

AUBURN DAM PROJECT BRIEFING
PRESENTATION - BEFORE SACRAMENTO
CITY AND COUNTY REPRESENTATIVES

by Larry Hancock
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January 26, 1989

Good afternoon, my name is Larry Hancock and I currently serve as the Acting Regional Director for the Bureau of Reclamation's Mid-Pacific Region. I am pleased to be here today to discuss Reclamation's activities on the Auburn Dam Project regarding non-Federal cost sharing, including American River Authority's (ARA) up-front financial proposals, and other aspects relating to water needs; instream flows; and particularly the flood control protection for your city and county areas adjacent to the American River.

Briefly, I would like to present some background information which I believe is pertinent to the water resources development of the American River Basin.

The importance of the American River goes back at least to the early 1840's when during the gold rush the water was used for irrigation, municipal, industrial, and mining uses. As early as the 1920's, Auburn Dam was identified and included in potential water resource plans and was specifically identified by the state of California in their water development plan.

Folsom Lake, behind Folsom Dam, was the first federally authorized storage facility on the American River. It was authorized by Congress in 1944. The original plan by the Corps of Engineers (Corps) was for a much smaller reservoir -- about 450,000 acre-foot capacity. With concurrence from the State Engineer and Reclamation, the decision was made to construct the larger 1,010,000 acre-foot multipurpose Folsom Dam and Reservoir we have today. In retrospect, that was a wise choice.

The Dam was completed in 1955, and water and power operations of Folsom Lake is an integral part of the Bureau's Central Valley Project (CVP). It has provided water supplies for irrigation, domestic, municipal, and industrial uses and power generation. It has furnished flood protection for Sacramento and outlying metropolitan areas, extensive water-related recreational opportunities, and instream flows for fishery and recreation in the Lower American River.

Nimbus Dam, completed in 1955, is an afterbay structure built below Folsom Dam to reregulate flows of the American River through Folsom Powerplant. The dam acts as a diversion dam to direct water into Folsom South Canal and creates a forebay for the Nimbus Powerplant. The Nimbus Fish Hatchery, downstream on the left bank of the river, was constructed at the same time as Nimbus Dam.

The Auburn-Folsom South Unit (Figure 1), was authorized by Congress in 1965 under Public Law 89-161. The unit includes Auburn Dam, Reservoir, and Powerplant on the North Fork American River above Folsom Lake; Folsom South Canal; Sugar Pine Dam and Reservoir and conveyance; and County Line Dam and Reservoir and conveyance.

The Auburn area facilities would include:

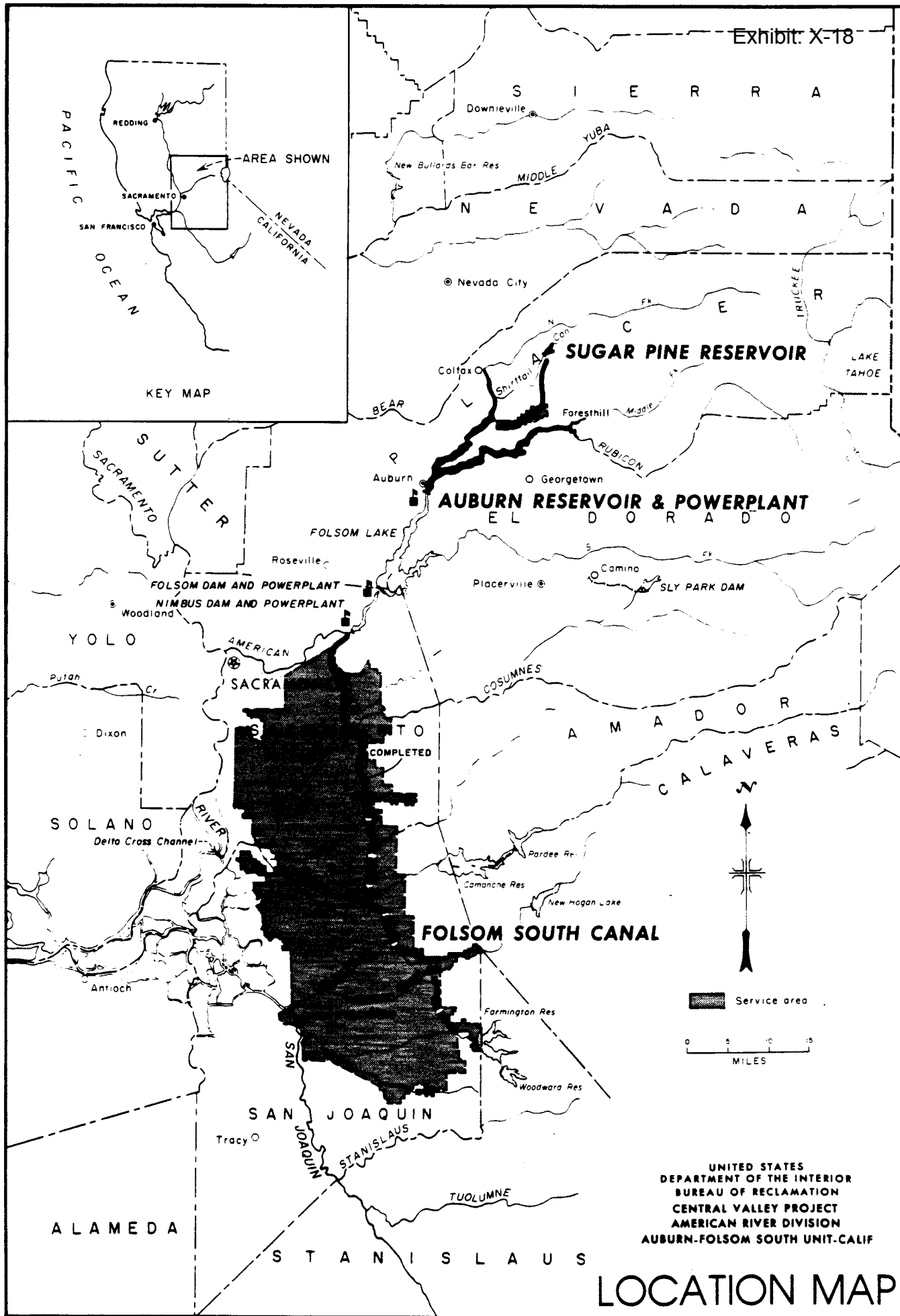
1. Auburn Dam, impounding a reservoir of 2,300,000 acre-feet. The dam would be about 658 feet high. Multilevel withdrawal capability would be provided in the dam's outlet facilities for water quality and temperature control.

2. Auburn Powerplant with a capacity estimated at 300 megawatts, with the final size to be refined to meet the power needs prior to the actual construction date.

Provisions for future enlargement of the plant were included in the authorization.

3. Recreation lands and facilities.

4. Lands and programs to mitigate project-related wildlife losses.



The operation of Auburn Reservoir will provide water for irrigation, domestic, municipal, and industrial needs. It will also provide hydroelectric power and flood protection for the metropolitan Sacramento area, enhance Folsom Reservoir recreation by stabilizing reservoir levels, provide increased flows for instream fishery and recreation purposes, and create a new recreation complex at Auburn Reservoir.

The Folsom South Canal originates at Lake Natoma. As authorized, the canal would be approximately 62 miles long and could serve irrigation and municipal and industrial users in Sacramento and San Joaquin Counties and other areas. Currently, about 27 miles of the canal, have been completed.

I will briefly comment on two other aspects of the unit. The Sugar Pine Dam and Reservoir, completed in 1981, is located in Shirttail Canyon about 7 miles north of Foresthill. The dam is an earth- and rock-fill structure about 197 feet high with a crest length of 680 feet. Water from the reservoir is conveyed approximately 9 miles to the Foresthill Utility District's service area where it is used primarily for municipal and industrial purposes.

County Line Dam and Reservoir, not shown in Figure 1, would be located on Deer Creek about 10 miles south of Folsom Dam. This facility could be used for municipal and industrial purposes in

eastern El Dorado and western Sacramento Counties. Construction is being deferred until a need for water in this area develops.

The Auburn-Folsom South Unit was authorized to be operationally integrated with the CVP. Under this concept, water from Auburn and Folsom would be utilized to meet the needs of the American River Division, and supplies from the remainder of the CVP could then be used elsewhere in the CVP service area. The power generated by Auburn would also be integrated with Folsom and other CVP powerplants.

Auburn Dam operations would be coordinated with Folsom Reservoir to protect the Sacramento metropolitan area against damaging floods, to maintain a satisfactory level of flow in the Lower American River, and to help regulate Delta outflow.

By the terms of the contract with the California Department of Parks and Recreation, the Department will operate the Auburn recreation development as an extension of its present activities at Folsom.

Auburn Reservoir will provide the diversion pool for future deliveries of water to western Placer County by the Placer County Water Agency through facilities already constructed. Facilities have been constructed in the Auburn Dam foundation to facilitate future service to the Georgetown Divide Public Utility District

in El Dorado County. The Western States Trail from Sacramento to Carson City will be relocated through the Auburn Project Area.

Construction of Auburn Dam was initiated in 1967. When the Oroville earthquake of August 1975 occurred, the foundation for Auburn Dam was being constructed. The earthquake led to reviews by the public about the safety of the double-curvature concrete-arch dam planned for Auburn. As a result, further construction was suspended after the foundation construction contract was completed.

A study of the seismic potential of the Auburn damsite and surrounding region was undertaken, and alternative dam designs studied. These studies, which involved Reclamation, the State of California, and numerous experts in the fields of geology, seismology, and dam design, culminated in the Secretary of Interior's decision of December 30, 1980. In that decision the Secretary stated a safe dam could be constructed at the Auburn site and that the best design would be the curved-concrete gravity-type dam referred to as a CG-3. However, construction activities have been at a standstill pending resolution of existing non-Federal financing and cost-sharing concerns.

The Bureau of Reclamation has been pursuing non-Federal cost-sharing proposals for the Auburn Dam Project since the early 1980's. Reclamation completed the Auburn Dam Alternatives Report

in support of the joint State-Federal Auburn Dam Task Force. The report was released in conjunction with Congressman Fazio's July 1987 hearing on Auburn Dam and American River Flood Control Alternatives.

The report analyzed five alternative sizes of Auburn Dam and presented a range of costs associated with water, power, fishery, recreation, and flood control. This report was intended to help local leaders make informed financial judgments on the level of flood protection needed, to provide information concerning the level of local participation required, and to analyze trade-offs between single and multipurpose options.

On September 12, 1988, Reclamation received an offer from ARA, which respond to our July 1987 report. ARA proposed contributing up to \$700 million toward the costs allocated to water and power for the 2.3 million acre-foot multipurpose Auburn Dam. The ARA is a Joint Powers Authority with its membership including the counties of El Dorado and Placer, and El Dorado and Placer County Water Agencies. The power and water features of the project, if funded under the proposal made by the ARA, would be owned by the United States and managed by the Western Area Power Administration (Western).

Under the terms of their proposal, the ARA would issue revenue bonds and provide the proceeds to the United States in accordance

with the Contributed Funds Act (43 U.S.C. 395) to finance the power and water supply features of the project, assuming contractual agreements satisfactory to all parties can be negotiated. The ARA proposes that the water supply and power be integrated with the CVP and marketed by Reclamation and Western to the CVP contractors. In return, ARA would seek payments from the Federal Government in amounts sufficient to enable it to amortize its revenue bonds and to pay project-related expenses.

Other aspects of the ARA financial proposal include provisions for preference power use in Placer and El Dorado Counties and a reduction of repayment obligations associated with the costs expended to date, that is, the sunk costs of approximately \$295 million at the Auburn Dam area. ARA has stated it intends to define the terms for power preference and will seek a determination of which sunk costs contribute to the project and thereby are appropriately allocated to the completion of construction of Auburn Dam. The ARA would then pursue legislation specifying that the remaining portion of the sunk costs would then become a nonreimbursable Federal expense.

In Reclamation's July 1987 Auburn Dam Alternatives Report, cost allocations were performed to ensure an equitable sharing of the Federal and non-Federal financial costs. The estimated total costs to be allocated, including the sunk investment costs, are shown in Table 1. These costs are based on January 1987 prices,

assuming an 8-7/8 percent Federal interest rate and a 100-year period of analysis. These costs were assigned using the Separable Costs Remaining Benefits (SCRB) cost allocation methodology. The procedure resulted in costs being allocated to flood control, instream flows, water supply, hydropower, and recreation.

TABLE 1
Auburn Area Facilities
2.3 Million Acre-Foot Reservoir

	<u>\$ Millions</u>
Sunk Investment Cost a/	295.00
Administrative Costs b/	12.50
Auburn Dam and Reservoir	943.30
Auburn Power Facilities	138.30
Recreation Lands and Facilities	12.60
Fish and Wildlife Lands	.30
Permanent Operating Facilities	<u>3.50</u>
	1,405.50

a/ As of September 30, 1986.

b/ Administrative costs incurred by California Division of Forestry, California Department of Parks and Recreation and Bureau of Reclamation.

Table 2 suggests one possible cost-sharing scenario between Federal participants. These cost-sharing percentages were initially announced in the Water Resources Development Act of

**Auburn 2.3 million A.F. allocation
(\$ millions)**

	Total	Non Federal	Federal
Flood Control	545	136	409
Instream Flows	99	50	49
Water Supply	333	333	-0-
Hydro Power	409	409	-0-
Recreation	20	10	10
	<u>1,406</u>	<u>938</u>	<u>468</u>

1986 and proposed in a bill to reauthorize the Auburn-Folsom South Unit (H.R. 1605). They are as follows:

Flood Control	25%
Instream Flows	50%
Water Supply	100%
Hydropower	100%
Recreation	50%

In light of the ARA's offer to finance a portion of the multipurpose Auburn Project, there are several other project-related aspects relating to flood control, water needs, recreation use, and instream flows along with water availability from the American River System which are important to the representatives from the city and county of Sacramento.

First, regarding the water supply and instream flows in the American River, the Bureau of Reclamation proposes to resume long-term contracting of uncommitted water from the Central Valley Project. Because this action could significantly affect the environment, Reclamation is preparing an Environmental Impact Statement (EIS) for water contracting in the Sacramento River, American River, and Delta Export service areas.

I would like to comment on the American River area and that EIS here today. The draft American River EIS was released to the public for review and comments in the latter part of December 1988 and public workshops are being scheduled in January and February with the formal comment hearings scheduled in early March 1989.

As part of the EIS process and as indicated in the draft statement, Reclamation sent letters to potential water contractors in the American River service area asking them to identify how much new or additional water they would like to contract for from the CVP.

To give you some perspective, Table 3 shows the estimated present use from the American River and the water under contract. It also indicates the additional American River amounts and estimated needs of the requestors discussed in the Bureau's draft environmental statement. As noted, presently the water users either under contract or water rights are using approximately 230,000 acre-feet. Full use is estimated at 870,000 acre-feet. The additional estimated needs for the future contractors by year 2020 could be over 530,000 acre-feet as shown in Table 3. These water requirements indicate the increased use over present conditions could be an additional 1,100,000 acre-feet if all of these interested water needs were to be supplied from the American River. This increase would adversely affect the present instream flows in the Lower American River.

With the present use as indicated and considering the operation of Folsom Dam and Reservoir, the tabulation on page 15 shows average monthly flows in the American River over the past 10 years.

TABLE 3
AMERICAN RIVER DEMANDS a/

Exhibit: X-18

Entities or Areas	Under Contract (acre-feet)	Present Estimated Use (1985) (acre-feet)	Estimated Additional Water Requested (acre-feet)	Estimated Needs for Requestors
Foresthill Divide	2,800	2,800	0	
Folsom Lake Area	7,500	6,200	0	
Placer County	237,000 b/	9,000 c/	0	
Roseville	32,000	11,000	0	
San Juan Suburban	44,000 d/	44,000	29,000	29,000

City of Folsom	22,000 d/	15,000	50,000	18,400
Folsom Prison	4,000	4,000	0	
Orangevale and other north areas	0	0	67,100	39,900
Arden Cordova	10,000	10,000		
Carmichael Irrigation District	15,000 d/	15,000	0	
Riparian Users	40,000	40,000	0	

EBMUD e/	150,000	0	0	
SMUD f/	75,000	20,000	0	
Sacramento Co.	0	10,000 g/	243,350	228,950
City of Sacramento	230,000 d/	45,000	0	
San Joaquin Co.	0 h/	0	221,000 h/	221,000

	869,300	232,000	610,450	537,250

- a/ Acre-feet of water as of December 31, 1986.
- b/ Placer County Water Agency.
- c/ Water rights through San Juan Suburban system.
- d/ Contracts and water rights.
- e/ East Bay Municipal Utility District.
- f/ Sacramento Municipal Utility District.
- g/ Temporary interim 1-year contracts.
- h/ 155,000 acre-feet is presently under a contract for interim water and firm water use. This amount is planned to be delivered from New Melones and the Stanislaus River in the near future. The 221,000 acre-feet reflects 45,000 acre-feet to be supplied to Central San Joaquin Water Conservation District from New Melones.

TABULATION

Exhibit: X-18

AVERAGE FLOW FOR WATER YEARS 1979 - 1988
BELOW NIMBUS DAM

<u>MONTH</u>	<u>CUBIC FEET PER SECOND</u>	<u>MONTH</u>	<u>CUBIC FEET PER SECOND</u>
October	2200	April	5000
November	3600	May	4700
December	4800	June	4000
January	5400	July	3800
February	8500	August	2500
March	6400	September	2300

These average monthly flows are considerably higher than those provided in 1987 and 1988 when, for example, the average for June 1987 was 1,400 cubic feet per second and the average September 1988 was 1,100 cubic feet per second. The current release from Folsom Reservoir to the American River is 500 cubic feet per second.

With increased water use, the average flows could be substantially reduced over what the Bureau has maintained below Nimbus Dam for the Lower American River. Even if the potential future water contracting is not fully implemented, the use of American River under waters rights and current contracts will result in lower instream flows than has been previously experienced since the completion of Folsom Dam and Reservoir.

In the water contracting EIS studies, it is contemplated that for most years (year 2020 conditions), the Lower American River flows could range from modified Decision-1400 to Decision-893 flow regimens.

Decision-893 (D-893) is the present existing legal instrument. Exhibit 148 requirement which was established in 1958 by the State Water Resources Control Board in connection with Folsom Water Rights permitting process. It required Reclamation to release a minimum flow of 250 to 500 cubic feet per second below Nimbus Dam. This was the minimum used in the original planning for the Auburn-Folsom South Unit in the early 1960's. The 500 cubic feet per second releases would be made from September 15 through January 1, with a minimum release of 250 cubic feet per second during the remainder of the year. To maintain these releases, flows of 234,000 acre-feet of water would be required.

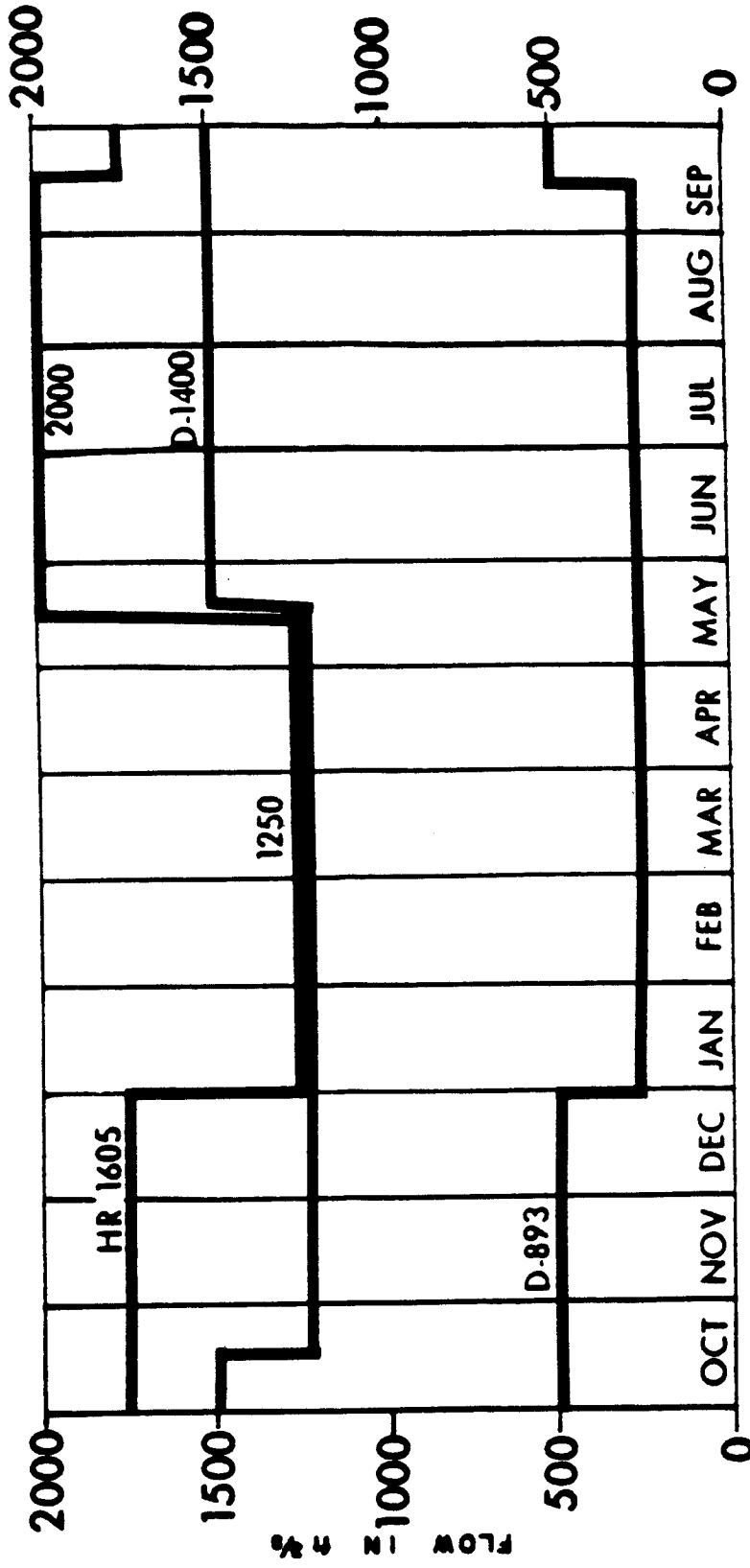
Decision-1400 (D-1400) was made with the Auburn Water Rights permitting process in 1972 after a series of public meetings and testimony before the State Water Resources Control Board. This decision establishes post-Auburn Dam flow conditions between 1250 and 1500 cubic feet per second. In the absence of Auburn Dam, minimum flows would continue to be governed by D-893.

Recently Reclamation and other entities have considered modified D-1400 criteria which measures the flow at a point above the city of Sacramento intake, rather than at the mouth of the American River as specified in D-1400. Change or modification in the point of reference would need concurrence by the State Water Resources Control Board. Maintenance of these flows would require 980,000 acre-feet of water.

The House of Representatives Bill H.R. 1605, introduced by Congressman Shumway, would amend the 1965 legislation authorizing Auburn Dam, and among other items included language proposing increased minimum flows in the American River ranging from 1250 cubic feet per second to 2000 cubic feet per second. These flow conditions were considered in Reclamation's 1987 Auburn Dam Alternatives Report and studies. Maintenance of these flows would require 1,203,000 acre-feet of water. Exhibit X-18

The three flow regimens of D-893, D-1400, and H.R. 1605 are shown graphically in Figure 2. As can be seen, the proposal to maintain flows such as H.R. 1605 or similar minimum flows to the American River for conditions with the multipurpose Auburn Dam Project would assist in maintaining the fishery and recreation use of the Lower American River and for the city and county of Sacramento's American River Parkway. Reclamation believes the parkway's fishery and recreation conditions can be maintained with these proposed instream flows. The non-Federal share of this improved instream flow cost is estimated at \$45 million. In addition to instream flows for the Lower American River is the recreation activity for the users upstream from Folsom Reservoir and at Folsom Lake. To put this into perspective, Figure 3 indicates the estimated recreation use for these areas for a recent year (1984).

As noted for the North and Middle Fork American River areas, the rafting use is approximately 20,000 recreation days and together, with the day use including hiking and other activities upstream

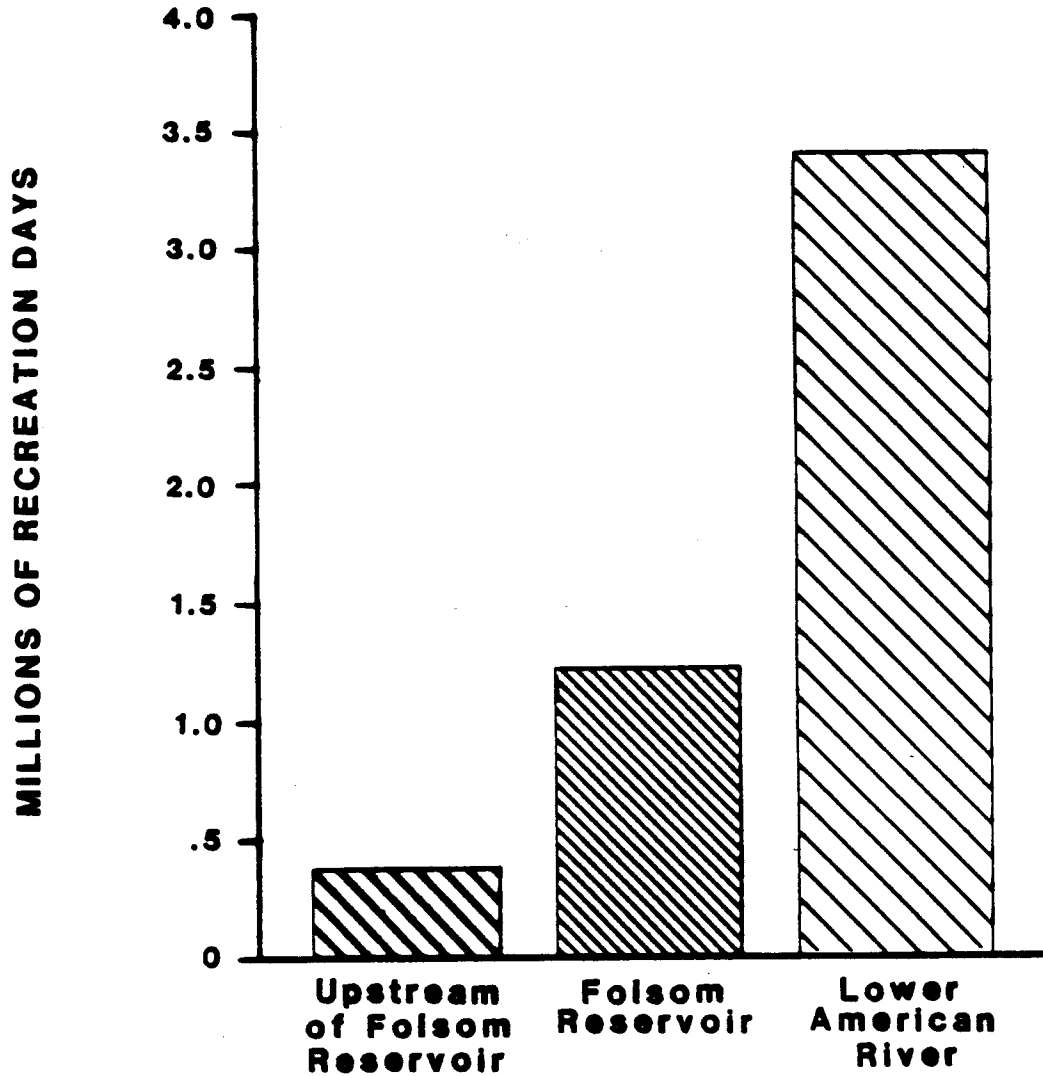


Nimbus to H Street Flows. Deficiencies taken in critical dry years for all flow release patterns:

Scenario	Acres-foot Annually
D-893	234,000
D-1400	680,000
HR 1605	1,203,000

LOWER AMERICAN RIVER FLOWS

AMERICAN RIVER Annual Recreation Use 1984



from Folsom Reservoir on the American River, was estimated at Exhibit X-18 approximately 370,000 recreation days; at Folsom Lake, 1,200,000 recreation days; and along the Lower American River approximately 3,400,000 recreation days of use. Along the Lower American River, the recreation use included approximately 237,000 angler days, 250,000 days for rafting; and 500,000 days for swimming and boating. With the 2.3 million acre-foot multipurpose Auburn project, the additional reservoir recreation use at Auburn is estimated at 1,600,000 recreation days. With Auburn, the reservoir recreation at Folsom Reservoir would be improved due to a larger surface area and less fluctuation.

For example, if the multipurpose Auburn Reservoir had been in operation in 1987, Folsom Lake would have been above the 600,000 acre-foot storage level for the entire year, thereby enabling greater recreational use and particularly year-round operation of the Folsom Lake Marina. This compares with the marina being in operation for only 5 months of March through July 1987. In 1988, with the multipurpose Auburn Reservoir, the Folsom Lake Marina would have been in operation for essentially the entire year. The low point in Folsom Lake Reservoir storage in the fall of 1988 was approximately 180,000 acre-feet.

The multipurpose Auburn Reservoir would also provide substantially increased flexibility in maintaining water temperatures to benefit the salmon and steelhead spawning runs on the Sacramento River below Shasta Dam and particularly in the Lower American River below Folsom Reservoir and at the Nimbus

Hatchery. For the diverters of water from Folsom Reservoir (Exhibit C-48 Juan Suburban Water District, El Dorado Irrigation District, and Placer County Water Agency), higher levels in the reservoir would have meant a reduction in energy costs associated with pumping water to serve those areas.

Another important aspect is the flood control issue to provide 200-year-plus protection along the American River for the areas within the county and city of Sacramento. To provide 200-year-plus flood protection, Corps studies indicate that an estimated total reservoir storage of 920,000 acre-feet, or 520,000 acre-feet more than the 400,000 acre-feet now provided by the Folsom Reservoir, is needed.

Table 4 is a comparison of the flood control allocations for a flood control only project of 650,000 acre-feet, which is similar to what the Corps is studying in their current feasibility study, as contrasted with the 2.3 million acre-feet multipurpose project flood control allocation. The estimated costs to residents of the city and county of Sacramento areas would be \$134 annually per structure for a flood control only facility as compared to \$128 annually for the 2,300,000 acre-foot multipurpose storage option. This represents the long-term flood control needs.

Flood protection from an 85-year event is generally considered the minimum level of protection the local community will need, and this is the level considered to be a 100-year event using hydrologic evaluation procedures recommended by the Federal Emergency Management Agency (FEMA).

TABLE 4
AUBURN DAM OPTIONS 1/

Exhibit: X-18

	Acre-Foot Storage	
	650,000	2,300,000
Water Supply 2/		
Incremental Increased CVP Integrated Storage Rates At year 2001		
100% agriculture - \$/acre-foot	-	2.32
100% M&I - \$/acre-foot	-	13.90
Flood Control 3/ - \$/annually	134	128
Power		
Increased CVP Integrated Power 4/ (mills/kilowatt-hours)	-	5.0

-
- 1/ Including sunk costs.
 - 2/ Some potential allocated costs for instream recreation flows included in water supply function.
 - 3/ Annual non-Federal cost per structure (residential and commercial) in flood plain.
 - 4/ Information developed by Western Area Power Administration.

It is our understanding that areas participating in the National Flood Insurance Program and found to be subject to potential flooding by FEMA for the 100-year event would likely be subject to potential land use development restrictions and higher flood insurance premiums. Consequently the city and county areas of Sacramento adjacent to the American River need the 100-year flood protection as an interim action as soon as possible.

Authorization for such a study was obtained in the 1989 Energy and Water appropriations bill. This study by the Corps' will develop interim alternatives for reoperation and temporary

reallocation of the flood control storage space in Folsom Reservoir. Exhibit: X-18

To obtain 100-year FEMA level protection, the Corps has identified the needs for maintaining a total of 590,000 acre-feet of storage for flood control purposes in Folsom Reservoir. The Corps' schedule calls for completion of the final environmental documentation and report in the summer of 1990. Reclamation will be cooperating and assisting in this study and believes that consideration needs to be given to the reconstruction of the Auburn cofferdam for this interim flood protection.

As you are aware, Reclamation has proposed an agreement which is now being considered by both the Sacramento County Board of Supervisors, City Council, and local districts to provide an additional 100,000 acre-feet of flood space in Folsom Reservoir during this current winter of 1988-89. This would require compensation for the potential water and power impacts along with consideration for the recreation and fishery aspects.

Before I discuss the critical timing schedule for providing both the interim and long-term flood control along with other multipurpose benefits, I would like to provide an update on Reclamation's current activities.

Reclamation and Western will be evaluating the ARA financial proposal over the next several months. A cost-sharing negotiating team has been designated by the Secretary and is

currently reviewing the ARA proposal. An updated operation study with Auburn has been essentially completed that is consistent with the CVP water contracting hydrologic evaluations. Exhibit X-18

Reclamation has updated the Auburn Dam costs for the 2.3 million acre-foot reservoir from January 1987 to July 1988 prices. This update indicates an increase in costs of \$20 million. Western is now evaluating the power accomplishments and developing pertinent information needed for updating the cost allocations.

Reclamation is also evaluating the project sunk costs as suggested by ARA to determine what portion of the sunk costs are specifically applicable to the Auburn Project with the remaining portion of these costs to be potentially considered as nonreimbursable. Completion of these required analyses by Reclamation and Western is needed to identify the water, power, and flood control repayment aspects for the financing proposal submitted by ARA.

To assist in this effort, Reclamation and Western have made some preliminary evaluations of the integrated CVP water rates for agricultural and municipal water supply purposes and the integrated CVP power supplies, along with flood control aspects. These evaluations are based on the cost-allocation analyses presented for the Auburn multipurpose options in Reclamation's July 1987 report.

Table 4 shows the water supply, flood control, and power ~~Exhibit 18~~ for the multipurpose 2,300,000 acre-foot Auburn option and the 650,000 acre-foot flood control only facility, including the sunk costs. Analyses were not performed for the options without the sunk costs. These will subsequently be provided. Relating to the ARA financing proposal for the 2.3 million acre-foot option, the increased integrated CVP water rate would be \$2.32 per acre-foot if 100 percent of the supply is utilized for irrigation purposes. The rate would increase by \$13.90 if all the water supply is used for municipal and industrial purposes.

These incremental cost increases to CVP storage rates in the year 2001 were based on the assumption that no new additional facilities or costs were going to be added or incurred. In addition, the incremental costs include the effect of integrating construction-related costs only. In terms of the proposed Auburn Dam costs upon overall CVP storage rates, it is important to note that these incremental increases are not increases over present rates, but those rates which would be in place in the year 2001.

It should also be noted that the average annual cost for the flood control function for the 2,300,000 acre-foot multipurpose storage option would be approximately \$128 annually per structure, which compares to the \$134 annually per structure for a 650,000 acre-foot flood control only facility (or dry dam) similar to the size being evaluated by the Corps. These structures include the estimated commercial and residential

structures within the American River flood plain, which ~~was based~~ on information prepared by a consultant for Sacramento County.

It was estimated that without additional flood protection, the average insurance premiums for commercial and residential structures could be about \$540 per annum. The \$540 premium is based on homes with an average market value of \$90,000. The cost estimated for flood insurance of \$540 per annum would then be over four times more than the \$128 in Table 4.

Now, regarding Reclamation's time schedule in providing both interim and long-term flood control protection. Currently, Reclamation has an authorized project and therefore once a decision is made with a cost-sharing agreement to proceed with the project, final design work could be initiated as soon as funds are included in the Bureau's budget. It may be necessary to obtain amendatory Congressional legislation for certain project aspects, but this could be obtained either in parallel to initiation of the project design, or the adjustments could be implemented through the yearly Congressional appropriations process.

Assuming a decision is made to proceed by the summer of this year, then it is probable that the designs for the multipurpose dam could be initiated in fiscal year 1991 which starts in October 1990. Reclamation estimates that the multipurpose project designs would take approximately 3 years to be followed by a 5-1/2- to 6-year construction period. The project could be

completed with power on the line by approximately the fall of 1999.

Regarding the interim near term flood control operations, it would be necessary to utilize more than the 400,000 acre-feet of storage in Folsom Reservoir to achieve 100-year FEMA level for a period of several years. Reclamation believes that consideration should be given to reconstructing Auburn cofferdam to provide some of this interim protection. For example, if the decision was made to proceed with the multipurpose project by the summer of 1989, Reclamation believes that the design of a rebuilt cofferdam would require no more than 6 months and could be completed in 1990. The cofferdam would require a 2-year construction period and could possibly be completed by the fall of 1992.

Reclamation estimates that a redesigned cofferdam with a spillway for FEMA level protection would cost in the range of approximately \$30 to \$40 million. Full or partial funding required for this construction could be provided by the local city and county of Sacramento beneficiaries of the multipurpose project. Reclamation would consider any local funds provided for the cofferdam construction would be credited against the total non-Federal cost sharing required for the flood control function in the multipurpose Auburn project.

The important factor is that the utilization of the cofferdam for interim flood protection would permit the normal flood control

operation of Folsom Reservoir at 400,000 acre-feet for a period of up to about 8 years while completing the multipurpose project. Without the use of the cofferdam, greater flood control storage in Folsom would be needed, thus creating adverse water supply, power, recreation, and fishery aspects. I believe this gives you the potential timeframes associated with Reclamation's flood control activities and the multipurpose Auburn Dam Project.

In the fall of 1988, the Department of the Interior's Assistant Secretary for Water and Science, James Ziglar, announced the establishment of an Auburn Dam cost-sharing negotiating team. This team, composed of senior Department of the Interior and Bureau of Reclamation officials, will be negotiating with interested California parties and, in particular, the American River Authority, on its \$700 million cost-sharing proposal for a multipurpose Auburn Dam.

The Assistant Secretary announced that Brad Leonard, Deputy Director, Office of Programs Analysis in the Department of the Interior, will head the team. Mr. Leonard is joined on the negotiating team by William C. Klostermeyer, Reclamation's Assistant Commissioner for Administration and Liaison in Washington, DC; Darrell Webber, Assistant Commissioner for Engineering and Research in Denver, Colorado; Billy E. Martin, Assistant Commissioner for Resources Management in Denver, Colorado; and Wayne Deason, Manager of Environmental Services in Denver, Colorado. David G. Coleman, Area Manager for the Western Area Power Administration in Sacramento, will serve as an advisor

to the negotiating team. An advisor from the U.S. Fish and Wildlife Service will also participate. This negotiating team held its initial meetings in January 1989 with representatives from ARA, city and county of Sacramento, and the California Resources Agency along with representatives from the Department of Water Resources.

The Assistant Secretary believes these individuals on the negotiating team represent the range of expertise necessary to negotiate a cost-sharing agreement that will be required to plan, build, and manage Auburn Dam in an economically and environmentally sound manner. Furthermore, the Central Valley Project Water Users Association has established an Auburn Dam working subcommittee which will be of assistance to the Departmental team.

I would like to emphasize that the support and funding assistance from the city and county of Sacramento for the needed flood control protection will permit the Bureau of Reclamation to proceed with the multipurpose Auburn Dam Project. Although only requiring financial assistance to provide the needed flood control from this water resource project, we firmly believe that Sacramento city and county communities will attain other substantial benefits from the multipurpose project such as enhanced recreational and fisheries opportunities, future water supplies, and marketable hydroelectric power.

I appreciate the opportunity to present this information Exhibit: X-18 concerning Auburn Dam and the American River, and my staff and I would be pleased to respond to any questions you may have at any time.