higher level of protection becomes more apparent when one stops to realize that there is approximately a 10 percent chance of a 200-year flood being exceeded within the next 20 years. When a flood overtops a levee by a foot it does not cause just a foot of flooding; levee failure would result in sudden inundation of developed areas to depths of as much as 20 feet.

* Presented by David N. Kennedy, Director of Department of Water Resources, in Sacramento, California on November 6, 1987.

The Corps' studies show that 200-year or higher levels of protection can be achieved in a practical manner only by construction of an Auburn Dam. In his May visit to Sacramento, Secretary of the Interior Hodel cited the unlikelihood of early federal financing of the authorized Auburn Dam project. That fact, plus the redirection of the Bureau of Reclamation announced last month, make it clear that the prospects for completion of Auburn Dam under the original plan are growing exceedingly dim. The emphasis on Auburn Dam has now shifted primarily to its potential to provide flood protection. The principal question is whether a single-purpose flood control project or a multi-purpose project should be developed.

In response to Secretary Hodel's suggestion that non-federal interests consider assuming sponsorship of Auburn Dam, the Department of Water Resources is just completing a four-month appraisal of constructing an 850,000 acre-foot reservoir under State sponsorship. The 850,000 acre-foot project is not the optimum size by traditional economic criteria; it was selected because it appears to be about the smallest viable multi-purpose project.

The primary emphasis of the small Auburn Reservoir would be on flood control. The Department's analysis assumed that 500,000 acre-feet of Auburn Reservoir storage would be allocated to flood control during the flood season. An additional 100,000 acre-feet of flood reservation would be transferred upstream from Folsom Reservoir for operational reasons; in exchange, Auburn would be credited with the water supply benefits resulting from the additional 100,000 acre-feet of conservation storage at Folsom. The added 500,000 acre-feet of flood control reservation would increase the level of flood protection along the lower American River from the present 63 years to 200 years.

The water supply accomplishments of Auburn Reservoir in the Department's analysis were predicated upon its operation as a unit of the State Water Project (SWP). This approach resulted from the supposition that local demands for water could be fulfilled with relatively low-priced Central Valley Project supplies from Folsom Reservoir. Under these conditions, the 850,000 acre-foot Auburn Reservoir would increase the SWP critical period water supply in the Delta by 64,000 acre-feet per year. The long-term average increase in Delta water supply would be 95,000 acre-feet per year.

The Department's analysis assumed that the Auburn project would include a 150 Megawatt (MW) powerplant. Annual energy generation would range from about 30 to 630 million kilowatthours (averaging 317 million). The full 150 MW would be available throughout the summer peak hours in about half of the years but in drier years there would be less flow through the powerplant. In drought years there would be very little dependable peaking capacity with the 850,000 acre-foot reservoir.

Under existing conditions of development, increasing local demands for water will cause future summer levels of Folsom Reservoir to be significantly lower than they have been under average historic conditions. Likewise, summer flows in the lower American River will be substantially reduced from those experienced over the past 32 years since Folsom began operation. These changes will reduce future recreation use at Folsom Reservoir and along the lower American River from what it would be under a continuation of historic operations.

Operation of an 850,000 acre-foot Auburn Reservoir (with the assumed transfer of 100,000 acre-feet of flood reservation from Folsom) would restore Folsom Reservoir levels during the recreation season to nearly historic conditions. Consequently, Auburn Reservoir would be credited with benefits for improving both the quantity and quality of Folsom Reservoir recreation.

Likewise, addition of Auburn Reservoir would increase flows in the lower ^{Exhibit X-14} American River during the summer and early fall. In general, the post-Auburn summer flows would still be less than historic post-Folsom flows, but they would be significantly larger than if Auburn were not built. The Department's analysis indicated that the principal impact of the improved flows would be a modest increase in recreational boating use. In addition to the resulting recreation benefits, a small benefit would be attributable to enhancement of the salmon fishery through improved spawning and rearing flows.

The recreation potential of Auburn Reservoir itself would be limited because of the lack of flat land near the lakeshore, limited access, narrow reservoir arms, and large water surface fluctuations. Recreation use of the reservoir would be similar in magnitude to the present informal use on lands acquired for the project.

The major focus of the Department's four-month study was on economics, financing, and repayment. The analysis examined only the remaining cost to complete the Auburn project. Past federal expenditures total about \$300 million including interest; these were treated as non-reimbursable sunk costs.

The Department's analysis showed that addition of water supply, power, and recreation to the basic flood control project would be marginally justifiable from a theoretical economic viewpoint. However, the resulting cost of new water would be in the vicinity of \$250 per acre-foot of critical period Delta supply. This is relatively expensive water and it is likely that the south-of-Delta projects we are presently pursuing will be much more attractive to the SWP contractors. Although there may be other potential customers for Auburn water supplies, we are not aware of any who would be interested in purchasing very much new water supply in this price range either.

The Department's studies indicated that power generation would be economically justified if water supply were included as a project purpose. It is probable that one or more electric utilities would be interested in financial participation in exchange for the capacity and energy provided by an Auburn powerplant. However, the amount of power generated would be relatively modest and it would not produce the large net revenues that helped pay for many large water projects in the past.

Because of the relatively high cost of new water supply, the Department's analysis was not particularly encouraging for a small multi-purpose project. As past studies have shown, the economics would improve somewhat as the reservoir was made larger, but the unit cost of water would not approach an attractive level with reservoir sizes that are within our financial capability. The least expensive water would come from the large project that is apparently not financially feasible.

The logical next step appears to be a feasibility study of what would be essentially a flood control project with possible additions for water supply, power, reservoir recreation, and enhancement of flows in the lower American River. The State, working through the Reclamation Board, is willing to work with local interests in providing the non-Federal share of the feasibility study costs. Some of the issues that should be addressed by the feasibility studies are:

1. The amount of flood control storage to be included in Auburn Reservoir and the resulting level of flood protection along the lower American River.
2. Possible provisions for temporary use of flood control storage during the non-flood season; i.e., should there be provisions for controlling the outflow or should it be a "dry dam"?

3. Possible provisions for later enlargement and/or conversion to a multi-purpose project.
4. Future water supplies for areas dependent upon the American River and alternative means to deliver water to western Placer County.
5. Future conditions for recreation at Folsom Reservoir and along the lower American River and potential impacts of an Auburn project.

In summary, the Department of Water Resources concludes that an Auburn Dam is essential to provide adequate flood protection to downstream areas. The principal remaining questions are (1) the level of flood protection to be provided, and (2) whether other project purposes should be added to a flood control project to maximize its accomplishments. The Department stands ready to assist in the early resolution of these questions.

Because it would take at least 10 years to complete an Auburn project, interim measures to reduce flood risks must also be undertaken. The Department supports any such measures that can reduce the level of flood hazard facing the community, such as the proposal to maintain Folsom Reservoir at a lower level during the flood season. However, we urge that full recognition be given to the potential impact of such a revised operating regime on water supply, power production, reservoir recreation, and flow levels of the lower American River. Although revising Folsom operating criteria can reduce flood risks by a modest amount, the community must recognize that a substantial hazard would remain. Meeting the minimum standards of the Federal Emergency Management Agency may avoid lending institutions mandating the purchase of flood insurance, but we believe that flood insurance should be strongly encouraged as a supplement to any interim flood protection measures.