



CALFED
BAY-DELTA
PROGRAM

No Action Alternative

Programmatic EIS/EIR
Technical Appendix
March 1998

CALFED

NO ACTION ALTERNATIVE APPENDIX

March 1998



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SUMMARY

The purpose of this No Action Appendix is to present the steps that were followed to define the No Action Alternative. A general description of the final CALFED No Action Alternative and a table of the physical, regulatory and operational features is summarized below.

CALFED undertook an intensive public process to describe the No Action Alternative. As part of this effort, meetings were held and various materials were prepared and distributed to key agencies, stakeholders, and the public for review and comment. The following list provides a summary of these meetings and materials. This appendix was prepared based on these documents.

TIME LINE	DOCUMENT
May 20, 1996	Proposed approach for developing the No Action Alternative.
July 11, 1996	Workshop packet proposing projects for the No Action Alternative.
September 18, 1996	Screening report for the No Action Alternative and responses to comments received on the July 11, 1996 workshop.
September 27, 1996 October 11, 1996 November 15, 1996	Stakeholder and Agency meetings to develop No Action Alternative
December 30, 1996	Report summarizing assumptions for the No Action Alternative.
December 31, 1996	Addendum to the September 18, 1996 screening report.
March 5, 1997	Summary report of the efforts to describe the No Action Alternative.
April 29, 1997	Second addendum to the September 18, 1996 screening report
May 20 and June 9, 1997	Submittals to CALFED Policy Group seeking resolution of the No Action Alternative.
June 26 1997	Request for CALFED Policy Group's agreement on No Action Alternative.
August 6, 1997	Memorandum documenting CALFED Policy Group's action on the No Action Alternative.

The No Action Alternative is intended to disclose what would happen, in the future, if the project alternatives are not implemented. The CALFED No Action Alternative is a reasonable approximation of the physical, operational, and regulatory features which would be in place in the year 2020. All descriptions of the No Action Alternative physical, operational, and regulatory features are based on their status as of June 1995.

The No Action Alternative is used as a basis for comparison of the project alternatives. The purpose of this comparison is to note changes to the environment which would take place as a result of implementing the various alternatives.

Since water simulation modeling is needed to identify differences between alternatives, many of the operational and regulatory features were identified specifically to serve as assumptions for this modeling effort.

The summary results of CALFED's efforts to describe the No Action Alternative are presented in Table 1.

Table 1. No Action Alternative as of June 1995

Physical, Regulatory, and Operational Features of the No Action Alternative as of June 1995
Coastal Branch II of the Coastal Aqueduct
CVPIA - Dedication of 800,000 AF (assumes B-2 requirements of Act are met) - Deliver Level IV water amounts to State and Federal refuges - Shasta Temperature Control Device - Restoration Fund and Friant Division Surcharge
Interim Re-operation of Folsom Reservoir (assumes 400-670 TAF flood control reservation)
Monterey Agreement
Kern Water Bank (recently completed features only)
CVP and SWP Operations (assumes continued operation pursuant to 1992 CVP operating criteria and procedures and current SWP operating criteria)
Los Vaqueros Reservoir Project
Water Contact Rate Setting (assumes existing rate setting policy)
Eastside Reservoir Project
Endangered Species Listings (assumes no new listings)
New Melones Conveyance Project

Drinking Water Regulations (assumes existing regulations)
Sacramento River Flood Control System Evaluation (Phases I & II)
Level of Development (assumes 2020)
Stones Lakes National Wildlife Refuge
CVP Delta Exports (assumes 3.5 MAF with variations in a few wet years)
Semitropic Water Storage District Groundwater Banking Project
SWP Delta Exports (assumes variable amount, 3.6-4.1 MAF)
Water Conservation (assumes levels per upcoming Bulletin 160-98)
Coordinating Operations Agreement (assumes current agreement continues)
Land Retirement (assumes 45,000 acres retired by 2020 according to Bulletin 160-93)
Tracy Pumping Capacity (assumes current permitted capacity -4600 cfs)
Groundwater Regulations (assumes existing groundwater regulation policies)
Sacramento, American, Feather, Stanislaus, Merced, Mokelumne, etc. (assumes current instream water requirements including Biological Opinion, FERC, SWRCB, CVPIA, DFG, etc. are met)
Power Production (assumes power produced incidental to other operations)
Banks Pumping Capacity (assumes current permitted capacity - 6680 cfs)
Flood Control Policies (assumes existing policies)
Trinity River (assumes maximum release of 340 TAF)
Population Estimates (CA Dept. Of Finance Projection for 2020)
Tuolumne and Yuba Rivers (assumes new FERC agreements in place)
Delta Standards (assumes 1995 WQCP and Delta Smelt and winter run chinook salmon Biological Opinions)
Vernalis Salinity Standard (assumes standard is met in all years subject to Vernalis Adaptive Management Plan)

NO ACTION ALTERNATIVE

Need for a No Action Alternative

The CALFED Bay-Delta Program (CALFED Program) is developing a joint Programmatic Environmental Impact Statement/Environmental Impact Report (EIS/EIR) to address the environmental impacts and benefits of the range of actions that could be implemented to restore ecosystem health, resolve water supply issues, protect water quality, and manage the integrity of Delta levees.

Both the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) require that an EIS or EIR examine alternative ways of accomplishing the objectives of a proposed project. Both acts also require an examination of a "No Action" or "No Project" Alternative. The No Action Alternative is intended to disclose to the public and decision makers what would happen if the proposed action was not implemented and existing trend and conditions continues. The No Action Alternative and the Existing Conditions will serve as baselines against which the impacts and benefits of the CALFED Program alternatives will be compared.

Approach for Developing the No Action Alternative

The CALFED Program used a rigorous screening approach to determine which future programs, projects, policies, and institutional actions were clearly definable and highly likely to occur and as such would be included in the No Action Alternative. Programs, projects, policies, and institutional actions not included in the No Action Alternative were be considered for inclusion in the cumulative impact analysis. In addition, where needed, the CALFED Program conducted additional "sensitivity" analyses for major projects not included in the No Action Alternative to determine what effects they might have had on the No Action baseline, had they been included.

It is important to remember that the No Action Alternative is only a tool for illuminating the potential consequences of implementing the alternatives. As such, including or excluding an action from the No Action Alternative is not, in any way, intended to be a judgement regarding the merits of that action, or an assessment of the likelihood that the action will be implemented in the future.

Criteria for Determining Future Actions to Include in the No Action Alternative

In developing the No Action Alternative; the CALFED Program focused on those future actions that could affect the physical features of the Bay-Delta system, and on the future federal and state policies that could affect the Central Valley and State Water

Projects. Local actions and policies were generally not considered unless they were of sizable magnitude. The CALFED Program has included proposed land use projections which are cited in the California Department of Water Resources Bulletin 160-93. Local land use changes and programs were not specifically considered in the No Action Alternative.

The CALFED Program used the screening criteria listed below to determine which actions to include in the No Action Alternative. Potential actions that meet all applicable criteria were included in the No Action Alternative. Actions that do not meet all of the applicable criteria were further screened for consideration of inclusion in the cumulative impact analysis. It is important to note that, although the screening criteria were well developed and rigorous, judgement was required in some instances, in screening certain actions.

Criterion 1: Has the Action been approved for implementation?

To be included in the No Action Alternative, implementation of the action must have been approved by the project sponsor or by the ultimate authorizing agency. In the case of construction-related projects, this approval must include authorization for design and construction.

Criterion 2: Does the Action have funding for implementation?

To be included in the No Action Alternative, an action must have sufficient approved funding to provide for its implementation.

Criterion 3: Does the Action have Final Environmental Documents?

This criterion would be satisfied if all environmental documents and approvals necessary for implementation of the action have been completed.

Criterion 4: Does the Action have Final Environmental Permits and Approvals?

This criterion would be satisfied if all final major permits and approvals (such as a Section 404 Permit or Endangered Species Act compliance) necessary to implement the action had been obtained.

Criterion 5: Will the Action be excluded from the CALFED Bay-Delta Program Actions?

Actions that will be included in the action alternatives for the CALFED Program were not included in the No Action Alternative. A comparison of the action alternatives with the No Action Alternative would be distorted if an action were included in both.

Criterion 6: Would the effects of the Action be identifiable at the level of detail being considered for CALFED Bay-Delta Program analysis?

If a project's effects would be undetectable or minor in the programmatic impact analysis, the project need not be included in the No Action Alternative. For example, if a project to be implemented by a water user could change localized conditions in the vicinity of the project but would not affect regional conditions, or if those changes would be minor, the action may not need to be included in the No Action Alternative. This criterion is intended to avoid including actions that would not materially affect the outcome of the CALFED Program alternatives analysis.

No Action Alternative Screening Process

List of Projects Considered

Below is a list (Table 2) of specific major projects and studies that was developed by CALFED to be screened for inclusion in the No Action Alternative. Those actions which are not included in the no action alternative were further considered for inclusion as cumulative actions. The first part of the table is derived directly from the CVPIA PEIS process and contains a comprehensive list of actions, studies, and projects.

In addition to the items derived for the CVPIA PEIS process, CALFED has augmented the list with major actions, studies, and projects currently known to be under consideration that could be related to the CALFED effort.

The list is not intended to identify every individual action, project, or program that has been proposed, but rather to focus on the major activities that should be considered for inclusion in the No Action Alternative.

Table 2 Identified Projects to be Considered for Inclusion
in the No-Action Alternative

Project Name	Project Status		
	Study	Design	Construction
Projects Previously Considered for Inclusion in the CVPIA PEIS			
Federal Projects			
U.S. Bureau of Reclamation			
Auburn Dam	X	X	
Cache Creek Basin Study	X		
Central Valley Fish and Wildlife Management Study	X		
Central Valley Project Operations, Total Water Management Study	X		
Colusa Basin Study	X		
Contra Costa Pumping Plant Modifications	X		
Enlarged Cross Valley Canal	X	X	
Folsom-South and Lower American River Study	X		
Friant Powerplants Study	X		
Glenn-Colusa Irrigation District Fish Facility	X		
Kellogg Unit Reformulation	X		
Kesterson Reservoir Clean Up	X	X	X
Keswick Powerplant Enlargement	X		
Lake, Yolo, Napa, Solano Counties Ground Water Study	X		
Mid-Valley Canal (San Joaquin Conveyance Project)	X		
New Melones Lake Resource Management Plan	X		
Offstream Storage	X		
Red Bluff Diversion Dam Fish Passage Program	X		
Refuge Water Supply Study	X		
Sacramento Basin Fish Habitat Improvement Study	X		
Sacramento River Drainage and Seepage Utilization Study	X		
San Luis Unit Drainage Plan	X	X	
Shasta Lake Enlargement	X		
Shasta Temperature Control Device	X	X	X
Sites Reservoir	X		
Sonora-Keystone Unit (Stanislaus Division)	X		
Spring Creek Toxicity Program	X	X	X
Stanislaus River Basin and Calaveras River Water Use Program	X		
Tracy Pumping Plant Improvements	X		
Trinity River Restoration Program	X	X	X
Watsonville (Pajaro Valley Basin) Management Plan	X		
Western Energy Expansion Study	X		
Western Sacramento Canals Unit	X		
Whiskeytown Powerplant Study	X		

Project Name	Project Status		
	Study	Design	Construction
U.S. Fish and Wildlife Service			
Coleman Fish Hatchery Improvements	X	X	
Stone Lakes National Wildlife Refuge	X	X	X
Upper Sacramento River Habitat Study	X		
U.S. Army Corps of Engineers			
American River Watershed Project (flood detention dam at Auburn site/downstream levee improvements)	X		
Cache Creek Basin Improvements	X	X	X
Caliente Creek Feasibility Study	X		
Kaweah River Investigation	X		
Lake Oroville Enhancement Study	X		
Lower San Joaquin River and Tributaries Levees Improvements	X		
Marysville Lake	X		
Marysville Yuba River Levees Study	X		
Merced County Streams Study	X		
Pine Flat Fish and Wildlife Restoration Project	X		
Redbank-Fancher Creeks Dams	X	X	X
Sacramento River Flood Control System Evaluation	X	X	X
South Sacramento Streams Study	X		
West Sacramento Project	X	X	X
Yolo Bypass Westside Tributaries Study	X		
State of California Projects			
Arroyo Pasajero	X		
Clear Creek Improvements	X	X	X
Coastal Aqueduct	X	X	X
Georgiana Slough Improvements	X		
Kern Water Bank	X	X	X
Los Banos Grandes Dam and Reservoir	X		
North Delta Water Management Program	X		
Old River Barrier	X		
Red Bank Dam Study (Cottonwood)	X		
Sacramento-San Joaquin Delta Levees Subvention Project	X	X	X
South Delta Program	X		
Suisun Marsh Protection Plan	X	X	X
West Delta Water Management Program	X		

Project Name	Project Status		
	Study	Design	Construction
Local Projects			
Anderson-Cottonwood Irrigation District Fish Passage	X		
Arvin Edison Water Storage District Exchange Program	X		
Delta Wetlands Project	X		
East Bay Municipal Utility District Water Management Plan	X		
Fresno-Clovis Water Resources Master Plan	X		
Los Vaqueros Reservoir Project	X	X	X
San Francisco Bay Area and San Joaquin Valley Water Reuse Project	X		
Susanville-Honey Lake Resource Appraisal Study	X		
Upper American River Project	X		
Additional Projects Being Considered by CALFED for Inclusion in the Programmatic EIR/EIS			
Federal Projects			
American River Water Resources Investigation	X		
Central Valley Project Improvement Act	X		
Folsom Reservoir Outlet Shutters	X		
Local Projects			
EBMUD Conjunctive Use Project	X		
Delta-Mendota Conveyance	X		
Folsom-South Canal Connection Project	X		
Interim Reoperation of Folsom Reservoir	X	X	X
Raise Pardee Dam Project	X		
Sacramento Water Forum	X		

Screening for Inclusion in the No Action Alternative

The No Action Alternative will be based initially on the facilities, operations, and institutional regulatory consideration in place under existing conditions. The purpose of the screening process is to determine what additional actions, projects, and programs should be added to the existing conditions scenario to form the No Action Alternative.

Results of the screening of the screening process for inclusion of actions in the CALFED are shown in Table 3.

Table 3. Scheduling of Projects for Inclusion in the No-Action Alternative

Project Name	Criterion 1: Has the Action Been Approved for Implementation?	Criterion 2: Does the Action Have Funding for Implementation?	Criterion 3: Does the Action Have Final Environmental Documents?	Criterion 4: Does the Action Have Final Environmental Permits/ Approvals?	Criterion 5: Will the Action Be Excluded from the CALFED Actions?	Criterion 6: Would the Effects of the Action Be Identifiable at the Level of Detail Being Considered for CALFED Analysis?	Incorporate into No-Action Alternative?
American River Water Resources Investigation	No	No	No	No	No	Yes	No
American River Watershed Project	Partially	Partially	Yes	Partially	Yes	Yes	No
Anderson-Cottonwood Irrigation District - Fish Passage	No	No	No	No	Yes	No	No
Arroyo Pasajero	No	No	No	No	Yes	No	No
Aryin Edison Water Storage District - Water Storage and Exchange Program	No	No	No	No	NA	NA	No
Auburn Dam and Reservoir	No	No	No	No	Yes	Yes	No
Cache Creek Basin Study (Corps)	Yes	Yes	Yes	Yes	Yes	No	No
Cache Creek Basin Study (U.S. Bureau of Reclamation)	No	No	No	No	Yes	Yes	No
Caliente Creek Feasibility Study	No	No	No	No	Yes	Yes	No
Central Valley Fish and Wildlife Management Study	NA	NA	NA	NA	NA	NA	No
Central Valley Project Improvement Act (partial)	Yes (partial)	Yes	No	No	No	Yes	Yes (partial)
Central Valley Project Operations, Total Water Management Study	NA	NA	NA	NA	NA	NA	No
Clear Creek Improvements	Yes	Partially	No	No	No	Yes	No
Coastal Aqueduct	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Coleman Fish Hatchery Improvements	Partially	Partially	No	No	No	Yes	No
Colusa Basin Study	NA	NA	NA	NA	NA	NA	No
Contra Costa Pumping Plant Modifications	No	No	No	No	No	Yes	No

NA = Not applicable

C-005975

Table 3 Continued

Project Name	Criterion 1: Has the Action Been Approved for Implementation?	Criterion 2: Does the Action Have Funding for Implementation?	Criterion 3: Does the Action Have Final Environmental Documents?	Criterion 4: Does the Action Have Final Environmental Permits/ Approvals?	Criterion 5: Will the Action Be Excluded from the CALFED Actions?	Criterion 6: Would the Effects of the Action Be Identifiable at the Level of Detail Being Considered for CALFED Analysis?	Incorporate into No-Action Alternative?
Delta Wetlands Project	No	Yes	No	No	Yes	Yes	No
East Bay Municipal Utility District/East San Joaquin County Parties - Groundwater Banking Project	No	No	No	No	Yes	Yes	No
East Bay Municipal Utility District - Pardee Reservoir Enlargement Project	No	No	No	No	Yes	Yes	No
East Bay Municipal Utility District Updated Water Supply Management Program	Yes	Yes	Yes	NA	Yes	NA	No
Enlarged Cross Valley Canal	No	No	Yes	No	Yes	Yes	No
<u>Folsom Reservoir Outlet Shutters</u>	<u>No</u>	<u>No</u>	<u>No</u>	<u>No</u>	<u>No</u>	<u>Yes</u>	<u>No</u>
Folsom-South and Lower American River Study	No	No	No	No	Yes	Yes	No
Folsom South Canal Connection Project	No	No	No	No	Yes	Yes	No
Fresno-Clovis Metropolitan Water Resources Master Plan	No	No	No	No	Yes	NA	No
Fresno Metropolitan Water Resources Master Plan	No	No	No	No	Yes	NA	No
Friant Power Plants	No	No	No	No	Yes	No	No
Georgiana Slough Improvements	Yes	No	No	No	No	Yes	No
Geothermal Investigations	No	No	No	No	Yes	No	No
Glenn-Colusa Irrigation District Fish Screen Improvement Project	Yes	Yes	No	No	Yes	No	No

C-005976

Table 3 Continued

Project Name	Criterion 1: Has the Action Been Approved for Implementation?	Criterion 2: Does the Action Have Funding for Implementation?	Criterion 3: Does the Action Have Final Environmental Documents?	Criterion 4: Does the Action Have Final Environmental Permits/ Approvals?	Criterion 5: Will the Action Be Excluded from the CALFED Actions?	Criterion 6: Would the Effects of the Action Be Identifiable at the Level of Detail Being Considered for CALFED Analysis?	Incorporate into No-Action Alternative?
Interim Reoperation of Folsom Reservoir (Sacramento Area Flood Control Agency and U.S. Bureau of Reclamation)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Interim South Delta Program	Yes	No	No	No	Probably not	Yes	No
Kaweah River Investigation	No	No	No	No	Yes	No	No
Kellogg Unit Reformulation Study	No	No	No	No	Yes	Yes	No
Kern Water Bank	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Keswick Power Plant Enlargement	No	No	No	No	Yes	No	No
Lake Oroville Enhancement Study	Yes	Yes	Yes	Yes	Yes	No	No
Lake, Yolo, Napa, and Solano Counties Groundwater Study	NA	NA	NA	NA	NA	NA	No
Los Banos Grandes Dam and Reservoir Study	No	No	No	No	No	Yes	No
Los Vaqueros Reservoir Project	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lower San Joaquin River and Tributaries Levee Improvements	No	No	No	No	Yes	Yes	No
M&T/Parrott Pumping Plant and Fish Screen Project	Yes	Yes	Yes	Yes	No	No	No
Marysville Lake	No	No	No	No	No	No	No
Marysville-Yuba River Levees Study	Yes	Yes	Yes	Yes	Yes	No	No
Merced County Streams Study	Yes	No	Yes	No	Yes	No	No
Metropolitan Water District - Eastside Reservoir Project	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Metropolitan Water District - Inland Feeder Project	Yes	Yes	Yes	Yes	Yes	Yes	Yes

NA = Not applicable

C-005977

Table 3 Continued

Project Name	Criterion 1: Has the Action Been Approved for Implementation?	Criterion 2: Does the Action Have Funding for Implementation?	Criterion 3: Does the Action Have Final Environmental Documents?	Criterion 4: Does the Action Have Final Environmental Permits/ Approvals?	Criterion 5: Will the Action Be Excluded from the CALFED Actions?	Criterion 6: Would the Effects of the Action Be Identifiable at the Level of Detail Being Considered for CALFED Analysis?	Incorporate into No-Action Alternative?
Mid-Valley Canal (San Joaquin Conveyance Project)	No	No	No	No	Yes	Yes	No
Monterey Agreement	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Montezuma Wetlands Project	No	Yes	No	No	Yes	Yes	No
New Melones Conveyance Project	Yes	Yes	Yes	Yes	Yes	Yes	Yes
New Melones Reservoir Resource Management Plan	Yes	No	No	Not needed	Yes	No	No
New Melones Reservoir Water Management Study - Short-Term	No	No	No	No	Yes	Possibly	No
North Delta Water Management Program	No	No	No	No	Yes (partial)	Yes	No
Offstream Storage	No	NA	NA	NA	NA	NA	No
Old River Barrier	No	No	No	No	No	Yes	No
Pine Flat Fish and Wildlife Restoration Project	No	No	No	No	Yes	No	No
Red Bank Dam Study (Cottonwood)	No	No	No	No	<u>Under consideration</u>	Yes	No
Redbank-Fancher Creek Study	Yes	Yes	Yes	Yes	<u>Under consideration</u>	No	No
Red Bluff Diversion Dam Fish Passage Program	No	Yes	No	No	No	No	No
Refuge Water Supply Study	No	No	No	No	Yes	Yes	No
Sacramento Area Water Forum and the Foothill-Forum Water Group - Water Forum	No	No	No	No	Yes	Yes	No
Sacramento Basin Fish Habitat Improvement Study	NA	NA	NA	NA	NA	NA	No

C-005978

Table 3 Continued

Project Name	Criterion 1: Has the Action Been Approved for Implementation?	Criterion 2: Does the Action Have Funding for Implementation?	Criterion 3: Does the Action Have Final Environmental Documents?	Criterion 4: Does the Action Have Final Environmental Permits/ Approvals?	Criterion 5: Will the Action Be Excluded from the CALFED Actions?	Criterion 6: Would the Effects of the Action Be Identifiable at the Level of Detail Being Considered for CALFED Analysis?	Incorporate Into No-Action Alternative?
Sacramento Municipal Utility District - El Dorado County Water Agency Upper American River Project	No	No	No	No	Yes	Yes	No
Sacramento River Drainage and Seepage Utilization Study	No	No	No	No	Yes	Yes	No
Sacramento River Flood Control System Evaluation (partial)	Yes	Yes	Yes	Yes	Yes	Yes	Yes (partial)
Sacramento-San Joaquin Delta Levees Subvention Project	Yes	Yes	Yes	Yes	Yes	Yes	Yes
San Francisco Bay Area and San Joaquin Valley Water Reuse Project	No	No	No	No	Yes	NA	No
San Francisco - Central California Regional Water Recycling Project	No	No	No	No	Yes	NA	No
San Luis Unit Drainage Plan	No	No	No	No	Yes	Yes	No
Semitropic Water Storage District/Metropolitan Water District - Groundwater Banking Project	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Shasta Lake Enlargement	No	No	No	No	Yes	Yes	No
Shasta Temperature Control Device	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sites Reservoir	No	No	No	No	<u>Under consideration</u>	Yes	<u>No</u>
Sonora-Keystone Unit Studies	No	No	No	No	Yes	No	No
South Sacramento Streams Study	No	No	No	No	Yes	No	No
Spring Creek Toxicity Program	Yes	Yes	Yes	No	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>
Stanislaus River Basin and Calaveras River Water Use Program	No	No	No	No	<u>Yes</u>	<u>NA</u>	No

NA = Not applicable

Table 3 Continued

Project Name	Criterion 1: Has the Action Been Approved for Implementation?	Criterion 2: Does the Action Have Funding for Implementation?	Criterion 3: Does the Action Have Final Environmental Documents?	Criterion 4: Does the Action Have Final Environmental Permits/ Approvals?	Criterion 5: Will the Action Be Excluded from the CALFED Actions?	Criterion 6: Would the Effects of the Action Be Identifiable at the Level of Detail Being Considered for CALFED Analysis?	Incorporate into No-Action Alternative?
Stone Lakes National Wildlife Refuge	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Suisun Marsh Protection Plan	No	No	No	No	No	Yes, for Phases I and II	No
Tracy Pumping Plant Improvements	Yes	Yes (partial)	No	No	No	Yes	No
Trinity River Restoration Program	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Upper Sacramento River Fisheries and Riparian Habitat Study	Partially	Partially	No	No	No	Yes	No
Watsonville (Pajaro Valley Basin) Management Plan	No	No	No	No	Yes	Yes	No
West Delta Water Management Program	No	No	No	No	No	Yes	No
West Sacramento Project	Yes	Yes	Yes	Yes	Yes	No	No
Western Energy Expansion Study	NA	NA	NA	NA	NA	NA	No
Western Sacramento Canals Unit	No	No	No	No	Yes	Yes	No
Westlands Water District - Conveyance of Nonproject Groundwater Using the California Aqueduct	No	No	No	No	Yes	Yes	No
Westlands Water District - Conveyance of Nonproject Groundwater from the Mendota Pool Area Using the California Aqueduct	No	No	No	No	Yes	Yes	No
Whiskeytown Power Plant	No	No	No	No	Yes	No	No
Wind-Hydro Opportunities Study	NA	NA	NA	NA	NA	NA	No
Yolo Bypass Westside Tributaries Study	No	No	No	No	Possibly	No	No

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Regulatory and Operational Features of the No Action Alternative

This section discusses the regulatory and operational features assumed to be included, and the reasons for their inclusion, as part of the No Action Alternative. Elements discussed below are similar to those discussed under existing conditions and include such items as Bay-Delta water quality standards, the long-term biological opinions for winter-run chinook salmon and delta smelt, and the Coordinated Operations Agreement. Comparisons of elements used as part of the CVPIA PEIS and the SWRCB EIR are also included.

Bay- Delta Water Quality Standards. CALFED has determine that SWRCB's interim water quality control plan (95-1 WR) should be incorporated into the No Action Alternative because it is representative of the likely standards that would be set in the future.

Biological Opinions. The long-term biological opinions governing operation of CVP are assumed to apply to the No Action Alternative. Although these opinions may be modified, CALFED believes that the current opinions represent a reasonable approximation of future requirements for delta smelt and winter-run chinook salmon under the No Action Alternative.

Coordinated Operations Agreement. CALFED proposes to include the current COA in the No Action Alternative. Although various changes may be made to the COA to reflect future changes in operational requirements, there is no specific information on what these future changes may include; therefore, CALFED believes that the current COA represent the best available information.

CVP and SWP Facilities. Although there are numerous proposals under consideration to modify and add to CVP and SWP facilities, none of these proposals have received complete environmental and regulatory approval; therefore, for purposes of the No Action Alternative, CALFED proposes to include only currently operating facilities. Major modifications and additions to these facilities will be included, as appropriate, to the cumulative impact analysis.

Trinity River Flows. Trinity River flows are the subject of a separate ongoing study. CALFED proposes to include minimum flows of 340,000 af/yr as a baseline measurement in the No Action Alternative. The Trinity River study is examining the need for higher flows; these higher flows will be considered in the study's cumulative impact analysis. Additionally, CALFED will consider conducting additional analysis, if appropriate, to determine what effect changes to these flows might have on water availability and sensitive resources.

Contract and Water Rights Deliveries. Appropriate assumptions for contract and water rights deliveries under the No Action Alternative are under consideration by CALFED. One possible approach is to assume that water rights and CVP and SWP contract amounts

are delivered unless such deliveries would be restricted by other requirements or current physical facility limitations. CALFED is interested in receiving input on this topic.

Water Conservation. CALFED proposes to assume the conservation levels under future conditions that are described in DWR Bulletin 160-93.

Power. CALFED proposes to assume that CVP power will continue to be generated incidental to CVP operations and that no power-generation optimization would occur. CALFED also proposes to assume that a wheeling or similar arrangement would be in place to assist in CVP power marketing and delivery.

Population Projections. CALFED proposes to use future statewide population projections contained in DWR Bulletin 160-93.

CVPIA Actions. CALFED proposes to include the dedication of up to 800,000 af/yr of CVP water for fish and wildlife enhancement and the delivery of Level 4 quantities of water to wildlife refuges in its No Action Alternative. Level 4 water supplies to wildlife refuges must be delivered by 2004 and are assumed to continue through the time frame being considered by CALFED. Other CVPIA actions that are the subject of its PEIS will be discussed as part of the cumulative impact analysis.

Instream Flow Requirements. In developing hydrologic modeling assumptions for the No Action Alternative, CALFED will need to establish a reasonable scenario for future water use and instream flow assumptions for future years. For example, there are substantial entitlements to water in the American River system that are not currently being fully used. CALFED does not believe that is appropriate to assume full contract and water right deliveries under the No Action Alternative because, in some cases, substantial new and costly facilities would be required to make those deliveries; deliveries are most likely to be constrained by institutional, regulatory, and ecosystem requirements; and such an assumption would not recognize the recent cooperative approach to integrated water-resource planning that is being undertaken by California water interests. Over the next several months, CALFED will be working to develop appropriate assumptions.

Monterey Agreement. The Monterey Agreement was approved in 1995 and environmental documentation on the agreement was subsequently challenged in court. The court recently upheld the environmental documentation and the agreement is therefore considered appropriate to include in the No Action Alternative. The Monterey Agreement includes 14 principles for water management for the SWP.

Possible Additional Analysis

As with existing conditions, issues may arise that will warrant additional analyses for the No Action Alternative. For example, Trinity River flows are the subject of a separate study and that study is likely to develop additional recommendations during the preparation of the Trinity River Programmatic EIS/EIR. CALFED may undertake additional analyses to determine the effect of those differences on the No Action Alternative to determine whether such differences have important implications for the CALFED Program.

Similarly, flow assumptions for the American River are the subject of significant study by several agencies and groups. The elements presented above indicates that appropriate assumptions for American River flow requirements will need to be developed by CALFED, in conjunction with other interested parties. It is possible that this issue will not be completely resolved during review of the PEIS/EIR, and it may therefore be important to examine some alternate scenarios to determine potential effects on the CALFED program.

SWRCB'S and CVPIA's No Action Alternative Elements

This section discusses what is being used by SWRCB and the U.S. Bureau of Reclamation (Reclamation) in their ongoing environmental documents on the long-term water quality control plan and the CVPIA PEIS. It is not intended to describe all of the SWRCB and CVPIA assumptions, but rather it is intended to identify the differences between CALFED's SWRCB's and Reclamation's No Action Alternative.

SWRCB is proposing to examine two no-project alternatives. The primary no-project alternative will consist of D-1485 and the long-term biological opinion requirements. The secondary no-project alternative will incorporate Reclamation and the California Department of Water Resources implementation of the 1995 water quality control plan (SWRCB 95-1). CALFED proposes to use only SWRCB 95-1 WR.

The No Action Alternative for the CVPIA PEIS is similar to the No Action Alternative being considered by CALFED, therefore, the CVPIA PEIS includes future contract renewals and CVP operations as major components, it is somewhat more inclusive of potential CVP operational changes such as increases Trinity River flows and future contract deliveries.

Table 4 Non-Project Items for Affected Environment and No Action Alternative
6/24/97

Non-Project Items	Affected Environment	No Action Alternative
Level of Development	1995	2020
CVP Delta Exports	3.3 MAF	3.5 MAF with variations in a few wet years
SWP Delta Exports	2.6-3.6 MAF	Variable between 3.6 and 4.1 MAF
Refuge Demands	Level II + 30%	Level IV
Delta Standards	1995 WQCP and Delta smelt and winter-run Biological Opinions	Same as Affected Environment
Vernalis Salinity Standard	Not completely met in all years	Met in all years subject to the San Joaquin River Adaptive Management Program
COA	Continue with current agreement	Same As Affected Environment
Monterey Agreement	In Place	Same As Affected Environment
Banks Pumping Capacity	Current permitted capacity (6,680cfs)	Same As Affected Environment
Tracy Pumping Capacity	Current permitted capacity (4,600cfs)	Same As Affected Environment
Trinity River	340 TAF	Same As Affected Environment
Folsom Reservoir Operations	400-670 TAF flood control reservation	Same As Affected Environment
Sacramento, American, Feather, Stanislaus, Merced, Mokelumne, etc.	Meet current requirements, including winter-run Biological Opinion, FERC, SWRCB, CVPIA, DFG, etc.	Same As Affected Environment
Tuolumne/Yuba	previous requirements	new FERC agreements
CVPIA B-2 water	Meet requirements of Act	Same As Affected Environment

Water Conservation	Assume systemwide levels as outlined in DWR 160-93	Assume more stringent levels per upcoming Bulletin 160-98 and others
CVP and SWP Operations	Assume continued operation pursuant to 1992 CVP operating criteria and procedures and current SWP operating criteria	Same As Affected Environment
Land Retirement	Assume existing acreage	45K acres retired by 2020 according to Bulletin 160-93
Water Contract Rate Setting	Assume existing rate-setting policies	Same As Affected Environment
Groundwater Regulations	Assume existing groundwater regulation policies	Same As Affected Environment
Power Production	Assume power produced incidental to other operations	Same As Affected Environment
Endangered Species Listings	Assume current listed species	Same As Affected Environment
Flood Control Policies	Assume existing policies	Same As Affected Environment
Drinking Water Regulations	Assume existing regulations	Same As Affected Environment
Population Estimates	California Dept of Finance Projections for 1995	California Dept of Finance Projections for 2020

1. CALFED will conduct a sensitivity analysis to assess consequences to the Program of potential increased demands on the American River system.
2. CALFED will conduct a sensitivity analysis to assess consequences to the Program of potential flow regimes on the Trinity River system.

Table 5. Comments and Recommendations to Non-Project Items to be Used to Describe and Model the Affected Environment and No Action Alternative.

- SWP and CVP Delta Export Demands for No Action Alternative - The proposal for the No Action alternative is to identify these as fixed demands 4.1 million acre feet (maf) and 3.5 maf, respectively. The Program is developing a SWP variable level of demand (depending on water year type) which could replace the fixed level described for the No Action Alternative. The upper limit of this variable demand would not exceed 4.1 maf. The water demand for CVP Delta Export Demands includes reductions in the San Joaquin River Basin in certain wet years.
Recommendation: Describe SWP as a variable level of demand rather than the fixed level of demand and indicate CVP demand varies in certain wet years.
- Refuge Demands - The proposal for Level IV in the No Action Alternative is described as meeting CVPIA's Level IV amount. The US Bureau of Reclamation (USBR) is concerned with how the Level IV demand is proposed to be modeled but are okay with using Level IV as the future demand. The U.S. Environmental Protection Agency (USEPA), California Department of Fish and Game (DFG) and the U.S. Fish and Wildlife Service (USFWS) were in agreement with using Level IV as the future demand. Recommendation: Do not change current proposal and work with the agencies to develop appropriate modeling assumptions.
- Delta Standards - The USFWS requested that this assumption specifically mention that it include the Delta smelt and winter-run Biological Opinions. They also wanted the DWRSIM model updated so that it includes all the criteria within the Biological Opinions which can be modeled. Recommendation: Clarify assumption for both Affected Environment and No Action Alternative so that it is clear that they include the Delta smelt and winter-run Biological Opinions and work with the agencies to develop appropriate modeling assumptions.
- Vernalis Standard - The proposal for the No Action Alternative indicates that the standard will be met, but it does not indicate who will meet the standard. The USBR is concerned about how this assumption might be modeled but agreed, along with the USEPA and the USFWS, that the standard should be met for the No Action Alternative. The DFG concurred but is concerned about doing so without identifying the actions which will be taken to meet the standards. Recommendation: Continue with assumption that standards will be met and work with the agencies to develop appropriate modeling assumptions.
- Instream flow requirements - The USFWS requested that the item specifically mention the winter-run Biological Opinion. Recommendation: Clarify description for both Affected Environment and No Action Alternative so that it is clear they include the winter-run salmon Biological Opinion.
- Water Conservation - The current proposal is to assume system-wide conservation levels outlined in DWR's Bulletin 160-93 for both the Affected Environment and No Action Alternative. The Program is proposing that the system-wide conservation levels for agricultural and urban water conservation and recycling be

increased over those outlined in Bulletin 160-93. The assumptions to substantiate this proposal are based on data contained in several sources and professional interpretation of that data. The sources include: DWR Bulletin 160-93; internal DWR staff work developed as background and draft input for Bulletin 160-98; USBR's "Demand Management - Technical Appendix #3 to the Least-Cost CVP Yield Increase Plan"; and Pacific Institute's "California Water 2020-A Sustainable Vision." The DWR indicated that the higher water conservation levels may prove difficult to model because they are not included in current models. The USBR, USEPA, DFG and USFWS were in agreement with using increased levels of conservation for the No Action Alternative. However, more information was sought on the proposal by all. Recommendation: Use the new proposal for the No Action Alternative and set up a meeting with the agencies to discuss the proposal and develop appropriate modeling assumptions.

- CVPIA's B(-2) water - Current proposal is to assume B-2 is in both Affected Environment and No Action Alternative. The USEPA, USFWS, DFG and USBR agree but there is a good deal of concern about how this item should be implemented and modeled among all parties. Recommendation: Continue with the current proposal and work with the agencies to develop an approach for implementation and modeling.

Appendix A

Operational and Regulatory Modeling Assumptions for the No Action Alternative

Defining the No Action Alternative is important in the preparation of the Programmatic EIR/EIS because this information will be used to describe the environment in the vicinity of the project as it would exist in the future and it will form one of the "baselines" against which the impacts of the action alternative will be compared.

Describing the No Action Alternative for the Programmatic EIR/EIS requires development of operational and regulatory assumptions for use in the DWRSIM modeling.

During the course of developing the assumptions for the DWRSIM modeling, non-modeling assumptions were suggested by meeting participants. Additionally, there were discussions about implications to the CALFED Program resulting from potential flow changes in the Trinity and American Rivers. The CALFED Program is considering conducting sensitivity analysis to assess the effects of the potential flow regimes.

Appendix D provides a description of the modeling assumptions for the No Action Alternative. Appendix E provides a description about non-modeling assumptions for the No Action Alternative.

California Water Resource Development System models such as DWRSIM and PROSIM are designed to emulate real system operations to the extent feasible and thus largely incorporate the physical and regulatory constraints of the system, many of which are defined below.

Level of Development: Refers to the water supply requirements, based on land use and populations, used in estimating future water demands. The ability of the State's water resource system to meet these demands is limited by water availability, physical facilities, and regulatory constraints.

Delta Standards: Refers to the set of Delta water quality standards, flow standards and facilities operating rules established by the SWRCB which govern SWP and CVP Delta export operations.

American River Standards: Refers to various standards for minimum American River flows below Nimbus Dam. The model operates to maintain at least these flows at all times.

Sacramento River Standards: Refers to the flow standards for minimum Sacramento River flows below Keswick Dam to protect fisheries, navigation, and other beneficial uses of the river.

Banks Export Limits: Refers to maximum average monthly allowable diversion at the DWR Harvey O. Banks pumping plant.

Tracy Export Limits: Refers to maximum average monthly allowable diversion at the CVP Tracy pumping plant.

Folsom Reservoir Flood Control Operations: Refers to flood control operations at Folsom Reservoir. The 400-670 TAF flood control reserve in Folsom Reservoir reflects the current flood control storage operations at the reservoir.

COA: Refers to the Coordinated Operation Agreement between the State of California and the United States which currently govern the sharing, between the CVP and SWP, of surplus water supplies and reservoir releases required to maintain Delta standards.

Trinity River Standards: Refers to the standards for minimum Trinity River Flows below Trinity Reservoir.

Monterey Agreement: Refers to the recent agreement between the SWP contractors and DWR regarding management of the SWP.

CVP Demands: Refers to the level of demands for CVP water contracts or agreements.

SWP Demands: Refers to the level of demands for SWP water contracts or agreements.

Refuge Demands: Refers to the level of demands for state and federal wildlife refuges. Level II approximates the quantity of water currently being delivered to refuges. Level IV approximates the quantity of water required for full development of the refuges.

Responsibility for Meeting Delta Standards: Only the CVP and SWP are currently responsible for meeting the existing Delta water quality standards. This responsibility may ultimately be shared by other water rights holders. The State Water Resources Control Board is reviewing this issue.

Tuolumne River Standards: Flow requirements for the Tuolumne River were recently modified. These flows are included under both existing conditions and the no-action alternative.

Mokelumne River Standards: Flows on the Mokelumne River have been the subject of negotiation among several parties.

Contract Renewals: Refers to conditions under which CVP and SWP contracts are assumed to be renewed in future years.

Contract Amounts: Refers to the quantities of water deliveries that will be agreed upon in renewed contracts.

Water Rights: Refers to a system of rules governing quantities and priorities of water allocated to various water users.

Water Conservation: Refers to assumed levels of water conservation statewide.

CVP and SWP Operations: Refers to methods and criteria used to operate the CVP and SWP.

Land Retirement: Refers to a program to remove acreage in the Central Valley from cultivation. Focus are the drainage problem lands.

Power Production: Refers to model assumptions regarding power production by the CVP and SWP with respect to water releases from reservoirs.

Red Bluff Diversion Dam Operations: Refers to assumed operations of the Red Bluff Diversion Dam.

Water Contract Rate Setting: Refers to CVP and SWP water contract rate setting policies.

Delta Barriers: Refers to facilities to improve fish guidance, water quality and water stages in the Delta. These include temporary and permanent barriers as well as structures and acoustic barriers.

Flood Control: Refers broadly to flood control practices and policies, primarily at existing reservoirs.

Drinking Water Regulations: Refers to assumed drinking water policies and regulations which could affect water treatment requirements.

Groundwater Regulations: Refers to state and local policies regarding the management of groundwater resources.

Agricultural Crop Subsidies: Refers to assumptions regarding the level of agricultural crop support programs administered by USDA.

Endangered Species Listings: Refers to assumptions regarding the listing of new species under the state and federal Endangered Species Acts.

**DWR PLANNING SIMULATION MODEL (DWRSIM) ASSUMPTIONS FOR
CALFED NO ACTION ALTERNATIVE**

2020D09B-CALFED-516

Study 516 meets SWRCB'S May 1995 Water Quality Control Plan (Plan) and includes selected upstream ESA requirements and CVPIA AFRP flow prescriptions and Delta water management actions (see Item III). This Study also incorporates 2020 level of hydrology, 2020 level of South-of-Delta SWP variable demands, and the current Stanislaus Operation.

I. New Model Features

A new DWRSIM version with the following enhancements is employed:

A. A new SWP and CVP south-of-Delta delivery logic uses

- (i) runoff forecast information and uncertainty (not perfect foresight),
- (ii) a delivery versus carryover risk curve, and
- (iii) a standardized rule (Water Supply Index versus Demand Index Curve) to estimate the total water available for delivery and carryover storage.

The new logic updates delivery levels monthly from January 1 through May 1 as water supply parameters become more certain. Refer to Leaf and Arora (1996) for additional information on the new delivery logic.

B. An expanded network schematic includes more details in the Delta and along the DMC and SWP-CVP Joint Reach facility.

C. A network representation of the San Joaquin River basin was adapted from USBR's SANJASM model. The San Joaquin River basin schematic was expanded to include

- (i) the Tuolumne River upstream to New Don Pedro Reservoir
- (ii) the Merced River upstream to Lake McClure,
- (iii) the Chowchilla and Fresno Rivers upstream to Eastman and Hensley Lakes, respectively, and
- (iv) the San Joaquin River upstream to Millerton Lake.

D. Contra Costa Water District's "G" model is used to relate Delta flows and salinities. Refer to Denton (1993) for additional information on the procedure.

E. New Melones operations criteria modeled per interim "New Melones Operations Plan" provided by USBR Staff.

F. Model modified to operate surface storages for environment use; and meeting the Ecosystem Restoration Program Plan (ERPP) flow targets.

G. References:

Leaf, R.T. and Arora, S.K. (1996). "Annual Delivery Decisions in the Simulation of the California State Water Project and Federal Central Valley Project using DWRSIM." Proceedings 1996 North American Water and Environment Congress, ASCE, C.T. Bathala, Ed.

Denton, R.A. (1993). "Accounting for Antecedent Conditions in Seawater Intrusion Modeling - Applications for the San Francisco Bay-Delta." Proceedings 1993 National Conference on Hydraulic Engineering, ASCE, H.W. Shen, Ed.

II. Instream Flow Requirements

A. Trinity River minimum fish flows below Lewiston Dam are maintained at 340 TAF/year for all years, based on a May 1991 letter agreement between the USBR and the U.S. Fish and Wildlife Service.

B. Sacramento River navigation control point (NCP) flows are maintained at 5,000 cfs in wet and above normal water years and 4,000 cfs in all other years. This criterion is relaxed to 3,500 cfs when Shasta carryover storage drops below 1.9 MAF and is further relaxed to 3,250 cfs when Shasta carryover storage drops below 1.2 MAF.

C. Feather River fishery flows are maintained per an agreement between DWR and the Calif. Dept. of Fish & Game (August 26, 1983). In normal years these minimum flows are 1,700 cfs from October through March and 1,000 cfs from April through September. Lower minimum flows are allowed in low runoff years and when Oroville storage drops below 1.5 MAF. A maximum flow restriction of 2,500 cfs for October and November is maintained per the agreement criteria.

D. Stanislaus River required minimum fish flows below New Melones Reservoir are met as a function of New Melones Reservoir storage and range from 98 TAF/year up to 467 TAF/year, according to the interim Operations Plan provided by USBR Staff. The actual minimum fish flow for each year is based on the water supply available for that year. CVP contract demands above Goodwin Dam are met as a function of New Melones Reservoir storage and inflow per interim Operations Plan provided by USBR Staff.

E. Tuolumne River minimum fishery flows below New Don Pedro Dam are maintained per an agreement between Turlock and Modesto Irrigation Districts, City of San Francisco, Dept. of Fish & Game and others (FERC Agreement 2299). Base flows range from 50 cfs to 300 cfs. Base and pulse flow volumes depend on time of the year and water year type.

F. Instream flow requirements are maintained in accordance with CVPIA criteria (see Item III) at the following locations: below Keswick Dam on the Sacramento River, below Whiskeytown Dam on Clear Creek and below Nimbus Dam on the American River.

III. CVPIA AFRP Flow Criteria

The following AFRP flow criteria are in accordance with an April 26, 1996 letter from USBR to SWRCB. (This information is preliminary. It is envisioned that when significant changes occur within the CVP/SWP system, the criteria will be reviewed and possibly revised):

A. Flow objectives between 3,250 cfs and 5,500 cfs are maintained below Keswick Dam on the Sacramento River. Flow requirements during October through April are triggered by Shasta carryover storage.

B. Flow objectives between 52 cfs and 200 cfs are maintained below Whiskeytown Dam on Clear Creek, depending on month and year type.

C. Flow objectives between 250 cfs and 4,500 cfs are maintained below Nimbus Dam on the American River. Flow requirements during October through February are triggered by Folsom carryover storage. Flow requirements in other months are triggered by previous month storage plus remaining water year inflows.

D. The following CVPIA(b)(2) water management Delta actions from the CVPIA PEIS Administrative Draft Report are incorporated.

(i) Total CVP/SWP exports are restricted during the 30-day pulse flow period from April 5 through May 15 to the following ratios of total export to flow at Vernalis for the following year types:

1:3 below normal, dry, and critical years

1:4 above normal years

1:5 wet years

(ii) Delta Cross Channel is closed during the period from November through June, and is open during the period from July through October.

(iii) Additional Chipps Island X2 days required to approximate a 1962 Level of Development are assumed as described in Table III-14 (Page III-29) PEIS Administrative Draft.

IV. Trinity River Imports

Imports from Clair Engle Reservoir to Whiskeytown Reservoir (up to a 3,300 cfs maximum) are specified according to USBR criteria. Imports vary according to month and previous month Clair Engle storage.

V. Hydrology (HYD-D09B)

A new 2020 level hydrology, HYD-D09b, has been developed similar to hydrology HYD-C09b described in a June 1994 memorandum report titled "Summary of Hydrologies at the 1990, 1995,

2000, 2010, and 2020 Levels of Development for Use in DWRSIM Planning Studies" published by DWR's Division of Planning (now Office of SWP Planning). HYD-D09b is based on DWR Bulletin 160-98 land use projections and simulates the 73 year period 1922 through 1994. Major assumptions in developing the hydrology compared to the 1995 level HYD-C06f are:

- A. For areas upstream of the Delta (Sacramento River Basin and Eastside Stream area) land use projections at the 2020 level of development based on Bulletin 160-98 preliminary projections.
- B. The stand-alone HEC-3 models of the American, Yuba, and Bear River systems were updated and extended through 1994.
- C. A new EBMUD study (Study No. 5977) of the Camanche/Pardee reservoir system on the Mokelumne was used in the hydrology development process.
- D. Net Delta water requirements were estimated based on variable crop ET values.
- E. For the San Joaquin Valley, the hydrology was based on Bureau of Reclamation's SANJASM run NF1 used in the base case for the PEIS.

VI. Pumping Plant Capacities, Coordinated Operation & Wheeling

- A. SWP Banks Pumping Plant average monthly capacity with 4 new pumps is 6,680 cfs (or 8,500 cfs in some winter months) in accordance with USACE October 31, 1981 Public Notice criteria.
- B. CVP Tracy Pumping Plant capacity is 4,600 cfs, but physical constraints along the Delta Mendota Canal and at the relift pumps (to O'Neil Forebay) can restrict export capacity as low as 4,200 cfs.
- C. CVP/SWP sharing of responsibility for the coordinated operation of the two projects is maintained per the Coordinated Operation Agreement (COA). Storage withdrawals for in-basin use are split 75 percent CVP and 25 percent SWP. Unstored flows for storage and export are split 55 percent CVP and 45 percent SWP. In months when the export-inflow ratio limits Delta exports, the allowable export is shared equally between the CVP and SWP. (The COA sharing formula is based on D-1485 operations, not on May 1995 Water Quality Control Plan operations. The sharing formula will likely be modified to conform with Water Quality Control Plan operations. Such a change has unknown, but potentially significant, operational implications.)
- D. CVP water is wheeled to meet Cross Valley Canal demands when unused capacity is available in Banks Pumping Plant.
- E. Enlarged East Branch aqueduct capacities are assumed from Alamo Powerplant to Devil Canyon Powerplant.

VII. Target Reservoir Storage

- A. Shasta Reservoir carryover storage is maintained at or above 1.9 MAF in all normal water years for winter-run salmon protection per the NMFS biological opinion. However, in critical years following critical years, storage is allowed to fall below 1.9 MAF.
- B. Folsom Reservoir storage capacity was reduced from 1010 TAF down to 975 TAF due to sediment accumulation as calculated from a 1992 reservoir capacity survey.
- C. Folsom flood control criteria are in accordance with the December 1993 USACE report "Folsom Dam And Lake Operation Evaluation". This criteria uses available storage in upstream reservoirs such that the maximum flood control reservation varies from 400 TAF to 670 TAF.

VIII. SWP Demands, Deliveries & Deficiencies

- A. 2020 demand level is assumed to be variable at full entitlement of 4.2 MAF. MWDSC's monthly demand patterns assume an Eastside Reservoir and an Inland Feeder pipeline in accordance with a July 26, 1995 memorandum from MWDSC.
- B. Deficiencies are imposed as needed per the draft "Monterey Agreement" criteria and are calculated from the following Table A entitlements for year 2020:

Agricultural Entitlements	1,150 TAF/year
M & I Entitlements	2,981 TAF/year
Recreation & Losses	64 TAF/year
Total Entitlements	4,195 TAF/year

C. Maximum SWP Contractor deliveries are designed to vary in response to local wetness indexes. As such, maximum deliveries are reduced in the wetter years, assuming greater availability of local water supplies.

- 1. Maximum deliveries to San Joaquin Valley agricultural contractors are reduced in wetter years using the following index developed from annual Kern River inflows to Lake Isabella:

	Dry/Avg/Above	Wet
Kern River Flow (TAF/year)	<1,500	1,500
Max. Ag Delivery (TAF)	1,150	915

2. Maximum deliveries to Metropolitan Water District of Southern California (MWDSC) are varied annually in accordance with the July 11, 1997 transmittal from MWDSC to CALFED. These annual deliveries range between 1322 TAF/year to 2010 TAF/year.

3. Maximum deliveries to all other SWP M&I Contractors are NOT adjusted for a wetness index, and are set at 971 TAF/year in all years. As a result of the use of these wetness indexes and variable MWDASC demands, the total maximum delivery to all SWP Contractors varies by year as follows:

	Max	Min
Ag delivery	<1,150	915
MWDSC delivery	2010	1,322
Max. Other M&I delivery	971	971
Fixed Losses & Recreation	64	64
Total SWP Delivery	4,195	3,272

D. Maximum interruptible demand per month for SWP is assumed as follows:

MWDSC	50
Others	84
Total (Max)	134 TAF/month

E. When available, "interruptible" water is delivered to SWP south-of-Delta contractors in accordance with the following assumptions based on the Monterey Amendment White Paper redraft dated September 28, 1995:

1. Interruptible water results from direct diversions from Banks Pumping Plant. It is not stored in San Luis Reservoir for later delivery to contractors.
2. A contractor may accept interruptible water in addition to its monthly scheduled entitlement water. Therefore, the contractor may receive water above its Table A amount for the year. Interruptible water deliveries do not impact entitlement water allocations.

3. If demand for interruptible water is greater than supply in any month, the supply is allocated in proportion to the Table A entitlements of those contractors requesting interruptible water.

4. In wet years when Kern River inflow to Lake Isabella is greater than 1500 TAF/year, there is no interruptible demand.

IX. CVP Demands, Deliveries & Deficiencies

A. 2020 level CVP demands, including canal losses but excluding San Joaquin Valley wildlife refuges are assumed as follows (see Item IX.B below for refuge demands):

Contra Costa Canal	202 TAF/year
DMC and Exchange	1,561
CVP San Luis Unit	1,447
San Felipe Unit	196
Cross Valley Canal	128
Total CVP Delta Exports	3,534 TAF/year

Including wildlife refuges, total CVP demand is 3,822 TAF/year. The Contra Costa Canal monthly demand pattern assumes Los Vaqueros operations in accordance with a July 11, 1994 e-mail from CCWD.

B. Sacramento Valley refuge demands are modeled implicitly in the hydrology through rice field and duck club operations. Sacramento Valley refuges include Gray Lodge, Modoc, Sacramento, Delevan, Colusa and Sutter. Level II refuge demands in the San Joaquin Valley are explicitly modeled at an assigned level of 288 TAF/year. San Joaquin Valley refuges include Grasslands, Volta, Los Banos, Kesterson, San Luis, Mendota, Pixley, Kern and those included in the San Joaquin Basin Action Plan.

C. CVP south-of-Delta deficiencies are imposed when needed by contract priority. Contracts are classified into four groups: agricultural (Ag), municipal and industrial (M&I), Exchange and Refuge. Deficiencies are imposed in accordance with the Shasta Index and sequentially according to the following rules:

1. Ag requests are reduced up to a maximum of 50 percent.

2. Ag, M&I and Exchange requests are reduced by equal percentages up to a maximum of 25 percent. At this point, cumulative Ag deficiencies are 75 percent.
 3. Ag, M&I and Refuge requests are reduced by equal percentages up to a maximum of 25 percent. At this point, cumulative Ag and M&I deficiencies are 100 percent and 50 percent, respectively.
 4. M&I requests are reduced until cumulative deficiencies are 100 percent.
 5. Further reductions are imposed equally upon Exchange and Refuge.
- D. Deficiencies in the form of "dedicated" water and "acquired" water to meet 800 TAF/year CVPIA demands are not imposed.

X. Delta Standards

In the following assumptions related to Delta standards, reference is made to the SWRCB's May 1995 Water Quality Control Plan (Plan):

A. Water Year Classifications

1. The Sacramento Valley 40-30-30 Index (as defined on page 23 of the Plan) is used to determine year types for Delta outflow criteria and Sacramento River system requirements unless otherwise specified in the Plan.
2. The San Joaquin Valley 60-20-20 Index (page 24) is used to determine year types for flow requirements at Vernalis.
3. The Sacramento River Index, or SRI (Footnote 6, page 20), is used to trigger relaxation criteria related to May-June Net Delta Outflow Index (NDOI) and salinity in the San Joaquin River and western Suisun Marsh.
4. The Eight River Index (Footnote 13, page 20) is used to trigger criteria related to (i) January NDOI, (ii) February-June X2 standards and (iii) February export ratio.

B. M&I Water Quality Objectives (Table 1, page 16)

1. The water quality objective at Contra Costa Canal intake is maintained in accordance with the Plan. A "buffer" was added to insure that the standard is maintained on a daily basis. Thus, DWRSIM uses a value of 130 mg/L for the 150 mg/L standard and a value of 225 mg/L for the 250 mg/L standard.
2. The M&I water quality objectives at Clifton Court Forebay, Tracy Pumping Plant, Barker Slough and Cache Slough are not modeled.

C. Agricultural Water Quality Objectives (Table 2, page 17)

1. Water quality objectives on the Sacramento River at Emmaton and on the San Joaquin River at Jersey Point are maintained in accordance with the Plan.

2. Plan water quality objectives on the San Joaquin River at Vernalis are 0.7 EC in April through August and 1.0 EC in other months. These objectives are maintained primarily by releasing water from New Melones Reservoir. A cap on water quality releases is imposed per criteria outlined in an April 26, 1996 letter from USBR to SWRCB. The cap varies between 70 TAF/year and 200 TAF/year, depending on New Melones storage and projected inflow.

3. The interior Delta standards on the Mokelumne River (at Terminous) and on the San Joaquin River (at San Andreas Landing) are not modeled.

4. The export area 1.0 EC standards at Clifton Court Forebay and Tracy Pumping Plant are not modeled.

D. Fish & Wildlife Water Quality Objectives: Salinity (Table 3, page 18)

1. The 0.44 EC standard is maintained at Jersey Point in April and May of all but critical years. Per Footnote 6 (page 20), this criteria is dropped in May if the projected SRI is less than 8.1 MAF. The salinity requirement at Prisoners Point is not modeled.

2. The following EC standards are maintained at Collinsville for eastern Suisun Marsh salinity control:

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
EC - Ave. High Tide	19.0	15.5	15.5	12.5	8.0	8.0	11.0	11.0

E. Fish & Wildlife Water Quality Objectives: Delta Outflow (Table 3, page 19)

1. Minimum required NDOI (cfs) is maintained as follows:

Year Type	Oct	Nov	Dec	Jan	Feb-Jun	Jul	Aug	Sep
Wet	4,000	4,500	4,500	*	**	8,000	4,000	3,000
Above Normal	4,000	4,500	4,500	*	**	8,000	4,000	3,000
Below Normal	4,000	4,500	4,500	*	**	6,500	4,000	3,000
Dry	4,000	4,500	4,500	*	**	5,000	3,500	3,000
Critical	3,000	3,500	3,500	*	**	4,000	3,000	3,000

* January: Maintain either 4,500 cfs or 6,000 cfs if the December Eight River Index was greater than 800 TAF (per Footnote 13 page 20).

** February-June: Maintain 2.64 EC standards (X2) as described below.

2. For February through June, outflow requirements are maintained in accordance with the 2.64 EC criteria (also known as X2) using the required number of days at Chipps Island (74 km) and Roe Island (64 km). See Footnote 14 for Table 3 (Table A) page 26.

a. At the Confluence (81 km), the full 150 days (February 1 - June 30) of 2.64 EC is maintained in all years, up to a maximum required flow of 7,100 cfs. This requirement is dropped in May and June of any year for which the projected SRI is less than 8.1 MAF. In those years when the criteria is dropped, a minimum outflow of 4,000 cfs is maintained in May and June.

b. The criteria -- "If salinity/flow objectives are met for a greater number of days than the requirements for any month, the excess days shall be applied to meeting the requirements for the following month" -- is not modeled. See Footnote "a" of Footnote 14 for Table 3 (Table A).

c. The Kimmerer-Monismith monthly equation is used to calculate outflow required (in cfs) to maintain the EC standard (average monthly position in kilometers). In this equation the EC position is given and Delta outflow is solved for.

$$\text{EC position} = 122.2 + [0.3278 * (\text{previous month EC position in km})] \\ - [17.65 * \log_{10}(\text{current month Delta outflow in cfs})]$$

In months when the EC standard is specified in more than one location (e.g. 19 days at the confluence and 12 days at Chipps Island), required outflow for the month is computed as a flow weighted average of the partial month standards.

3. Additional details on the 2.64 EC criteria are modeled as follows:

a. The trigger to activate the Roe Island standard is set at 66.3 km from the previous month, as an average monthly value.

b. The maximum required monthly outflows to meet the 2.64 EC standard are capped at the following limits: 29,200 cfs for Roe Island; 11,400 cfs for Chipps Island; and 7,100 cfs for the Confluence.

c. Relaxation criteria for the February Chipps Island standard is a function of the January Eight River Index as follows:

(i) X2 days = 0 if the Index is less than 0.8 MAF

(ii) X2 days = 28 if the Index is greater than 1.0 MAF

(iii) X2 days vary linearly between 0 and 28 if the Index is between 0.8 MAF and 1.0 MAF

F. Fish & Wildlife Water Quality Objectives: River Flows (Table 3, page 19)

1. Minimum Sacramento River flow requirements (cfs) at Rio Vista are maintained as follows:

Year Type	Sep	Oct	Nov	Dec
Wet	3,000	4,000	4,500	4,500
Above Normal	3,000	4,000	4,500	4,500
Below Normal	3,000	4,000	4,500	4,500
Dry	3,000	4,000	4,500	4,500
Critical	3,000	3,000	3,500	3,500

2. From February 1 through June 30, minimum flows (cfs) on the San Joaquin River at Vernalis are maintained per the table below. For each period, the higher flow is required whenever the 2.64 EC Delta outflow position is located downstream of Chipps Island (<74 km). If the 2.64 EC Delta outflow position is upstream of Chipps Island (74 km), then the lower flow requirement is used.

Year Type	Feb1-Apr14 & May16-June30	April15-May15
Wet	2,130 or 3,420	7,330 or 8,620
Above Normal	2,130 or 3,420	5,730 or 7,020
Below Normal	1,420 or 2,280	4,620 or 5,480
Dry	1,420 or 2,280	4,020 or 4,880
Critical	710 or 1,140	3,110 or 3,540

3. For the month of October, the minimum flow requirement at Vernalis is 1,000 cfs in all years PLUS a 28 TAF pulse flow (per Footnote 19, page 21). The 28 TAF pulse (equivalent to 455 cfs monthly) is added to the actual Vernalis flow, up to a maximum of 2,000 cfs. The pulse flow requirement is not imposed in a critical year following a critical year. These two components are combined as an average monthly requirement as follows:

Base Flow	Required Flow
<1,000	1,455
1,000-1,545	Base Flow + 455
1,545	2,000

4. The above flow requirements at Vernalis are maintained primarily by releasing additional water from New Melones Reservoir. In years when New Melones Reservoir drops to a minimum storage of 80 TAF (per April 26, 1996 letter from USBR to SWRCB), additional water is provided equally from the Tuolumne and Merced River systems to meet the Vernalis flow requirements. If these sources are insufficient to meet objectives at Vernalis, nominal deficiencies will be applied to upstream demands.

G. Fish & Wildlife Water Quality Objectives: Export Limits (Table 3, page 19)

1. Ratios for maximum allowable Delta exports are specified as a percentage of total Delta inflow as follows:

Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
65	65	65	65	45-35	35	35	35	35	65	65	65

a. In February the export ratio is a function of the January Eight River Index per Footnote 25, page 22 as follows:

- (i) 45% if the Jan. 8-River Index is less than 1.0 MAF
- (ii) 35% if the Jan. 8-River Index is greater than 1.5 MAF
- (iii) Varies linearly between 45% and 35% if the January Eight River Index is between 1.0 MAF and 1.5 MAF.

b. For this ratio criteria, total Delta exports are defined as the sum of pumping at the SWP Banks and CVP Tracy Pumping Plants. Total Delta inflow is calculated as the sum of river flows from the Sacramento River, Yolo Bypass, total from the Eastside stream group, and San Joaquin River inflow. Delta area precipitation and consumptive uses are not used in this ratio.

2. Based on Footnote 22 page 21, April and May total Delta export limitations are modeled as follows:

a. April 15 - May 15 exports are limited to 1,500 cfs OR 100 percent of the San Joaquin River flow at Vernalis, whichever is greater.

b. April 1-14 and May 16-31 export limits are controlled by either the export/inflow ratio (35%) or pumping plant capacity, whichever is smaller. H. Fish & Wildlife Water Quality Objectives: Delta Cross Channel (Table 3, page 19)

1. The Delta Cross Channel (DCC) is closed 10 days in November, 15 days in December and 20 days in January for a total closure of 45 days per Footnote 26, page 22:

2. The DCC is fully closed from February 1 through May 20 of all years and is closed an additional 14 days between May 21 and June 15 per Footnote 27, page 22.

APPENDIX B

PROJECTS CONSIDERED

Project Name: American River Water Resources Investigation

Lead Agency: U.S. Bureau of Reclamation

Project Description: The purpose of the investigation is to develop a water management program to meet the future (2030) needs of the study area. Two alternatives were developed that would have approximately the same water cost. The two programs would require diversions from the Sacramento, American, and Stanislaus Rivers relying on conjunctive use to meet the demands. One alternative includes an Auburn Dam to regulate flows, thus reducing the capacity of the diversions. Selection of a preferred alternative is uncertain.

Project Schedule: Final Planning Report/EIS/EIR is scheduled for release in January 1997. There is no implementation schedule.

Project Status as of August 1996: Draft documents were released February 1, 1996. Comment period closed May 3, 1996.

CALFED No-Action Screening Process

- Criterion 1. Has the action been approved for implementation? No
- Criterion 2. Does the action have funding for implementation? No
- Criterion 3. Does the action have final environmental documentation? No
- Criterion 4. Does the action have final permits and approvals? No
- Criterion 5. Will the action be excluded from the CALFED actions? No
- Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

- Criterion 1. Is the action under active consideration? Yes
- Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes
- Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Yes

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? Yes

Projects Considered in Development of the No-Action Alternative and Cumulative Impact Analysis

Project Name: Anderson-Cottonwood Irrigation District - Fish Passage

Lead Agency: Anderson-Cottonwood Irrigation District

Project Description: Anderson-Cottonwood Irrigation District diverts up to 400 cubic feet per second (cfs) from the Sacramento River about 4 miles below Keswick Dam. The 450-foot-long diversion dam is a flashboard-type structure constructed in 1917. The flashboards are typically installed in mid-April and removed in mid-November. When the flashboards are installed or adjusted, Keswick releases are reduced to 6,000 cfs or less to provide safer conditions for people working on the dam. A fish ladder is provided at the north end of the dam, but this structure has proven ineffective because of its narrow width and low attraction flow.

When the flashboards are installed, upstream migration effectively stops at the Anderson-Cottonwood Irrigation District dam. This is particularly significant to the badly depressed population of winter-run salmon. The periodic river flow adjustments that accommodate installation and adjustment of the flashboards can disrupt downstream salmon spawning activity, dewater salmon redds, and strand fish in side channel areas. The lowered flows also contribute to increased water temperatures during these periods.

The Upper Sacramento River Fisheries and Riparian Habitat Advisory Council has studied the problem and recommended interim and long-term actions to alleviate problems caused by the dam. The proposed long-term solution is reconstruction of the dam and fish ladder. Interim measures include:

- repairs to the existing fish ladder,
- construction of a new temporary ladder at the south end of the dam, and
- installation of a mechanical system to pull the flashboard without reducing river flows.

Project Schedule: Undetermined.

Project Status as of August 1996: Undetermined. The project is probably dead.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for the CALFED analysis? No

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? No

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Possibly

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

Dee Swearingen, General Manager, Anderson-Cottonwood Irrigation District, Phone 916/365-7329, Fax 916/365-7623, August 1996, personal communication.

Harry Rectenwald, California Department of Fish and Game, Phone 916/225-2368, August 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Arroyo Pasajero

Lead Agency: California Department of Water Resources and U.S. Bureau of Reclamation

Project Description: Arroyo Pasajero is an ephemeral drainage located in Fresno County near Coalinga. The arroyo drains an area of about 500 square miles and has produced a 450-square-mile alluvial fan. The fan is bisected by the San Luis Canal, which was designed to impound arroyo floodflows west of the canal for subsequent addition to aqueduct flows. The catchment drained by the arroyo, however, contains large deposits of asbestos and several abandoned mines. Some of these abandoned mines are now on the U.S. Environmental Protection Agency's Hazardous Waste Superfund List. The high suspended solid and asbestos content of arroyo runoff precludes its use as an additional source of water for the aqueduct. These conditions pose a number of water and air management problems. The amount of runoff conveyed by the arroyo was underestimated during the canal's design. The surface area now inundated by arroyo floodflows thus exceeds the area stipulated in the existing flood easement agreement. These conditions threaten the integrity of the canal because, under existing circumstances, arroyo floodflows could overtop the western embankment and collapse the eastern embankment. Air quality is compromised because asbestos fibers settle from the flood waters in the pond upstream of the canal foundation. When the ponded area dries following a flood, asbestos fibers remain on the ground surface and become airborne during farming operations.

Project Schedule: The U.S. Army Corps of Engineers completed a reconnaissance study in November 1992 and found a federal interest in the project. A feasibility study was initiated in January 1994 and will be completed by December 1997. A joint EIS/EIR will be part of the feasibility study report. The earliest construction could begin in 2001.

Project Status as of August 1996: The project is ongoing.

CALFED No-Action Screening Criteria

- Criterion 1. Has the action been approved for implementation? No
- Criterion 2. Does the action have funding for implementation? No
- Criterion 3. Does the action have final environmental documentation? No
- Criterion 4. Does the action have final permits and approvals? No
- Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? No

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Possibly

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? No

Include Project in the Cumulative Impact Analysis? No

References:

U.S. Bureau of Reclamation, Arroyo Pasajero Flood and Silt Deposition Study, January 1984.

Mark Anderson, California Department of Water Resources, August 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Arvin Edison Water Storage District - Water Storage and Exchange Program

Lead Agency: Arvin Edison Water Storage District, Metropolitan Water District of Southern California, and U.S. Bureau of Reclamation

Project Description: The purpose of this project was to improve the dependability of water supplies in the Arvin Edison Water Storage District and to decrease groundwater use. Under this project, the Metropolitan Water District of Southern California (MWD) would store up to 135,000 acre-feet of water in the Arvin Edison Water Storage District groundwater basin. Of this water, up to 20% could be withdrawn for use on 5,000 acres of land that is not currently irrigated with Central Valley Project (CVP) water. In exchange, MWD would take delivery of up to 93,000 acre-feet of CVP water through the California Aqueduct. No exchange would occur until MWD delivered 100,000 acre-feet to the groundwater basin. No groundwater would be exported to MWD.

Project Schedule: The project has been dropped from further consideration and a new water management project has been proposed by Arvin Edison Water Storage District. As of August 1996, Arvin Edison Water Storage District and MWD are negotiating a new project.

Project Status as of August 1996: Not applicable

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Not applicable

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for the CALFED analysis? Not applicable

Discussion:

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? No

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? No

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

Steve Collup, Engineer/Manager, Arvin Edison Water Storage District, Phone 805/854-5573, August 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Auburn Dam and Reservoir

Lead Agency: U.S. Bureau of Reclamation

Project Description: The Auburn Dam and power plant were to be constructed on the American River below the confluence of the middle and north forks of the river. The project would provide 2.5 million acre-feet of capacity and 600,000 kilowatts of power generation capacity. Construction was authorized and funded for the keyway and foundation excavation in 1965. However, after the 1975 Oroville Earthquake, construction was stopped and the dam was redesigned. In 1980, the Secretary of the Interior determined that the new dam design was safe and recommended that the project be submitted to Congress for reauthorization.

Project Schedule: The project started in 1971 and the Folsom South Area Conjunctive Use Study was initiated in 1987. The project awaits congressional authorization.

Project Status as of August 1996: The project awaits congressional authorization.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? No

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Possibly

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

U.S. Department of the Interior, Budget Justifications, FY 1994.

Projects Considered in Development of the No-Action Alternative and Cumulative Impact Analysis

Project Name: Cache Creek Basin Study

Lead Agency: U.S. Army Corps of Engineers

Project Description: The Cache Creek Settling Basin was constructed in 1937 as part of the Sacramento River Flood Control Project, authorized by the Flood Control Act of 1917 and modified by the Acts of 1928, 1937, and 1941. The settling basin is bounded by levees on all sides and covers approximately 3,600 acres. The purpose is to preserve the flood capacity of the Yolo Bypass by entrapping heavy sediments carried by Cache Creek. The levees of the settling basin have been modified several times in the past.

The authorized plan of improvement consists of enlarging and raising the existing perimeter levees of the Cache Creek Settling Basin an average of 12 feet to provide 50 years of sediment storage capacity and enlarging the basin's existing levees upstream to County Road 102. The Cobble Weir would also be reconstructed and enlarged. Existing training levees would be degraded and rebuilt adjacent to the western perimeter levee. Also, the entire 3,600 acres within the basin would be purchased in fee, and a national wildlife refuge would be established.

This project was authorized for construction by the Water Resources Development Act of 1986, Public Law 99-662, on November 17, 1986. The project was authorized substantially in accordance with the plans and subject to the conditions recommended in "Cache Creek Basin, California: Report of the Chief of Engineers" dated April 27, 1981 (House Document No. 98-134). The record of decision for the final EIS was filed on November 8, 1983.

-U.S. Army Corps of Engineers

The project has been constructed as proposed, with the exception of establishment of a national wildlife refuge. The Corps did not implement the refuge and requested that the U.S. Fish and Wildlife Service (USFWS) implement it. The USFWS recommended that the Corps pursue refuge implementation with the nonfederal sponsor in a letter dated May 21, 1986. The nonfederal sponsor has not expressed interest in implementing this feature. The recommended plan does not include a wildlife refuge.

Project Schedule: The project has been constructed without the refuge.

Project Status as of August 1996: The project has been constructed.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Yes

Criterion 2. Does the action have funding for implementation? Yes

Criterion 3. Does the action have final environmental documentation? Yes

Criterion 4. Does the action have final permits and approvals? Yes

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? No

Include Project in the No-Action Alternative? No. The flood control project would not have a direct effect on State Water Project (SWP) or CVP water management.

References:

U.S. Army Corps of Engineers. Sacramento District, Design Memorandum No. 1. Cache Creek Basin, California, Cache Creek Settling Basin, Final General Design Memorandum, January 1987.

U.S. Army Corps of Engineers, Sacramento District, Cache Creek Basin, California, Feasibility Report and Environmental Statement for Water Resources Development, February 1979.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Cache Creek Basin Study

Lead Agency: U.S. Bureau of Reclamation

Project Description: The comprehensive plan for development of the Yolo-Solano area is designed to ensure maximum beneficial use of the land and water resources in the area. The Yolo-Solano Development Plan would serve all irrigable lands that could be reached economically and would provide a municipal and industrial water supply for nearby urban areas. The Yolo-Solano Development would include multipurpose reservoirs on Cache and Putah Creeks. Additional water would be obtained from the Sacramento River by way of the proposed West Sacramento Canals Unit.

Project Schedule: The project has been deferred.

Project Status as of August 1996: The project has been deferred.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? No. The project has no direct effect on water management.

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? No

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? No

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

U.S. Army Corps of Engineers, Sacramento District, Cache Creek Basin, California, Feasibility Report and Environmental Statement for Water Resources Development, February 1979.

U.S. Bureau of Reclamation, Yolo-Solano Development of the Comprehensive Plan for Central Valley Basin, California, May 1947, Project Planning Report No. 2-4.8-1.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Caliente Creek Feasibility Study

Lead Agency: U.S. Army Corps of Engineers

Project Description: This project, funded 50% by federal funds and 50% by Kern County Flood Control District, will determine the feasibility of locating and sizing new levees to protect the towns of Arvin and Lamont, California, from flooding. Levee alignment is critical in the analysis of the project due to the requirement for splitting the flow around the towns while maintaining a consistent and reasonable levee height. Detention ponds (or sump ponds) are required downstream of the towns to dampen and delay flood crests in downstream structures.

Project Schedule: A feasibility study was completed in July 1996.

Project Status as of August 1996: The project was not recommended for implementation.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? No

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? No

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? No

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

Jinji Kobayashi, U.S. Army Corps of Engineers, August 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Central Valley Fish and Wildlife Management Study

Lead Agency: U.S. Bureau of Reclamation

Project Description: The purpose of this study was to develop a comprehensive baseline of information and possible solutions to complex, controversial water-related fish and wildlife problems in the Central Valley. The study provided a framework of guidelines to use for future water development planning. The study area included both the Sacramento and San Joaquin Valleys and the Delta.

Project Schedule: The project started in the 1970s and reports were completed in the late 1980s.

Project Status as of August 1996: Recommendations have been incorporated into ongoing programs.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Reports were completed in the late 1980s.

Criterion 2. Does the action have funding for implementation? Not applicable

Criterion 3. Does the action have final environmental documentation? Not applicable

Criterion 4. Does the action have final permits and approvals? Not applicable

Criterion 5. Will the action be excluded from the CALFED actions? Not applicable

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Not applicable

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Reports were completed in the late 1980s.

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Not applicable

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Not applicable

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Not applicable

Include Project in the Cumulative Impact Analysis? No

References:

U.S. Bureau of Reclamation, various reports.

Project Name: Central Valley Project Improvement Act

Lead Agency: U.S. Bureau of Reclamation

Project Description: This legislation was enacted in 1992 to enhance the benefits of the Central Valley Projects by:

- protecting, restoring and enhancing fish, wildlife, and associated habitats in the Central Valley and Trinity River basins of California;
- addressing impacts of the Central Valley Project on fish, wildlife, and associated habitats;
- improving the operational flexibility of the Central Valley Project;
- increasing water-related benefits provided by the Central Valley Project to the State of California through expanded use of voluntary water transfers and improved water conservation;
- contributing to the State of California's interim and long-term efforts to protect the San Francisco Bay/Sacramento-San Joaquin Delta Estuary; and
- achieving a reasonable balance among competing demands for use of Central Valley Project water, including the requirements of fish and wildlife, agricultural, municipal and industrial, and power contractors.

Project Schedule: The draft programmatic environmental impact statement (PEIS) will be available in spring 1997 and the final PEIS will be available the following fall.

Project Status as of August 1996: Cooperating agencies have reviewed the preliminary administrative draft PEIS; revised alternatives are being analyzed.

CALFED No-Action Screening Process

- Criterion 1. Has the action been approved for implementation? Yes (partial)
- Criterion 2. Does the action have funding for implementation? Yes
- Criterion 3. Does the action have final environmental documentation? No
- Criterion 4. Does the action have final permits and approvals? No
- Criterion 5. Will the action be excluded from the CALFED actions? No

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? Yes (partial)

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Yes

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? Yes

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Central Valley Project Operations, Total Water Management Study

Lead Agency: U.S. Bureau of Reclamation

Project Description: This project described Central Valley Project (CVP) facilities at two levels of development. The first level included facilities at the existing level of development. The second level identified facilities at full authorization of the CVP, including incomplete facilities (Sacramento Canals, Auburn-Folsom South, Folsom-Malby, Foresthill Divide, San Felipe Division) and U.S. Army Corps of Engineers projects. The impact of these potential changes on the needs and objectives of the CVP and methods to satisfy these needs by changing CVP operations were compared to base project accomplishments.

Project Schedule: The project started in the 1970s and reports were completed in the late 1980s.

Project Status as of August 1996: Recommendations have been incorporated into ongoing programs.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Reports were completed in the late 1980s.

Criterion 2. Does the action have funding for implementation? Not applicable

Criterion 3. Does the action have final environmental documentation? Not applicable

Criterion 4. Does the action have final permits and approvals? Not applicable

Criterion 5. Will the action be excluded from the CALFED actions? Not applicable

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Not applicable

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Reports were completed in the late 1980s.

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Not applicable

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Not applicable

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Not applicable

Include Project in the Cumulative Impact Analysis? No

References:

U.S. Bureau of Reclamation, various reports.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Clear Creek Improvements

Lead Agency: California Department of Water Resources and U.S. Bureau of Reclamation

Project Description: Clear Creek is a major tributary to the Sacramento River below Shasta Dam. McCormick-Saeltzer Dam has blocked upstream fish migration in Clear Creek about 8 miles upstream from the creek's mouth since the dam's construction around the turn of the century. In 1963, Whiskeytown Dam was constructed approximately 16.5 miles upstream from the confluence of Clear Creek with the Sacramento River. More than 85% of the natural flow of the creek has been diverted above the dam. The interruption of natural gravel recruitment by construction of Whiskeytown Dam and by streamside gravel mining has severely depleted spawning gravels. Many of the remaining spawning gravels have been damaged by sediment loads derived from the decomposed granite soils of the watershed.

The California Department of Water Resources (DWR) and the California Department of Fish and Game (DFG) have studied the possibility of improving anadromous fish production in Clear Creek. The following improvements have been suggested:

- increased instream flow releases,
- reconstruction of the fish ladder and fish screen at McCormick-Saeltzer Dam,
- reconstruction of spawning riffles below McCormick-Saeltzer Dam,
- purchase or long-term lease of lands along Clear Creek to preserve riparian habitat and limited streamside gravel mining,
- Construction of instream structures for fish cover, and
- Periodic dredging of the pool above McCormick-Saeltzer Dam.

A portion of these improvements, including modifications to the fish ladder and screening facility at McCormick-Saeltzer Dam and reconstruction of spawning riffles below the dam, have been completed. These projects were completed by DFG in 1992 with assistance from DWR. Fish ladder improvements included removal of the concrete cover from the fish ladder and a minor relocation of the entrance. Outmigrating spring-run chinook salmon were planted in a tributary stream in Fall 1990. The remaining work to be completed includes dredging of the reservoir above the dam and acquisition of long-term leases on lands along Clear Creek to preserve riparian habitat.

Project Schedule: This project is ongoing.

Project Status as of August 1996: The U.S. Bureau of Land Management is still negotiating a land trade/purchase deal with local landowners. A contract for design of a new fish ladder has been issued. No official agreement has yet been reached on instream flow releases, but releases have been made during the fall.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Yes

Criterion 2. Does the action have funding for implementation? Partially

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? No

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Possibly

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? No

Include Project in the Cumulative Impact Analysis? No

References:

Resources Agency of California, Upper Sacramento River Fisheries and Riparian Habitat Management Plan, January 1989.

Ralph Hinton, California Department of Water Resources, August 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Coastal Aqueduct

Lead Agency: California Department of Water Resources

Project Description: The California Department of Water Resources (DWR) is proceeding with completion of Coastal Branch Phase II of the SWP. Phase I of the Coastal Branch, completed in 1968, includes two pumping plants and a 15-mile canal extending from the California Aqueduct near the Kings-Kern county line westerly to Devils Den. Phase II will include a 102-mile buried pipeline extending from Devils Den to Tank 5 on Vandenberg Air Force Base in Santa Barbara County. The pipeline will convey 47,316 acre-feet of water to San Luis Obispo and Santa Barbara County. In addition to the pipeline, Phase II facilities will include four pumping plants, five tank sites, and one power recovery plant. The canal, pipeline, and other related facilities are collectively referred to as the Coastal Aqueduct.

In 1985, water demand in the Coastal Branch exceeded dependable supplies by about 53,000 acre-feet in San Luis Obispo County and by 51,400 acre-feet in Santa Barbara County. By 2010, this deficiency is estimated to have increased to 57,800 acre-feet in San Luis Obispo County and remain unchanged at 51,400 acre-feet in Santa Barbara County. Currently, demands in these counties are being met by groundwater overdraft. Deliveries from the Coastal Branch would help meet water demands in these counties and thus reduce the overdraft.

In July, 1992, the notice of determination and statement of findings were filed for Coastal Branch Phase II. This marked completion of the California Environmental Quality Act (CEQA) process for this project and the beginning of final design. Construction began in late 1993.

Completion of Coastal Branch Phase II will result in increased demand for State Water Project (SWP) water. DWR plans to meet this demand without additional diversions from the Sacramento-San Joaquin Delta. In years of deficiencies, Phase II demands will be met by reallocation of existing supplies among SWP contractors. This reallocation would reduce deliveries to the agricultural contracts by about 3%-4% and to municipal and industrial contractors by less than 0.5%.

Operation of the project could alter the timing of existing SWP water exports, which could affect CVP exports.

Project Schedule: Phase I was completed in 1968. The notice of determination was filed in July 1992 and construction began in late 1993.

Project Status as of August 1996: The project is 85%-90% completed and is scheduled to be fully operational by December 1996.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Yes

Criterion 2. Does the action have funding for implementation? Yes

Criterion 3. Does the action have final environmental documentation? Yes

Criterion 4. Does the action have final permits and approvals? Yes

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? Yes

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Yes

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No. The project is included in the No-Action Alternative.

References:

California Department of Water Resources, Scope of Study for the State Water Project Coastal Aqueduct, Kern County, San Luis Obispo County, and Santa Barbara County, January 1987.

Don Kurosaka, California Department of Water Resources, August 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Coleman Fish Hatchery Improvements

Lead Agency: U.S. Bureau of Reclamation and U.S. Fish and Wildlife Service

Project Description: Coleman National Fish Hatchery was constructed in 1942 as part of mitigation measures to preserve significant runs of chinook salmon affected by construction of Shasta Dam. The hatchery is co-operated with a fish trapping operation at Keswick Dam. Since its construction, the hatchery's effectiveness has been impacted by a variety of problems. Those problems include deterioration of existing facilities, diseased fish, poor water quality, inadequate water supplies and pollution abatement facilities, and insufficient holding and rearing space. Operation of the Keswick fish trap has been impaired by flows that commonly occur during the late-fall and winter chinook salmon runs. Four plans were proposed by the U.S. Fish and Wildlife Service to salvage Sacramento River salmon runs blocked by Shasta Dam. The plans were analyzed and one was recommended for implementation: The Sacramento River, Battle Creek, Deer Creek Plan. Under the plan, it is anticipated that the fall-run chinook salmon could be held in the main stem of the Sacramento River by racks to encourage natural spawning. Excess fish would be trapped and taken to hatchery facilities on Battle Creek. Spring-run chinook salmon would be trapped and transferred to suitable tributaries such as Deer Creek for natural spawning and to Battle Creek for artificial propagation at the Coleman National Fish Hatchery.

The U.S. Fish and Wildlife Service has revised its production and operating objectives for the facilities, which are also old and in need of rehabilitation and replacement. The proposed new program for the facility would improve the facilities to meet the objectives for disease control, temperature control, and optimization of production goals. The plan recommends construction or rehabilitation of water supply systems, water treatment facilities, water temperature control facilities, pollution abatement facilities, a feed storage building, and additional prerelease ponds. In addition, the Battle Creek fish barrier dam would be reconstructed.

Project Schedule: A January 1989 report prepared by the Resources Agency, the Upper Sacramento River Fisheries and Riparian Habitat Management Plan, recommended implementation of the proposed plan. The proposed plan has nine construction phases implemented over a 5-year period. The most important is installation of an ozonation facility to kill the INH virus in water supplied to the hatchery.

Project Status as of August 1996: Upgrading of the facility is continuing. The cold storage and feed storage buildings are complete, and the ozonation facility is in the performance testing phase. The facility should be supplying about 10,000 gallons per minute of ozonated water to incubators by October.

Plans for adding another 20 raceways for production of winter- and late-fall-run chinook salmon are awaiting funding. Options for transporting the fish to tributaries other than Battle Creek, which is

generally too warm for winter-run chinook salmon, are being evaluated by a consultant to the U.S. Fish and Wildlife Service.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Partially

Criterion 2. Does the action have funding for implementation? Partially

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? No

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Possibly

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

Resources Agency, Upper Sacramento River Fisheries and Riparian Habitat Management Plan, January, 1989.

Tom Nelson, Hatchery Manager, August 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Colusa Basin Study

Lead Agency: U.S. Bureau of Reclamation

Project Description: The project was designed to evaluate water quality in relation to standards for water supplies used by agriculture, municipal and industrial users, and fish and wildlife. The results of the study indicated that the water temperature in the basin was low for rice and might require warming basins. Several drainage flows had high boron concentrations, although boron concentrations in the Colusa Drain appeared to be appropriate. Turbidity in the drain also was high and could be harmful to fish in the canal. Finally, groundwater had high salinity concentrations and might not be ideal for municipal uses.

Project Schedule: The study was completed in the 1970s.

Project Status as of August 1996: Not applicable

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? The study has been completed.

Criterion 2. Does the action have funding for implementation? Not applicable

Criterion 3. Does the action have final environmental documentation? Not applicable

Criterion 4. Does the action have final permits and approvals? Not applicable

Criterion 5. Will the action be excluded from the CALFED actions? Not applicable

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Not applicable

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? The study has been completed.

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Not applicable

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Not applicable

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Not applicable

Include Project in the Cumulative Impact Analysis? No

References:

U.S. Bureau of Reclamation. Various reports.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Contra Costa Pumping Plant Modifications

Lead Agency: U.S. Bureau of Reclamation

Project Description: The Contra Costa Water District (CCWD) pumping plant diverts approximately 120,000 to 130,000 acre-feet per year from Rock Slough. The diversion is unscreened, and limited data are available to determine entrainment or predation losses. Rock Slough is relatively far from the main migration route of Sacramento River chinook salmon, but reverse flow conditions may bring salmon into the vicinity of the diversion. The Contra Costa Canal System is CCWD's main water supply and delivery system, diverting water since 1940 from the Delta. Construction and operation of fish screening facilities and modified practices and operations will occur under Section 3406(b)(5) of the Central Valley Project Improvement Act (CVPIA). Screening facilities are also required to be installed by October 1998 under the Los Vaqueros Biological Opinion for Delta Smelt issued by the U.S. Fish and Wildlife Service in September 1993. Although restoration funds have yet to be identified for any year, funding from the U.S. Bureau of Reclamation's (Reclamation's) energy and water appropriation has been provided for fiscal year 1996. Funding has just recently been made available for planning activities, and discussions are underway with CCWD to determine objectives and courses of action for this screen program. In addition, entrainment monitoring at pumping plant 1 is ongoing per various biological opinions that apply to the operations of Reclamation and CCWD.

Project Schedule: The project consists of three actions. Action 1 was initiated in February 1996. Action 2 was initiated in July 1996 and is scheduled to end in November 1996. Action 3, which includes the construction activities, was initiated in July 1996 and is scheduled to end in September 1997, depending on the level of environmental documentation required.

Project Status as of August 1996: The project is ongoing. The final report for Action 1 is almost complete.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Feasibility and conceptual design have been completed.

Criterion 2. Does the action have funding for implementation? Funding through the design phase is available.

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? No

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Yes

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? Yes

References:

Herbert Ng, U.S. Bureau of Reclamation, August 28, 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Delta Wetlands Project

Lead Agency: U.S. Army Corps of Engineers and California State Water Resources Control Board

Project Description: Delta Wetlands Properties is the project proponent for the Delta Wetlands project, which would involve potential year-round diversion and storage of water on two Delta islands owned by the company (Bacon Island and Webb Tract, the "reservoir islands") and seasonal diversion of water for creation and enhancement of wetlands and management of wildlife habitat on two islands owned primarily by the company (Bouldin Island and Holland Tract, the "habitat islands"). Delta Wetlands would improve and strengthen levees on all four islands and install two additional intake siphon stations and a new pump station on each of the reservoir islands. Fish screens would be installed on all new and existing siphons on the reservoir and habitat islands. The project would divert surplus Delta inflows, transferred water, or banked water onto the reservoir islands during periods of availability throughout the year to be stored for later sale and/or release for Delta export or to meet water quality or flow requirements for the Bay-Delta estuary during periods of demand.

Storage Capacity: Total initial water storage capacity of the Delta Wetlands reservoir islands as proposed would be 238,000 acre-feet. Total physical storage capacity may increase in 50 years to 260,000 acre-feet as a result of soil subsidence.

Diversion and Discharge Operations: The Delta Wetlands project would operate within the objectives of the 1995 Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (1995 WQCP) and consistent with U.S. Army Corps of Engineers' requirements for maximum SWP operations. The timing and volume of diversions onto the reservoir islands would depend on how much water flowing through the Delta is not put to reasonable beneficial use by senior water right holders or required for environmental protection and would therefore be subject to the operational terms and conditions of project approval. Delta Wetlands proposes to develop a procedure to coordinate their operations with State Water Project (SWP) and Central Valley Project (CVP) operations on a daily basis to ensure that their diversions capture only available flows, satisfy the 1995 WQCP's water quality objectives, and maximize the efficiency of their water storage operations.

Mean annual diversions and discharges are estimated to be 222,000-225,000 acre-feet and 188,000-202,000 acre-feet, respectively, based on the historical hydrologic record for 1922-1991 and assuming current Delta standards, facilities, and upstream/export demands for water.

Diversion and Discharge Rates: Diversion rates onto the reservoir islands would vary with pool elevation and water availability. The maximum rate of diversion onto either Webb Tract or Bacon Island would be 4,500 cfs (9,000 acre-feet per day) when diversions begin (when head differential is greatest). The combined maximum daily average diversion rate for all the islands (including

diversions to the habitat islands) would be 4,000 cfs; at this average rate, both reservoir islands could be filled in approximately 1 month.

Water would be discharged from storage on the reservoir islands during periods of demand in any month, subject to Delta regulatory limitations and export pumping capacities, at a combined maximum daily average rate of 6,000 cfs. The combined monthly average discharge rate of the reservoir islands would not exceed 4,000 cfs; at this average rate, both the reservoir islands could be emptied in approximately 1 month.

Operational Limits: The Delta Wetlands diversions, as proposed, could occur in any month but would occur only when the volume of allowable water for export (the lesser of the amount specified by the export limits and the amount of available water) is greater than the permitted pumping rate of the export pumps. This would occur when all outflow requirements are met and when the export limit is greater than the permitted pumping rate, so that water that is allowable for export is not being exported by the SWP and CVP pumps.

Delta Wetlands' proposed project is represented by two operational scenarios that encompass the full range of likely Delta Wetlands discharge operations. Under one scenario, discharges of stored water from the islands would be exported in any month when unused capacity within the permitted pumping rates exists at the SWP and CVP pumps and strict interpretation of the export limits (percentage of total Delta inflow) specified in the 1995 WQCP does not prevent use of that capacity. This would occur when total inflow less Delta outflow requirements is less than the amount specified by the export limits. Under this scenario, the Delta Wetlands discharges would be treated as additions to total Delta inflow, and export of their discharges would be limited to the lesser of the permitted export pumping capacity and the amount calculated under the "percent inflow" export limit, based on the adjusted inflow amount. Under the second scenario, discharges from the islands would be exported during any month when unused export capacity within the permitted pumping rates exists at the SWP and CVP pumps. Under this scenario, export of their discharges would be limited by the 1995 WQCP Delta outflow requirements and the permitted combined pumping rate of the export pumps but would not be subject to strict interpretation of the "percent inflow" export limit.

Project Schedule: The draft environmental impact report/environmental impact statement (EIR/EIS) was distributed in September 1995. As of August 1996, formal endangered species consultation continues with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, and California Department of Fish and Game.

Project Status as of August 1996: The project is ongoing.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? Yes; the project is privately funded.

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for the CALFED analysis? Yes

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Yes

Criterion 4. Does the action, in combination with the CALFED Bay-Delta Program action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? Yes

References:

John Winther, Delta Wetlands, Inc., 3697 Mt. Diablo Boulevard, Suite 100, Lafayette, CA 94549, Phone 510/283-4216, Fax 510/283-4028, August 1996, personal communication.

Jim Monroe, U.S. Army Corps of Engineers Regulatory Section, 1325 J Street, 14th Floor, Sacramento, CA 95814, Phone 916/557-5266, Fax 916/557-6877, August 1996, personal communication.

Jim Sutton, California State Water Resources Control Board, Division of Water Rights, P.O. Box 2000, Sacramento, CA 95812-2000, Phone 916/657-1366, Fax 916/657-1485, August 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: East Bay Municipal Utility District/ East San Joaquin County Parties - Groundwater Banking Project

Lead Agency: East Bay Municipal Utility District

Project Description: The East Bay Municipal Utility District (EBMUD) Updated Water Supply Management Program, adopted in 1993, included a groundwater storage/conjunctive use component. The scope of studies included assessment of regional supply sources, including use of the EBMUD American River contract, that could benefit both EBMUD and East San Joaquin County Parties. East San Joaquin County Parties is an association of seven separate entities with varying viewpoints and available resources.

EBMUD's preferred project for recharging up to 300,000 acre-feet per year, the maximum considered reasonably available from the American, Mokelumne, Calaveras, and Stanislaus Rivers, would consist of two phases. Phase 1 facilities include a new pipeline from the terminus of the existing Folsom South Canal to the Mokelumne Aqueducts, a new canal from the Farmington Canal to the vicinity of the Mokelumne River, and new distribution facilities. Phase 1 would develop up to 300,000 acre-feet per year of groundwater recharge in wet years at an estimated capital cost of \$346 million. If fully developed, the project would recharge about 10 acre-feet for each acre-foot extracted for use by EBMUD. Potential Phase 2 facilities include offstream reservoirs to regulate flows from the Stanislaus River, a new diversion on the Sacramento River, and/or additional water treatment capacity and distribution systems to deliver treated surface water to municipal and industrial users, replacing groundwater pumping in the Stockton area. Any or all of these facilities could be constructed if Phase 1 fails to correct the groundwater degradation problem. The capital cost of Phase 2 facilities could range from \$0-\$369 million.

As of July 1996, EBMUD and East San Joaquin County Parties have not reached agreement on how to proceed with this groundwater banking program.

Project Schedule: EBMUD initiated studies with East San Joaquin County Parties in April 1995. EBMUD and East San Joaquin County Parties were negotiating relationships in July 1996.

Project Status as of August 1996: The project is ongoing.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for the CALFED analysis? Yes

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Possibly

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Pardee Reservoir Enlargement Project

Lead Agency: East Bay Municipal Utility District

Project Description: Elements of the project include increasing the height and width of the main dam, modifying the powerhouse, modifying or replacing the outlet tower, constructing a secondary dam in the Jackson Creek arm, modifying the recreation and shoreline facilities, and constructing a new Highway 49 bridge crossing. The height of Pardee Dam would be raised by 57 feet, thereby increasing the capacity of the reservoir by 150,000 acre-feet.

This project was identified in EBMUD's Updated Water Supply Management Program (see separate description).

Project Schedule: Development of a Memorandum of Agreement with the Federal Energy Regulatory Commission - Summer 1996
Draft EIR/EIS scheduled to be released - mid-1998
Federal Energy Regulatory Commission application filing - Spring 1999

Project Status as of August 1996: Development of the conceptual engineering report is ongoing.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for the CALFED analysis? Yes

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Yes

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? Yes

References:

East Bay Municipal Utility District, Oakland, California, Final EIR for the Updated Water Supply Management Program, September 1993.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: East Bay Municipal Utility District - Updated Water Supply Management Program

Lead Agency: East Bay Municipal Utility District

Project Description: The programmatic Environmental Impact Report (EIR) for the Updated Water Supply Management Program recommended the following actions for further study:

- **Conservation and U.S. Bureau of Reclamation.** These two demand-side components, which would be added to the East Bay Municipal Utility District's (EBMUD's) existing and adopted conservation and reclamation programs, would reduce the agency's projected 2020 demand for water from 250 million gallons per day to 229 million gallons per day, a reduction of 21 million gallons.
- **Lower Mokelumne River Management Plan.** The Lower Mokelumne River Management Plan specifies flow regimes, reservoir operations, hatchery operations, and instream improvements that would enhance fishery resources in the lower Mokelumne River while maximizing the EBMUD's flexibility in managing a variable water supply, uncertain future demands, and uncertain links between fish populations and fishery management activities. These additional water releases from Camanche Reservoir would protect anadromous fisheries.
- **Aqueduct security.** An approximately 10-mile-long section of the Mokelumne Aqueducts through the Delta would be secured against prolonged outages resulting from earthquake-induced failures, improving the reliability of the system.
- **Groundwater storage/conjunctive use.** Water would be stored in an underground basin when excess surface water supplies were available and withdrawn during drier years when surface supplies were below normal. The groundwater banking and conjunctive use program would occur with local irrigation districts in the vicinity of Lodi.
- **Extend the Folsom South Canal Project to connect the existing Folsom South Canal to the Mokelumne Aqueduct.** This project is the Folsom South Canal Project.

In September 1993, EBMUD published a final EIR for the Updated Water Supply Management Program (State Clearinghouse Number 89030122).

Specific projects identified in the Updated Water Supply Management Program are discussed as separate projects in this report.

Project Schedule: The final EIR was published in September 1993.

Project Status as of August 1996: EBMUD is proceeding with the projects identified in the Updated Water Supply Management Program.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Yes

Criterion 2. Does the action have funding for implementation? Yes

Criterion 3. Does the action have final environmental documentation? Yes

Criterion 4. Does the action have final permits and approvals? Not applicable; the project is a water supply management program.

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for the CALFED analysis? Not applicable

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? No

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? No

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

East Bay Municipal Utility District, Oakland, California, Final EIR for the Updated Water Supply Management Program, September 1993, State Clearinghouse Number 89030122.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Enlarged Cross Valley Canal

Lead Agency: U.S. Bureau of Reclamation

Project Description: This project would provide water to Arvin Edison Water Storage District from the Cross Valley Canal. The water would be provided in exchange for water from the Friant Kern Canal. The exchange water would be used by Fresno County, Tulare County, Hills Valley Irrigation District, Tri-Valley Water District, Lower Tule River Irrigation District, Pixley Irrigation District, Kern-Tulare Water District, Rag Gulch Water District, and Ducor Irrigation District. This project would require approval from the State Water Project (SWP) for wheeling water to Cross Valley Canal through the California Aqueduct.

Project Schedule: The EIS was completed in 1975.

Project Status as of August 1996: The project was deferred.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? Yes

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? No

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? No

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

U.S. Bureau of Reclamation, Final Environmental Impact Statement for Use of Central Valley Project Water through Enlarged Cross Valley Canal, 1975.

Projects Considered in Development of the No-Action Alternative and Cumulative Impact Analysis

Project Name: Folsom South Canal Connection Project

Lead Agency: East Bay Municipal Utility District

Project Description: The Folsom South Canal Connection project was authorized for study by the East Bay Municipal Utility District (EBMUD) Board in September 1995. The purpose of the project is to take delivery of American River water pursuant to EBMUD's contract with the U.S. Bureau of Reclamation and to provide a connection from the Folsom South Canal near Grant Line Road or from the end of the Folsom South Canal to EBMUD's Mokelumne Aqueducts. The source of water is the American River at Lake Natoma. This is a stand-alone project not dependent on any additional water supply project components. The project components include the following:

- a pumping plant at the Folsom South Canal;
- a pipeline from the Folsom South Canal to the Mokelumne Aqueducts, including river crossings;
- a pumping plant and storage reservoir at the Mokelumne Aqueducts; and
- a connection to Mokelumne Aqueducts 2 and 3.

EBMUD has begun preparing an EIR and preliminary engineering studies for 16 to 24 miles of 9-foot-diameter buried pipeline or open canal from the Folsom South Canal at Grant Line Road to the agency's Mokelumne Aqueducts. As of July 1996, an alignment route had not been selected. The pumping plant at Grant Line Road or at the end of the Folsom South Canal would have a capacity of 400 cfs (256 million gallons per day). Minimum contract capacity of the EBMUD turnout on the Folsom South Canal is 395 cfs; maximum capacity of Aqueducts 2 and 3, when operated in pumping mode, is 401 cfs. The historical maximum-month aqueduct flow rate is 398 cfs.

Project Schedule: Notice of preparation of an EIR and initial study - January 1996
Initiation of environmental field studies - Summer 1996
Initiation of preliminary engineering - Summer 1996
Draft EIR scheduled to be released - Summer 1997
Construction estimated to start - January 1999
Project anticipated to be operational - December 2000

Project Status as of August 1996: Preliminary engineering is ongoing.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for the Program analysis? Yes

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Yes

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? Yes

References:

East Bay Municipal Utility District, July 1996.

Water Supply Management Program, Folsom South Canal Connection, Fact Sheet No. 1.

Project Name: Folsom Reservoir Outlet Shutters

Lead Agency: U.S. Bureau of Reclamation and U.S. Army Corps of Engineers

Project Description: The primary purpose of reconfiguring shutters on Folsom Dam is to provide increased ability to control the temperature of water in the lower American River. Water temperature in the American River is important to multiple life stages of salmonids. Every effort should be made to maintain lower river temperatures throughout the early spawning and entire rearing and outmigration periods of the year. The Corps and USBR would be responsible for Folsom Dam facility modifications and operations. DFG and/or USFWS would monitor and assess water temperatures and their effects on salmonid survival rates.

Project Schedule: Project is planned to be completed by 2000.

Project Status as of August 1996: Studies and design are continuing.

CALFED No-Action Screening Process

- Criterion 1. Has the action been approved for implementation? No; however, approval process is ongoing.
- Criterion 2. Does the action have funding for implementation? No funds have been appropriated. Internal funding is being sought through budget process.
- Criterion 3. Does the action have final environmental documentation? No
- Criterion 4. Does the action have final permits and approvals? No
- Criterion 5. Will the action be excluded from the CALFED actions? No
- Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes. Although the same volume of water will be released, the temperature will be changed.

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

- Criterion 1. Is the action under active consideration? Yes
- Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No
- Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Possibly

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

Rod Hall, Environmental Specialist, U.S. Bureau of Reclamation (916) 989-7279.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Folsom-South and Lower American River Study

Lead Agency: U.S. Bureau of Reclamation

Project Description: After construction of the Folsom Dam and Reservoir, the California State Water Resources Control Board (SWRCB) specified minimum flow standards for the American River. To maintain these minimum flows and meet the water demands of the American River division, the U.S. Bureau of Reclamation evaluated several plans to provide water to the area south of Sacramento. These alternatives were evaluated in an Environmental Impact Statement (EIS) published in 1972 and supplemental EISs published in 1973, 1974, and 1975. The recommendations of the studies were to construct the Hood-Clay Connection, the Laguna Canal, and Clay Station Reservoir. The canals would convey up to 1,100 cfs from the Sacramento River, and the reservoir would store up to 150,000 acre-feet of water on Laguna Creek. These facilities would provide recreational and fish and wildlife benefits as well as water supplies.

Project Schedule: The project started in 1972, and a supplemental EIS was completed in 1975.

Project Status as of August 1996: The project was deferred.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? No

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? No

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

U.S. Bureau of Reclamation, Supplementary EIS, November 1975.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Fresno-Clovis Metropolitan Water Resources Master Plan

Lead Agency: City of Fresno

Project Description: The City of Fresno has a contract with the U.S. Bureau of Reclamation for 60,000 acre-feet of Class I Friant Unit water. Historically, the City of Fresno has used a portion of this water for groundwater recharge. The remainder has been used conjunctively with Fresno Irrigation District for agricultural irrigation. In recent years, the City of Fresno has used most of the contract amount for groundwater recharge.

In 1991, a water resources management plan for the Fresno-Clovis metropolitan area was initiated under joint sponsorship of the City of Fresno, the City of Clovis, Fresno Irrigation District, Fresno Metropolitan Flood Control District, and Fresno County. Under the proposed plan, the City of Fresno would use treated surface water from its CVP contract as a replacement for contaminated groundwater and as a source of supply in areas of insufficient groundwater supply. Consequently, in the future, the City of Fresno will take delivery of the full amount under their contract. Part of this water was proposed to be treated for direct use while the remainder would have been used to recharge groundwater. Treatment and transmission facilities were also required before direct use could be implemented.

The Fresno-Clovis Metropolitan Water Resources Management Plan was dropped, and the City of Fresno and the City of Clovis are each pursuing separate projects. See Fresno Metropolitan Water Resources Management Plan.

Project Schedule: This project was discontinued.

Project Status as of August 1996: This project was discontinued.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for the CALFED analysis? Not applicable

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? No

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? No

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

Bill Dunn, Water Division, Department of Public Utilities, City of Fresno, Phone 209/498-4136, August 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Fresno Metropolitan Water Resources Master Plan

Lead Agency: City of Fresno

Project Description: The City of Fresno has a contract with the U.S. Bureau of Reclamation for 60,000 acre-feet of Class I Friant Unit water. Historically, the City of Fresno has used a portion of this water for groundwater recharge. The remainder has been used conjunctively with Fresno Irrigation District for agricultural irrigation. In recent years, the City of Fresno has used most of the contract amount for groundwater recharge.

In 1991, a water resources management plan for the Fresno-Clovis metropolitan area was initiated under joint sponsorship of the City of Fresno, the City of Clovis, Fresno Irrigation District, Fresno Metropolitan Flood Control District, and Fresno County. That project has been dropped from further consideration.

The City of Fresno is pursuing a water resources management plan that identifies the following timeframes:

- 1995-2000: define major water supply projects, including the following:
 - surface water treatment plant,
 - additional recharge capacity,
 - improvements to the transmission grid system,
 - construction of storage tanks, and
 - possible raw surface water supplies for large landscape irrigation projects.
- 2001-2010: implement the projects.
- 2011-2050: develop the water supply program, focusing on objectives, policies, and institutional changes.

Project Schedule: The project is ongoing.

Project Status as of August 1996: The project is ongoing.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for the CALFED analysis? Not applicable

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Possibly

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

Bill Dunn, Water Division, Department of Public Utilities, City of Fresno, Phone 209/498-4136, August 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Friant Power Plants

Lead Agency: U.S. Bureau of Reclamation

Project Description: During the late 1970s, the Department of the Interior was seeking means to supplement power production capabilities in the western United States. Among the alternatives considered was development or expansion of hydroelectric power generation capabilities at Central Valley Project (CVP) dams. An appraisal study was completed in 1979 by the Water and Power Resources Service (currently U.S. Bureau of Reclamation) describing the addition of three power plants at Friant Dam. The plants would be constructed at the downstream discharge, at the Madera Canal discharge, and at the Friant Kern Canal discharge. It was estimated that the three plants would have a maximum electric power generation capacity of 22,500 kilowatts and a dependable capacity of 1,000 kilowatts. These estimates were based on no changes occurring in operation of the dam, including no downstream releases or diversions to the canals for significant portions of the year. The plants were recommended for construction in 1979 but have not been authorized to date.

Project Schedule: The project began in 1979.

Project Status as of August 1996: The project is deferred.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? No

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? No

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? No

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? No

Include Project in the Cumulative Impact Analysis? No

References:

Water and Power Resources Services (Reclamation), Friant Power Plants, an Appraisal Report on Adding Hydroelectric Power Plants at Friant Dam, December 1979.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Georgiana Slough Improvements

Lead Agency: California Department of Water Resources

Project Description: Diversion of Sacramento River flows at Georgiana Slough results in diversion of juvenile chinook salmon and eggs, larvae, and juveniles of striped bass and other species into the central Delta. These species are subject to high mortality associated with longer migration routes, higher water temperatures, increased predation, unscreened agriculture diversions, reverse flows, and direct entrainment losses at the Central Valley Project (CVP) and State Water Project (SWP) export facilities. To reduce the impacts of these facilities on fisheries, the tendency to draw fish through the Delta Cross Channel at Georgiana Slough must be reduced.

The California Department of Water Resources and U.S. Bureau of Reclamation are evaluating the effectiveness of structural and nonstructural barriers, such as acoustic and electrical barriers, to reduce the number of fish diverted into these facilities. Nonstructural barriers have been installed and are under evaluation.

Future project tests may include barging hatchery-reared winter-run smolts, installing diverters at Georgiana Slough and the Delta Cross Channel to guide migrating smolts, constructing diversion structures for a fraction of the Sacramento River into the Deep Water Ship Channel to allow smolts to bypass the Delta channels, and installation of a physical barrier at Georgiana Slough.

Project Schedule: The project is ongoing.

Project Status as of August 1996: The project is ongoing.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Yes

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? No

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Possibly

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

Stein Buer, California Department of Water Resources, August 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Geothermal Investigations

Lead Agency: U.S. Department of Interior and U.S. Bureau of Reclamation

Project Description: Under the Geothermal Steam Act of 1970, the Department of the Interior identified candidate sites for development of federally owned geothermal resources. The proposed action would involve leasing federally owned geothermal resources for generation of electric energy. The Department of the Interior reviewed the potential for geothermal energy development in the United States. Approximately 1.8 million acres of federal lands were identified as having significant potential for such development. The results of the investigation and a summary of leasing and operation regulations were presented in an environmental statement for the geothermal leasing program in 1973. It was determined that the most promising prospects for geothermal power generation were in California.

Project Schedule: The project began in 1970.

Project Status as of August 1996: Federal projects have been deferred.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? No

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? No

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? No

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? No

Include Project in the Cumulative Impact Analysis? No

References:

U.S. Department of Interior, Final Environmental Statement for the Geothermal Leasing Program, 1973.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Glenn-Colusa Irrigation District Fish Screen Improvement Project

Lead Agency: U.S. Bureau of Reclamation, Glenn-Colusa Irrigation District, and California Department of Fish and Game

Project Description: The effectiveness of the drum-screen fish screen facility at the Glenn-Colusa Irrigation District Hamilton City Pump Diversion was substantially reduced by significant hydraulic changes in the Sacramento River that lowered water depths at the screens. The low water depths have decreased the effective area of screen surfaces and increased water velocity through the screens. These changes result in juvenile salmon and steelhead impinging on the screens. The low water level also reduced bypass flows used to return juvenile fish to the Sacramento River, resulting in heavy predation by squawfish. A group of federal, State, and local agencies has been investigating solutions to the problems. These studies have identified at least six alternative improvements involving different configurations of screens, a fish bypass, river gradient restoration, and pumping facilities. The project has been divided into two interrelated parts: river gradient restoration and fish screen improvements. River gradient restoration is being led by the U.S. Army Corps of Engineers, while the fish screen improvements are being led by U.S. Bureau of Reclamation and Glenn-Colusa Irrigation District. As an interim measure, the existing screen structure has been upgraded to improve performance while long-term solutions are being developed and constructed.

Project Schedule: The project started in 1989 and is ongoing. Construction is projected to be complete in 2000.

Project Status as of August 1996: Feasibility studies for fish screen improvements were completed in 1994. Environmental assessment for river gradient restoration will be completed by 1997. The design is to be finished in September 1997, with construction expected in spring 1998 and completion in 2000.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Yes

Criterion 2. Does the action have funding for implementation? Yes

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? No

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Yes

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

Glenn-Colusa Fish Screen Improvement, Glenn-Colusa Irrigation District Fish Screening Alternatives, Task B2.3, 1993.

Glenn-Colusa Fish Screen Improvements, Technical Memorandum Task B7.3, Evaluation of Technical Alternatives, 1993.

Lauren Carly, U.S. Bureau of Reclamation, August 16, 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Interim Reoperation of Folsom Reservoir

Lead Agency: Sacramento Area Flood Control Agency and U.S. Bureau of Reclamation

Project Description: The Sacramento Area Flood Control Agency and the U.S. Bureau of Reclamation (Reclamation) considered options for modifying the current operation of Folsom Dam and Reservoir to provide the people and properties currently occupying the American River floodplain with as much immediate flood protection as possible pending federal authorization and implementation of a long-term project to improve the existing American River flood control system. This goal will be achieved through an agreement between Sacramento Area Flood Control Agency and Reclamation under which Folsom Reservoir's existing flood control diagram governing reservoir storage space allocations and outflows during flood control operations has been revised to permit safe containment of a 100-year or larger flood event in the watershed.

The alternatives selected for environmental review by the lead agencies would increase space available for flood control at Folsom Reservoir by improving the efficiency of flood operations and by requiring a variable reduction in the reservoir pool when a designated amount of empty space is no longer available for flood storage in the three largest hydropower reservoirs (French Meadows, Hell Hole, and Union Valley) in the watershed. Because Folsom Reservoir is not designed for efficient flood releases with a low reservoir pool, substantial increases in empty space in the reservoir yield only marginal increases in flood protection. Therefore, the draft EIR/environmental assessment analyzed only two variable space alternatives: 1) an alternative under which the storage space available for flood control during the winter season would vary between 400,000 and 670,000-acre-feet (the proposed project), and 2) an alternative under which storage space available for flood control during the winter season would vary between 500,000 and 800,000 acre-feet.

Project Schedule: The final EIR/environmental assessment was published in 1994.

Project Status as of August 1996: The project is ongoing.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Yes

Criterion 2. Does the action have funding for implementation? Yes

Criterion 3. Does the action have final environmental documentation? Yes

Criterion 4. Does the action have final permits and approvals? Yes

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for the CALFED analysis? Yes

Include Project in the No-Action Alternative? Yes

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Yes

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No. The project is included in the No-Action Alternative.

References:

Sacramento Area Flood Control Agency and U.S. Bureau of Reclamation, Interim Reoperation of Folsom Dam and Reservoir Draft EIR/Draft Environmental Assessment, Sacramento, California, August 1994.

Projects Considered in Development of the No-Action Alternative and Cumulative Impact Analysis

Project Name: Interim South Delta Program

Lead Agency: California Department of Water Resources

Project Description: The purpose of the Interim South Delta Program is to enhance operational flexibility of the State Water Project (SWP), reduce fishery impacts in the Delta, and improve water levels and circulation for Delta agricultural diverters. The alternative analysis for the ongoing study will describe the needs for the project and explain project assumptions, state project benefits and purposes, describe alternatives and screening criteria, analyze all alternatives and combinations of alternatives to identify the most practical and least environmentally damaging alternative, and define steps to avoid, minimize, and compensate for any fish and wildlife losses due to implementation of the project.

In July 1982, South Delta Water Agency filed a lawsuit against the State of California and the federal government over the effects of Central Valley Project (CVP) and SWP operations on the south Delta. The suit alleged that CVP operations on the San Joaquin River unlawfully reduce the quantity of water and degrade the quality of water flowing in the San Joaquin River to the south Delta. The suit maintained that operations of SWP and CVP pumps violate South Delta Water Agency's rights by lowering water levels, reversing flows, and diminishing the influence of the tides. Furthermore, it was alleged that the Secretary of the Interior's designation of the Stanislaus River as the basis for allocation of water from New Melones Reservoir violates South Delta Water Agency's rights by not including the south Delta in the basin.

The first measures to mitigate the effects of the CVP and SWP pumps were to install rock barriers at Middle River and Old River to improve south Delta water flows and water quality (see Old River project description). Other measures have included installation of recorders on Tom Paine Slough, dredging around the control structure in Tom Paine Slough, installation of portable pumps on Tom Paine Slough to augment water supplies, and modification of the Clifton Court Forebay operation to improve water levels in south Delta channels.

California Department of Water Resources, U.S. Bureau of Reclamation (Reclamation), and South Delta Water Agency recently agreed to a draft contract that settles the 1982 lawsuit. The agencies are now involved obtaining approval in Congress for the project. The draft contract includes provisions to test and construct barrier facilities in certain south Delta channels to provide the agency with an adequate agricultural water supply. It also provides for interim releases from New Melones Reservoir by U.S. Bureau of Reclamation to resolve the litigation relating to San Joaquin River flows.

Other projects have increased the capability of the Banks pumping plant to deliver SWP water from 6,400 cfs to 10,300 cfs. However, diversions are restricted to 6,990 cfs a day and 6,680 cfs for a three-day average. One goal of this project is to obtain a Section 10 permit from the U.S. Army

Corps of Engineers to operate the pumps at full capacity. Other parts of the project could include additional forebay intake structures; limited channel dredging in Old River, Victoria Canal, North Canal, and Middle River; control structures to change flow patterns in the San Joaquin River; and fish protection measures.

Project Schedule: This project is ongoing.

Project Status as of August 1996: The project has been authorized by the State of California and Reclamation under the settlement agreement and is proceeding. All barriers are in place, including, for the first time, the Grant Line barrier. Most barriers will be pulled out by the end of September, depending on flow conditions. The draft Environmental Impact Statement (EIS) was released August 12, 1996 and will undergo public comment and review until December 6, 1996. A final EIS could be released as soon as April 1997.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Yes

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Probably not

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Possibly

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? Yes

References:

Administrative Draft Interim South Delta Program, Section 404(b)(1), Alternative Analysis Report, August 12, 1993.

Mike Ford, California Department of Water Resources, August 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Kaweah River Investigation

Lead Agency: U.S. Army Corps of Engineers

Project Description: This project is intended to provide improved flood protection and to develop additional irrigation water for the area. The scope includes raising the height of the terminus dam and improvements to flood protection structures in the vicinity of the city of Visalia. The project is currently in the feasibility phase. This includes a gross appraisal of the economic viability of the project, with consideration of general fish and wildlife requirements. The principal sponsor locally is the Kaweah Delta Conservation District of Tulare County.

Project Schedule: The feasibility report will be completed in September 1996 and forwarded to the U.S. Army Corps of Engineers headquarters for review. The next phase, preconstruction engineering and design, will require about 3 years.

Project Status as of August 1996: This project is ongoing.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? No

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Possibly

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Kellogg Unit Reformulation Study

Lead Agency: U.S. Bureau of Reclamation

Project Description: The Kellogg Unit Reformulation Study was conducted in cooperation with California Department of Water Resources and the Contra Costa Water District (CCWD). The original Kellogg Unit studies proposed relocating the Contra Costa Canal intake and constructing an offstream reservoir on Kellogg Creek as a means of resolving water quality and reliability problems in the Contra Costa Canal service area. The Kellogg Unit Reformulation Study, as described in the 1988 project draft Environmental Impact Statement (EIS), addresses only relocation of the canal intake. Construction of an offstream storage reservoir was addressed in a separate investigation. The reformulation study identified and evaluated six alternatives for changing the canal intake from Rock Slough to another location. The recommended plan, as presented in the draft EIS, would relocate the canal intake from Rock Slough to Clifton Court Forebay and construct an open, concrete-lined canal (the Highline Canal) and a 500 cfs pumping plant. CCWD conducted an evaluation under its Los Vaqueros Project and has proposed a different recommended alternative, including construction of an offstream storage reservoir, associated canals and pipelines, and a new intake and pumping plant on Old River for reservoir uses.

Project Schedule: Draft EIS prepared for Kellogg Reformulation Study August 1988 - No further study has been conducted.

Project Status as of August 1996: The Kellogg Unit Reformulation Study was authorized by Public Law 96-375 October 3, 1980. CCWD has since undertaken a portion of the project as part of the Los Vaqueros Project.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? No

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for CALFED Bay-Delta Program (assumed to be 2020)? No

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

Planning Report Draft EIS Kellogg Reformulation Study, August 1988.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Kern Water Bank

Lead Agency: California Department of Water Resources

Project Description: The Kern Water Bank is a conjunctive use groundwater storage program undertaken by the California Department of Water Resources (DWR) and seven local water agencies. The purpose of the project is to develop storage capacity to augment the State Water Project's (SWP's) dependable supply. The project would store water in the Kern County groundwater basin and would be managed in coordination with local surface water and storage facilities. The project consists of eight elements that would be developed in successive phases. The first phase of the project is the Kern Fan element, which would be developed and operated by DWR.

The Kern Fan element would consist of up to 1,000 acres of recharge basins and 30 extraction wells. Under an agreement with the City of Bakersfield, existing municipal recharge basins would be used when available. Water would be transferred from the California Aqueduct through the Cross Valley Canal to Bakersfield. The project would include construction of turnouts along the Cross Valley Canal, a metering structure, and several other appurtenant structures. Maximum annual recharge for the Kern Fan Element would be 90,000 acre-feet. At present, the project includes 20,000 acres of land, a storage capacity of 100,000 acre-feet, and 30 groundwater extraction wells. No conveyance, metering, or recharge facilities have been constructed.

Project Schedule: The project is ongoing.

Project Status as of August 1996: The Kern Fan element was transferred to Kern Water Bank Authority on August 16, 1996. Construction of parts of the Semitropic element is underway while other elements are still under review. The Fan element could go back into escrow if an appeal filed by opponents to the project is successful.

CALFED No-Action Screening Criteria

- Criterion 1. Has the action been approved for implementation? Yes
- Criterion 2. Does the action have funding for implementation? Yes
- Criterion 3. Does the action have final environmental documentation? Yes
- Criterion 4. Does the action have final permits and approvals? Yes
- Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? Yes

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Possibly

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No. The project is included in the No-Action Alternative.

References:

California Department of Water Resources, Kern Water Bank Status Report.

Jack Erickson, California Department of Water Resources, August 1996, personal communications.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Kesterson Reservoir Cleanup

Lead Agency: U.S. Bureau of Reclamation

Project Description: The Kesterson Reservoir became the terminus of the San Luis Drain when construction of the drain was halted because of funding limitations and disagreements over potential environmental impacts of drainwater discharge into the Delta (the original terminus). Selenium from the drainwater has contaminated Reservoir sediments, vegetation, and groundwater, as well as San Luis Drain sediments. Discovery of high selenium and other trace element concentrations in the San Luis Drain and Kesterson Reservoir necessitated studies to identify the source and containment/treatment methods available to reduce the risk of environmental damage. In 1985, the State Water Resources Control Board directed the U.S. Bureau of Reclamation to submit a plan to clean up the San Luis Drain and Kesterson Reservoir. A projectwide EIS was filed in 1986 for closure of the San Luis Drain and Kesterson Reservoir. Initially, the ephemeral pool areas were filled.

Project Schedule: Environmental documentation was completed in 1986 and ephemeral pools were filled.

Project Status as of August 1996: Monitoring studies are ongoing.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Yes

Criterion 2. Does the action have funding for implementation? Yes

Criterion 3. Does the action have final environmental documentation? Yes

Criterion 4. Does the action have final permits and approvals? Yes

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? No

Include Project in the No-Action Alternative? No. It does not directly affect water management.

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? In progress

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Possibly

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No. This project would not directly affect water management.

References:

U.S. Bureau of Reclamation, Mid-Pacific Region, in cooperation with U.S. Fish and Wildlife Service and U.S. Army Corps of Engineers, Final EIS, Kesterson Program, October 1986.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Keswick Power Plant Enlargement

Lead Agency: U.S. Bureau of Reclamation

Project Description: Keswick Dam, reservoir, and power plant are located on the Sacramento River nine miles downstream of Shasta Dam. The reservoir serves as an afterbay for releases from the Shasta and Spring Creek power plants. During the late 1970s and early 1980s, Keswick Power Plant was operating at 90,000 kilowatts, which is above its rated capacity of 75,000 kilowatts. The Keswick Power Plant Enlargement project considered increasing the power generation capacity at Keswick Dam by constructing a 15,000 kilowatt power plant below the existing power plant. After preliminary evaluation, it was decided that the cost-benefit ratio of the project was unfavorable. No environmental impact analysis or financial feasibility studies were conducted.

Project Schedule: An appraisal study of the power generation capabilities was completed in 1982.

Project Status as of August 1996: The project has been deferred.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? No

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? No

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? No

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

U.S. Department of Interior, U.S. Bureau of Reclamation, Keswick Power Plant Enlargement, Central Valley Project, Concluding Report, February 1982.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Lake Oroville Enhancement Study

Lead Agency: California Department of Water Resources

Project Description: The project is currently in the implementation phase and was created in response to Federal Energy Regulatory Commission (FERC) requirements for the Lake Oroville/Thermalito facilities. The purpose of the project is to improve recreation and fishing benefits to the Oroville and Thermalito areas. The study has been completed and provides suggested activities for enhancement. Implementation and funding of the activities is to be provided by the local agencies involved in FERC licensing of the Oroville/Thermalito facilities. Most activities are not connected with water releases from the facilities, but rather relate to fish planting, bike trails, and other user-related improvements.

The project is primarily for enhancement of the project area and does not directly affect water releases from the Oroville/Thermalito facilities. It is being developed in phases, with environmental documentation being prepared separately for each phase.

Project Schedule: The project is ongoing.

Project Status as of August 1996: The project is ongoing.

CALFED Screening Criteria

Criterion 1. Has the action been approved for implementation? Yes

Criterion 2. Does the action have funding for implementation? Yes

Criterion 3. Does the action have final environmental documentation? Yes

Criterion 4. Does the action have final permits and approvals? Yes

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? No

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Possibly

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

Roland Williams, California Department of Water Resources, August 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Lake, Yolo, Napa, and Solano Counties Groundwater Study

Lead Agency: U.S. Bureau of Reclamation

Project Description: This project assessed groundwater conditions in Lake, Yolo, Napa, and Solano County under five development scenarios. The study is related to the West Sacramento Canal Unit Study, which evaluated potential construction of reservoirs and conveyance facilities to serve Yolo and Solano County. The study evaluated potential impacts to groundwater resources under alternative development scenarios, recommending further studies to estimate groundwater pumpage rates, surface water diversions, average well production rates, and costs for using groundwater. It also recommended expanding the groundwater elevation monitoring program to include the entire study area, expanding the groundwater quality monitoring program into the lower Napa Valley to determine the extent of seawater intrusion, and revising groundwater maps based on the expanded monitoring program.

Project Schedule: The initial study was completed in 1975.

Project Status as of August 1996: The project has been deferred.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Not applicable

Criterion 2. Does the action have funding for implementation? Not applicable

Criterion 3. Does the action have final environmental documentation? Not applicable

Criterion 4. Does the action have final permits and approvals? Not applicable

Criterion 5. Will the action be excluded from the CALFED actions? Not applicable

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Not applicable

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? No

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? No

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

U.S. Bureau of Reclamation, Four Counties Study, April 1975.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Los Banos Grandes Dam and Reservoir Study

Lead Agency: California Department of Water Resources

Project Description: The Los Banos Grandes facilities would consist of an offstream storage reservoir located near the San Luis Dam and Reservoir, with associated pumping and generating plants and conveyance channels. Water would be banked south of the Delta when winter flows are high. These flows would be pumped from the Banks pumping plant in the Delta through the California Aqueduct and then to the Los Banos Grandes reservoir for storage. Power would be generated when water is released from the main reservoir into the Los Banos Reservoir to the California Aqueduct during summer months. Operation of the reservoir would be similar to that of the San Luis Reservoir, except that Los Banos Grandes would reserve about two-thirds of its stored water each year to provide supplies during periods of water shortage. The project would improve SWP reliability by increasing the dependable yield of the project by more than 250,000 acre-feet, an estimate made prior to establishment of Delta export restrictions defined by biological opinions for winter-run chinook salmon and delta smelt.

The California Department of Water Resources (DWR) has been investigating other potential south-of-the-Delta storage sites on the west side of the San Joaquin Valley. The current list includes ten watersheds with 20 potential dam locations identified. Meanwhile, evaluation of the Los Banos Grandes site has continued. A threatened and endangered species survey has been completed, a pilot program to investigate re-establishment of sycamore woodland habitat has been initiated, a study to evaluate the effects of canals on the movement of kit fox throughout the study area was commissioned by DWR and conducted by the California Department of Fish and Game, and 1990 cost estimates for the project have been updated.

Project Schedule: The draft EIR for the Los Banos Grandes Facilities was completed in December 1990. The reconnaissance study is ongoing.

Project Status as of August 1996: A progress report on Phase I of the reconnaissance study entitled Alternative South-of-the-Delta Offstream Reservoir Reconnaissance Study will be released by the end of September 1996. Phase II may be completed by next spring.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? No

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? No. Offstream storage may be considered by CALFED.

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Possibly

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

California Department of Water Resources, Los Banos Grandes Facilities Draft EIR, December 1990.

Mark Cowin, California Department of Water Resources, August 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Los Vaqueros Reservoir Project

Lead Agency: Contra Costa Water District

Project Description: The objectives of the project are to improve water quality; minimize seasonal water quality changes of delivered water, especially in late-summer periods when salinity concentrations rise in the Delta; and improve reliability of water supplies during extended emergencies. Contra Costa Water District has completed several water quality studies for the reservoir project. Facilities included in the project are the Los Vaqueros Dam and Reservoir (a 200-foot high earthen dam and 100,000 acre-foot reservoir); the Old River pumping plant (250 cfs) and pipeline facilities (a 7-mile pipeline); a transfer reservoir and pipeline (a 4-million-gallon reservoir and 5-mile pipeline); the Los Vaqueros Pipeline (9 miles); and relocation of Vasco Road and several utilities.

Project Schedule: The project is under construction and is scheduled to be complete and operational by 1997.

Project Status as of August 1996: The project is under construction.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Yes

Criterion 2. Does the action have funding for implementation? Yes

Criterion 3. Does the action have final environmental documentation? Yes

Criterion 4. Does the action have final permits and approvals? Yes

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for the CALFED analysis? Yes

Include Project in the No-Action Alternative? Yes

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Yes

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No. The project is included in the No-Action Alternative.

References:

Contra Costa Water District, 1992 Los Vaqueros Project EIR/EIS.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Lower San Joaquin River and Tributaries Levee Improvements

Lead Agency: U.S. Army Corps of Engineers

Project Description: The federal government completed a levee improvement program along the San Joaquin River from its confluence with the Tuolumne River to the Merced River by 1972. The State of California evaluated improvement of the river channel upstream of the confluence with the Merced River. The proposed project would construct an Eastside and Chowchilla Bypass to divert flood flows at Gravelly Ford.

Project Schedule: The project has been deferred.

Project Status as of August 1996: The project has been deferred.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? No

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? No

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

U.S. Army Corps of Engineers, Clearing and Snagging Project, San Joaquin River and Tributaries, January 1987.

Ken Meyers, U.S. Army Corps of Engineers, August 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: M&T/Parrott Pumping Plant and Fish Screen Project

Lead Agency: U.S. Fish and Wildlife Service, California Department of Fish and Game, and M&T Chico Ranch

Project Description: The project involves construction and operation of a water supply station on the Sacramento River downstream of Big Chico Creek. The pump station would supply water to M&T Chico Ranch, a U.S. Fish and Wildlife Service refuge, and the California Department of Fish and Game Llano Seco Refuge. The pump station was designed to divert a maximum of 150 cfs from the Sacramento River. The project was proposed to replace the existing pump station on Big Chico Creek, which has had detrimental effects on the spring-run chinook salmon population.

Project Schedule: An environmental assessment/initial study and mitigated negative declaration/finding of no significant impact was prepared and distributed in April 1996 and certified in May 1996.

Project Status as of August 1996: The project is currently under construction and is 25% complete.

Project Schedule: The project should be constructed and operating by the end of 1996.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Yes

Criterion 2. Does the action have funding for implementation? Yes

Criterion 3. Does the action have final environmental documentation? Yes

Criterion 4. Does the action have final permits and approvals? Yes

Criterion 5. Will the action be excluded from the CALFED actions? No

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for the CALFED analysis? No

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Yes

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

Jones & Stokes Associates, Inc., Environmental assessment/initial study for the M&T Ranch/Parrott pumping plant and fish screen project, 1996, prepared for the U.S. Fish and Wildlife Service, Sacramento National Wildlife Refuge, and California Department of Fish and Game Region 2.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Marysville Lake

Lead Agency: U.S. Army Corps of Engineers

Project Description: The Marysville Lake project includes development of a reservoir and power generation plants on the Yuba River in the lower Yuba River basin. Marysville Lake would be created by construction of a dam on the Yuba River at Parks Bar, approximately 15 miles upstream from Marysville; an afterbay dam 3 miles downstream from the Yuba River Dam; and a dam on Dry Creek. This pumped-storage project includes provisions for hydroelectric power generation, water conservation, flood control, recreation, and fishery enhancement.

A 420-foot-high concrete gravity dam with earth abutments would be located on the Yuba River, and a 360-foot-high earthfill dam would be located on Dry Creek. A power plant with one turbine and two pump-turbines (total capacity 1,350 megawatts) would be constructed downstream of the Yuba River dam. The power plant would be designed to accommodate two additional pump-turbines that would increase total power generation to 2,250 megawatts. Water would be released through the main power plant to produce power during peak demand hours when electrical needs are the greatest. When power demand is low, the pump-turbines would pump water from the afterbay to the lake so the water could be reused for power production. An afterbay dam would be used to reregulate releases from the main power plant. Water would be released through the power plant via a multilevel temperature control intake structure at the Yuba River dam. A small baseload power plant would be constructed downstream of the afterbay dam and would include two turbines with an installed capacity of 15 megawatts.

The impoundment would inundate the existing Englebright Dam on the Yuba River and two power plants, the PG&E Old Narrows plant and the Yuba County Water Agency New Narrows power plant. The Yuba River arm of Marysville Lake would extend upstream to a point immediately below the existing Yuba County Water Agency's Colgate power plant of the New Bullards Bar project. The Colgate power plant would be modified by construction of a tailwater depression system.

When completed, the overall project would be operated by the U.S. Army Corps of Engineers and the irrigation and power functions would be integrated into the Central Valley Project (CVP). It is estimated that the project would provide an annual firm water supply of 150,000 acre-feet to the CVP, with deficiencies of 25% in 4 years during a 7-year critical dry period.

Project Schedule: The draft EIS was prepared in 1977.

Congress authorized construction with the Flood Control Act of November 7, 1966 (Public Law 89-789), which was modified by Section 159 of the Water Resources Development Act of 1976 (Public Law 94-587) to authorize Phase I design memorandum studies. There has been no recent action on this project.

Project Status as of August 1996: The project was deferred.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? No

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? No

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? No

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? No

Criterion 4. Does the action, in combination with the CALFED Bay-Delta Program action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

U.S. Army Corps of Engineer District, Sacramento, California, Draft EIS Marysville Lake, March 1977.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Marysville-Yuba River Levees Study

Lead Agency: U.S. Army Corps of Engineers

Project Description: The project is currently in the construction phase and is 100% federally funded. It consists of levee reconstruction at 13 sites along the 134 miles of the Sacramento River Flood Control Project levees. Work includes about 17 miles of toe drains, 4 miles of slurry cutoff walls, a 1-mile drainage ditch, and 10 miles of levee-raising to restore the design freeboard. The environmental assessment has been issued and focuses on maintenance/repair aspects of the project. Some disturbance to nonfish and wildlife habitats during construction will occur. The impact will be mitigated by restoration of riparian habitat during construction.

Project Schedule: Construction began in 1994 and is scheduled for completion by 2000.

Project Status as of August 1996: Final environmental documentation has been completed. Two of the four contracts called for the project have been awarded and construction for the entire project is about 30% complete.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Yes

Criterion 2. Does the action have funding for implementation? Yes

Criterion 3. Does the action have final environmental documentation? Yes

Criterion 4. Does the action have final permits and approvals? Yes

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? No

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Yes

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

Phil Lee, U.S. Army Corps of Engineers, August 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Merced County Streams Study

Lead Agency: U.S. Army Corps of Engineers

Project Description: The purpose of this project is to increase flood protection for the town of Merced. The project consists of two dry dams and levee restoration work near Merced.

Project Schedule: The final environmental impact statement has been completed. A general design memorandum is scheduled for completion by the end of fiscal year 1997.

Project Status as of August 1996: The project is ongoing.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Yes

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? Yes

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? No

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Possibly

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

Perry Metzger, U.S. Army Corps of Engineers, August 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Metropolitan Water District - Eastside Reservoir Project

Lead Agency: Metropolitan Water District of Southern California

Project Description: The proposed Eastside Reservoir, along with comprehensive groundwater management, conservation, and reclamation programs already implemented, is needed to ensure reliable delivery of water. The purpose of the project is to almost double Southern California's surface storage capacity, to secure 6 months of emergency storage in the event of a major earthquake, and to provide additional water supplies for drought protection and peak summer needs. The Eastside Reservoir site is located in the Domenigone and Diamond Valleys, 4 miles southwest of the city of Hemet. Storage capacity of the reservoir is 800,000 acre-feet, or 269 billion gallons of water. The reservoir's surface area is 4,500 acres and is 4.5 miles long and more than 2 miles wide. The water source for the project is the Colorado River Aqueduct, delivered through the San Diego Canal into the reservoir forebay; water will be pumped from the forebay into the reservoir. Also, SWP water from Lake Silverwood will flow by gravity into the reservoir through the new 12-foot-diameter, 45-mile-long Inland Feeder, connecting with the new 9-mile-long Eastside Pipeline. There will be 12 pumps at 5,000 horsepower each and one 1,000 cfs hydraulic control structure at the Colorado River Aqueduct.

Project Schedule: Excavation for the project began in 1995. Dam construction is scheduled to begin in late 1996.

Project Status as of August 1996: The project is under construction.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Yes

Criterion 2. Does the action have funding for implementation? Yes

Criterion 3. Does the action have final environmental documentation? Yes

Criterion 4. Does the action have final permits and approvals? Yes

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for the CALFED analysis? Yes

Include Project in the No-Action Alternative? Yes

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Yes

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No. The project is included in the No-Action Alternative.

References:

Metropolitan Water District of Southern California, Eastside Reservoir Project at a Glance, 1996.

Metropolitan Water District of Southern California, Eastside Reservoir Project Draft EIR, 1991, State Clearinghouse Number 89081422.

Bob Muir, Public Information Officer, Metropolitan Water District of Southern California, Phone 213/217-6930, Fax 213/217-6500, August 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Metropolitan Water District - Inland Feeder Project

Lead Agency: Metropolitan Water District of Southern California

Project Description: The purpose of the Inland Feeder project is to:

- more than double the water delivery capacity of the east branch of the State Water Project, providing Southern California with up to 650 million gallons per day of additional water;
- help replenish local groundwater basins;
- improve the quality of Southlands' drinking water; and
- provide an important source of water for several of the district's reservoirs, including the Eastside Reservoir Project.

The project begins in the Devil Canyon area north of the city of San Bernardino and ties into Metropolitan Water District of Southern California's Colorado River Aqueduct south of Lake Perris, near the city of San Jacinto. The delivery capacity of the 43.5-mile-long, 12-foot-diameter pipeline is about 1,000 cfs, or about 646 million gallons per day. The water source is the east branch of the California SWP from Lake Silverwood. Estimated project cost is \$1.1 billion.

One of the purposes of the project is to feed water into the Eastside Reservoir, which is currently under construction; therefore, although final permits and approvals have not been obtained, it is reasonable to assume that the project will be constructed because it conveys water to Domenigone Reservoir.

Project Schedule: Completion date is 2001.

Project Status as of August 1996: The project is in design.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Yes

Criterion 2. Does the action have funding for implementation? Yes

Criterion 3. Does the action have final environmental documentation? Yes

Criterion 4. Does the action have final permits and approvals? Yes

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for the CALFED analysis? Yes

Include Project in the No-Action Alternative? Yes

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Yes

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No. The project is included in the No-Action Alternative.

References:

Metropolitan Water District of Southern California, Inland Feeder Project at a Glance, 1996.

Bob Muir, Public Information Officer, Metropolitan Water District of Southern California, Phone 213/217-6930, Fax 213/217-6500, August 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Mid-Valley Canal (San Joaquin Conveyance Project)

Lead Agency: U.S. Bureau of Reclamation

Project Description: The Mid-Valley Canal would be a major conveyance structure for the East Side Division in the San Joaquin Valley. The canal would convey Central Valley Project (CVP) water to serve portions of Merced, Madera, Fresno, Kings, and Tulare County, and, by exchange, furnish a water supply to Kern County. Water also would be provided to three national wildlife refuges and two State wildlife management areas. The project would include a well field in the Sacramento Valley near wetlands, providing up to 170,000 acre-feet of water, and canals to deliver water from the Kings River and the Cross Valley Canal to the Friant Kern Canal.

Project Schedule: The project was deferred.

Project Status as of August 1996: The Mid-Valley Canal was authorized for study by the Federal Reclamation Laws Act of June 17, 1902, (22 Stat. 388) and by amending and supplementing acts. According to the project report's preface, plans for the Mid-Valley Canal were based on a CVP water supply that is no longer available due to Delta outflow requirements. No federal action is contemplated until a feasible water supply is located.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? No

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? No

Criterion 4. Does the action, in combination with the CALFED Bay-Delta Program action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

U.S. Bureau of Reclamation, Mid-Valley Canal East Side Division, A Report on the Mid-Valley Canal Feasibility Investigation, January 1981, Summary Study 1990.

Projects Considered in Development of the No-Action Alternative and Cumulative Impact Analysis

Project Name: Monterey Agreement

Lead Agency: Central Coast Water Authority

Project Description: Shortages of water deliveries from the State Water Project (SWP) prompted SWP contractors (both agricultural contractors and municipal and industrial [urban] contractors) to consider amendments to their water supply contracts with the California Department of Water Resources (DWR). Some contractors have considered litigation to resolve differences over water allocations. To avoid litigation and to make the SWP operate more effectively for all contractors, DWR and the contractors have engaged in mediated negotiations to settle their disputes, resulting in the Monterey Agreement.

The Monterey Agreement contains 14 principles. The five major program components of agreement implementation are as follows:

1. *Revisions to the methodology used to allocate water among contractors.* Under the Monterey Agreement, water from existing SWP facilities is to be allocated based on entitlement. In years when SWP supplies are less than contractor requests, water will be allocated in proportion to each contractor's share of total contractor entitlements to water, with no initial reduction in supplies to agricultural contractors. Existing categories of surplus, wet weather, and make-up water are replaced by a single, interruptible water category allocated on the basis of entitlement.
2. *Retirement of 45,000 acre-feet of agricultural entitlement.*
3. *Transfer by sale, between willing sellers and willing buyers, of 130,000 acre-feet of entitlement from agricultural contractors to urban contractors.* This includes the potential for sales to noncontractors as well as for entitlement transfers among urban contractors.
4. *Changes in control of the Kern Fan element of the Kern Water Bank.* This change in control would be a sale or long-term lease (with option to purchase) of the Kern Fan element and related assets by DWR to designated agricultural contractors. The Kern Fan element lands were acquired by DWR for purposes of banking SWP water. The Kern Water Bank is defined as any opportunity to recharge SWP water in Kern County, storing surplus water from the Sacramento-San Joaquin Delta during wet years for extraction during dry years to increase the SWP yield.
5. *Changes in the manner in which the Castaic Lake and Lake Perris terminal reservoirs may be operated.* The Monterey Agreement provides that SWP contractors who participate in repayment of costs for the Castaic and Perris reservoirs will have an opportunity to directly utilize a portion of the reservoirs' capacities to optimize their water storage and supply

operations to meet local contractors needs and help ensure a firm water supply. To this end, these contractors have proposed that approximately 50% of the active storage capacity of these reservoirs be available for withdrawal and use by the contractors under a set of operational conditions.

Project Schedule: The draft program EIR was published in May 1995. The final program EIR was published in October 1995.

Project Status as of August 1996: DWR is implementing the project and transferred the Kern Fan element to the local agencies on August 9, 1996.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Yes

Criterion 2. Does the action have funding for implementation? Yes

Criterion 3. Does the action have final environmental documentation? Yes

Criterion 4. Does the action have final permits and approvals? Yes

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for the CALFED analysis? Yes

Include Project in the No-Action Alternative? Yes

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Yes

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No. The project is included in the No-Action Alternative.

References:

Science Applications International Corporation. Santa Barbara, California, Final Program EIR for Implementation of the Monterey Agreement, Lead Agency: Central Coast Water Authority, Buellton, California, State Clearinghouse Number 95023035.

Dan Masnada, Executive Director, Central Coast Water Authority, Phone 805/688-2292, August 1996, personal communication.

David Sandino, Staff Counsel, California Department of Water Resources, Phone 916/653-5129, August 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Montezuma Wetlands Project

Lead Agency: Solano County and U.S. Army Corps of Engineers

Project Description: Levine-Fricke proposes to deposit dredged materials on a diked bayland site near Collinsville in Solano County, adjacent to the Suisun Marsh, to restore 1,822 acres of tidal wetlands on a 2,394-acre site. The site is currently used as grazing land and includes approximately 1,620 acres of nontidal, federally regulated wetlands and 202 acres of uplands. The proposal calls for constructing facilities to receive up to 20 million cubic yards of approved dredged materials from ports and navigation channels in the San Francisco Bay Estuary and to distribute the materials over the site. This deposition would return the subsided land surface to an elevation range at which marsh could establish. The top 3 feet of dredged sediment would have contaminant levels that have passed tests for suitability in a tidal wetland environment. After filling the subsided baylands, the levees would be breached to enable tides to ebb and flow over the constructed foundation of tidal channels and low marsh plains. The marsh design includes high marsh and marsh ponds that would seldom be reached by tides. Project construction is proposed to be in four phases to minimize temporary losses of wetlands during construction and to facilitate engineered placement of the dredged materials. Each completed phase would be hydrologically independent with a single connection to Montezuma Slough or the Sacramento River. Phases would range in size from about 240 acres to 600 acres.

Project Schedule: The draft Environmental Impact Report(EIR)/Environmental Impact Statement (EIS) was released in October 1994. The final EIR/EIS is scheduled to be released in September 1996 and certification of the EIR/EIS is anticipated in December 1996. Permits are anticipated to be received by mid-1997.

Project Status as of August 1996: The project is ongoing.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? Yes. The project is privately funded.

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for the CALFED analysis? Yes

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Possibly

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? Yes

References:

Solano County Department of Environmental Management and U.S. Army Corps of Engineers San Francisco District, Montezuma Wetlands Project Draft EIR/EIS, 1994, State Clearinghouse Number 91113031, Corps Public Notice No. 19405E26.

Doug Lipton, Levine-Fricke, Phone 707/433-2094, August 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: New Melones Conveyance Project

Lead Agency: Stockton East Water District and Central San Joaquin Water Conservation District

Project Description: Stockton East Water District and Central San Joaquin Water Conservation District entered into contracts with the U.S. Bureau of Reclamation for a supply of 75,000 acre-feet and 80,000 acre-feet, respectively, from the New Melones project. A conveyance system from Goodwin Dam was constructed in 1992. Water was not delivered in 1993 or 1994 but was delivered to the two Districts in 1995 and 1996. The cost of these facilities was about \$65 million, funded by Stockton East Water District, Central San Joaquin Water Conservation District, and water purveyors within the City of Stockton.

Project Schedule: The project has been constructed.

Project Status as of August 1996: The project is operational.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Yes

Criterion 2. Does the action have funding for implementation? Yes

Criterion 3. Does the action have final environmental documentation? Yes

Criterion 4. Does the action have final permits and approvals? Yes

Criterion 5: Will the action be excluded from the CALFED actions? Yes

Criterion 6: Would the effects of the action be identifiable at the level of detail being considered for CALFED Bay-Delta Program Analysis? Yes

Discussion: The project is operational.

Include Project in the No-Action Alternative? Yes

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Yes

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No. The project is included in the No-Action Alternative.

References:

City of Stockton.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: New Melones Reservoir Resource Management Plan

Lead Agency: U.S. Bureau of Reclamation

Project Description: The U.S. Bureau of Reclamation prepared a resource management plan for New Melones Reservoir. This effort involved gathering existing natural, cultural, and social resource data and entering it into a geographic information system. Based on the data, sensitivity zones were developed and alternatives configured. Management strategies were developed to address management of the natural resources, recreational conflicts, archaeological resources, caves, lake level fluctuation, and grazing leases.

Project Schedule: The project began in 1994. Current efforts ended in September 1995 due to lack of funds.

Project Status as of August 1996: National Environmental Policy Act (NEPA) compliance work is scheduled to start again in October 1996 and be finished in 1997.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Yes

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? None are needed.

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? No

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? No

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

Mike Petrinovich, U.S. Bureau of Reclamation, August 26, 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: New Melones Reservoir Water Management Study - Short-Term

Lead Agency: U.S. Bureau of Reclamation

Project Description: This study, which includes Farmington Dam and Little Johns Creek drainage, was initiated in 1996. It is supported by local water districts and the City of Stockton. The study is designed to develop an interim plan of operation for New Melones Reservoir and will include both flood control and water supply concerns for those residing in the Stanislaus River Basin.

Project Schedule: The study began in 1996.

Project Status as of August 1996: The project is ongoing.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No.

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Possibly

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? No

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Possibly

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

Al Canlish, U.S. Bureau of Reclamation, August 21, 1996, personal communication.
Ed Formosa, City of Stockton, July 25, 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: North Delta Water Management Program

Lead Agency: California Department of Water Resources

Project Description: The north Delta study area encompasses the island and channels of the Delta south of the Sacramento River, north of the San Joaquin River, east of the city of Rio Vista, and west of Thorton. The area encompasses about 170,000 acres, nearly 90% of which is irrigated. The Sacramento, Mokelumne, Cosumnes, Dry Creek, Morrison Creek, and Deer Creek water courses converge in the north Delta. The objectives of the program are to alleviate flooding and adverse fishery impacts in the north Delta, reduce reverse flows in the lower San Joaquin River, improve water quality, and improve SWP flexibility. The preferred alternative includes dredging of the main stem and the South Fork of the Mokelumne River, enlarging the Delta Cross Channel gate structure, and testing of mitigation river collector wells and fish screens. The estimated cost of this alternative was \$290 million in 1990.

Project Schedule: The project was suspended early in 1996.

Project Status as of August 1996: The project was subsumed under the CALFED process.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Some elements will most likely be included under one or more CALFED alternatives.

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? No

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? No

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

California Department of Water Resources, North Delta Program Draft EIR/EIS, November 1990.

Stein Buer, California Department of Water Resources, August 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Offstream Storage

Lead Agency: U.S. Bureau of Reclamation

Project Description: This project evaluated several reservoir sites in the western San Joaquin Valley for storing water during the winter when high water flows occur in the Delta. The water was to be stored for use in summer months when water quality restrictions reduce the amount of water that can be diverted from the Delta. The study also considered water storage on wetland habitat to both increase wetland water supplies in the winter and to provide offstream storage. The study indicated that offstream storage would require construction of extensive dam facilities. The study also indicated that wetland habitat constraints would result in relatively large habitat losses compared to the volume of water stored. In addition, seepage could account for greater than a 50% loss of stored water at existing habitat sites.

Project Schedule: Studies were completed in the late 1980s.

Project Status as of August 1996: No further study is planned.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Studies were completed in the late 1980s.

Criterion 2. Does the action have funding for implementation? Not applicable

Criterion 3. Does the action have final environmental documentation? Not applicable

Criterion 4. Does the action have final permits and approvals? Not applicable

Criterion 5. Will the action be excluded from the CALFED actions? Not applicable

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Not applicable

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Studies were completed in the late 1980s.

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? No

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

U.S. Bureau of Reclamation, Offstream Storage Study Evaluation of Wetland Habitat for Offstream Storage.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Old River Barrier

Lead Agency: U.S. Bureau of Reclamation and California Department of Water Resources

Project Description: Historically, the California Department of Water Resources (DWR) has placed a temporary rock barrier at the confluence of the head of the Old River and the San Joaquin River during the fall of low-flow years under an agreement with the California Department of Fish and Game. This barrier directs San Joaquin River water that would otherwise flow into the Old River down the San Joaquin River toward the central Delta. The additional flow in the San Joaquin River improves dissolved oxygen levels for salmon migration upstream to spawning grounds along the river's tributaries.

Since 1986, DWR, the U.S. Bureau of Reclamation, and the South Delta Water Agency have negotiated and signed several agreements committing the parties to developing long-term solutions to water supply problems in the south Delta. The first step is to construct temporary facilities prior to developing long-term solutions. As a result of this program, the Temporary Barriers Project, three barriers have been constructed, in various combinations, since 1987 at: (1) Middle River near Highway 4, (2) Old River near the Tracy Pumping Plant, and (3) Old River near its head. The barriers allow water to flow upstream into south Delta channels on the flood tide, then close during the ebb tide to hold water in the channels. The barriers have been installed and operated from April through September to coincide with the south Delta's irrigation season. A fourth barrier in Grant Line Canal was installed for the first time this year.

Project Schedule: The project is ongoing.

Project Status as of August 1996: The project is ongoing.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? No. Installation of a permanent barrier at Old River is being considered by CALFED.

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? No. The project is in operation and part of existing conditions.

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Possibly

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

Mike Ford, California Department of Water Resources, August 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Pine Flat Fish and Wildlife Restoration Project

Lead Agency: U.S. Army Corps of Engineers

Project Description: The purpose of the project is to develop more water to restore and re-establish fish and wildlife resources along the Kings River (including native species and trout, but not anadromous fish). The scope of the project could include raising the dam at Pine Flat Reservoir or creating offstream storage, adjusting water delivery schedules from the Kings River, and importing Central Valley Project water through an exchange/transfer process utilizing existing conveyance facilities.

Project Schedule: Following a reconnaissance study completed in 1995, the project was found to merit federal action. The feasibility study was begun in January 1996 and will take 3 years to complete.

Project Status as of August 1996: The project is ongoing.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? No

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Possibly

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

California Department of Water Resources, Kern Water Bank Status Report.

Perry Metzger, U.S. Army Corps of Engineers, August 1996, personal communication.

Project Name: Red Bank Dam Study (Cottonwood)

Lead Agency: California Department of Water Resources

Project Description: This proposed project in Tehama County would involve construction of two dams: Dipping Vat on Red Bank Creek and Schoenfeld on the South Fork of Cottonwood Creek. Gross capacity would be 104,000 acre-feet at Dipping Vat and 250,000 acre-feet at Schoenfeld. Water stored in Dipping Vat Reservoir could be released to Schoenfeld via a tunnel connecting the two reservoirs. The project would provide water supply, flood control, and fisheries benefits.

The California Department of Water Resources conducted preliminary feasibility investigations and prepared cost estimates, but no economic evaluations or environmental studies have been prepared. There is presently no activity on the project aside from monitoring of streamflows.

Project Schedule: The project has been deferred.

Project Status as of August 1996: The project has been deferred.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Under consideration

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? No

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Possibly

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

Ralph Hinton, California Department of Water Resources, August 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Red Bluff Diversion Dam Fish Passage Program

Lead Agency: U.S. Bureau of Reclamation

Project Description: U.S. Bureau of Reclamation is evaluating possible long-term solutions to fish passage and water delivery problems at the Red Bluff Diversion Dam, where the "8 months gates-up" operation under the National Marine Fisheries Service Biological Opinion has substantially reduced, but not eliminated, fish passage problems and has created water delivery problems during planting and harvest seasons. A research pumping facility was installed in 1993 and 1994 to evaluate potential means of pumping water while using existing drum screens. Engineering and biological evaluations are still in progress, and interim measures have been developed to supply water during the "gates-up" period. Field and laboratory studies of fish ladder alternatives are in progress, as is a hydrological study to guide analysis of alternatives.

Project Schedule: The project was initiated in 1989.

Project Status as of August 1996: Evaluations of pumps and ladder designs are ongoing. A hydrology study will be completed in 1997. The program is scheduled for completion in 2000.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? Yes

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? No

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? No

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Yes

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? Yes

References:

U.S. Bureau of Reclamation, Appraisal Report Red Bluff Diversion Dam Fish Passage Program, February 1992.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Redbank-Fancher Creek Study

Lead Agency: U.S. Army Corps of Engineers

Project Description: This is a local flood control project. Detention dams are being constructed on Fancher and Redbank Creeks to impound flood flows and encourage percolation of stormwater into the groundwater basin.

Project Schedule: Construction was completed in 1993.

Project Status as of August 1996: Construction has been completed and ownership transferred to local authority.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Yes

Criterion 2. Does the action have funding for implementation? Yes

Criterion 3. Does the action have final environmental documentation? Yes

Criterion 4. Does the action have final permits and approvals? Yes

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? No

Include Project in the No-Action Alternative? No. The project would not have a direct effect on SWP or Central Valley Project water management operations.

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Not applicable

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Not applicable

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Not applicable

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Not applicable

Include Project in the Cumulative Impact Analysis? Not applicable

References:

U.S. Army Corps of Engineers, Final EIS, Redbank and Fancher Creeks, July 1980.

Perry Metzger, U.S. Army Corps of Engineers, August 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Refuge Water Supply Study

Lead Agency: U.S. Bureau of Reclamation

Project Description: U.S. Bureau of Reclamation, assisted by U.S. Fish and Wildlife Service and California Department of Fish and Game, conducted the Refuge Water Supply Study. The study identified potential water sources and delivery systems to provide dependable water supply to ten national wildlife refuges, four wildlife management areas, and private wetlands within the Grasslands Water District. The study identified four levels of water supply: 1) Level 1 was the firm amount of water provided under existing water rights or contracts; 2) Level 2 was the average amount of water the refuges had received for approximately 10 years; 3) Level 3 was the amount of water required for full development of lands that were currently being managed; and 4) Level 4 was the amount of water required for full development of the land lying within the 1988 refuge boundaries. With enactment of the Central Valley Project Improvement Act (CVPIA), the Secretary of the Interior is required by 2002 to provide each refuge with the quantity and delivery schedule of water in accordance with the March 1989 report and the full supply of water described in the San Joaquin Basin Action Plan Report. The May 1995 report summarizes the results of refinement activities and presents alternatives being carried forward for environmental compliance, including use of existing private and public facilities, construction of new facilities, or a combination thereof and conjunctive use.

Project Schedule: The Refuge Water Supply Study was completed in 1989 and updated in 1992. Environmental compliance activities will conclude in 1996 with identification of a preferred alternative for each refuge. Development of the Refuge Water Supply Implementation Plan will be finalized in September 1996.

Project Status as of August 1996: The project is ongoing.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Yes

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? Yes

References:

U.S. Bureau of Reclamation, Report on Refuge Water Supply Investigations, Central Valley Hydrologic Basin, California, March 1989.

U.S. Bureau of Reclamation, Refuge Water Supply Study, Plan Coordination Team Interim Report, July 1992.

U.S. Bureau of Reclamation, Decision Document, Report of Recommended Alternatives, Refuge Water Supply and San Joaquin Basin Action Plan Lands, April 1995.

U.S. Bureau of Reclamation, Refuge Water Supply Conveyance Alternatives Refinement Memorandum, May 1995.

Projects Considered in Development of the No-Action Alternative and Cumulative Impact Analysis

Project Name: Sacramento Area Water Forum and the Foothill-Forum Water Group - Water Forum

Lead Agency: The City and County of Sacramento through the City-County Office of Metropolitan Water Planning

Project Description: The Sacramento Area Water Forum and the Foothill-Forum Water Group, formed in 1993, is a stakeholder coalition composed of six major interest groups, including business and agricultural groups; water interests in Sacramento, Placer, and El Dorado Counties; environmental interests; citizen groups; and local government. The group's mission statement is: "Through community participation, formulate a plan for the region which will provide an adequate, safe and reliable water supply in an environmentally sound and cost effective manner. The plan shall provide for the efficient management of available surface water, groundwater, reclaimed water resources, and water conservation to meet both the region's water needs through the year 2030 and protect our environment." The group has been negotiating a range of proposals that are under serious consideration to meet the group's two major, equally important objectives:

- Provide a reliable and safe water supply for the region's economic health and planned development through the year 2030. Key features are as follows.
 - *Additional surface water supplies.* Even with aggressive water conservation, recycling, reclamation, and conjunctive use proposals, additional diversions of surface water will be required to meet the region's water needs to the year 2030. This additional water would be diverted from the Sacramento, American, and Feather Rivers to meet the needs of existing residents, businesses, and agriculture and future growth in approved general plans. These diversions would be accompanied by conditions on their use that would ensure protection of the fishery, wildlife, recreational, and aesthetic values of the lower American River.
 - *Water conservation and reclamation:* Water districts would continue and expand programs designed to help their customers use water efficiently. When reasonable and feasible, water would be reclaimed and recycled for appropriate uses.
 - *Safe water supply:* Any water forum agreement must ensure that water supplies are protected from contamination and drinking water meets or exceeds all applicable State and federal requirements.
 - *Increased "conjunctive use":* Water suppliers would expand the water management program that relies more heavily on use of surface water during wet periods when it is available and on increased use of wells during drier periods.

- Preserve the fishery, wildlife, recreational, and aesthetic values of the lower American River. Key features are as follows.
 - *Reasonable and feasible alternatives:* Water suppliers would pursue alternatives whenever they are reasonable and feasible: reclamation, conjunctive use, alternative sources, etc.
 - *Improved fishery flow pattern:* An improved pattern of fishery flow releases from Folsom Reservoir would be implemented to improve the fall-run chinook salmon fishery.
 - *Reduced daily flow fluctuations:* The water forum would work with the U.S. Bureau of Reclamation to reduce wide variations in daily flows.
 - *Habitat improvements:* Habitat improvements could include spawning gravel management, better temperature control for water released from Folsom Reservoir for the lower American River, and maintenance of riparian vegetation along the river.

Project Schedule: A notice of preparation of an EIR was released in August 1995.

Project Status as of August 1996: Undergoing environmental review.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for the CALFED analysis? Yes

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Possibly

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? Yes

References:

Water Forum, Progress Toward A Regional Water Agreement, January 1996.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Sacramento Basin Fish Habitat Improvement Study

Lead Agency: U.S. Bureau of Reclamation

Project Description: The U.S. Bureau of Reclamation initiated the Sacramento Basin Fish Habitat Improvement Study, a four-year study that would investigate temperature improvement measures for the upper Sacramento and Trinity Rivers. The study evaluated a full range of management options, including both structural and operational measures for the Shasta/Trinity river division facilities of the Central Valley Project (CVP). The project was completed in 1994 with construction of two temperature control curtains in Whiskeytown Lake.

Project Schedule: The study was initiated in 1991 and completed in 1994.

Project Status as of August 1996: The project has been completed.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? The project was completed in 1994.

Criterion 2. Does the action have funding for implementation? Not applicable

Criterion 3. Does the action have final environmental documentation? Not applicable

Criterion 4. Does the action have final permits and approvals? Not applicable

Criterion 5. Will the action be excluded from the CALFED actions? Not applicable

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Not applicable

Include Project in the No-Action Alternative? No. The project is part of existing conditions.

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes. The study was completed in 1994.

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Possibly

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

U.S. Bureau of Reclamation, Appraisal Report Red Bluff Diversion Dam Fish Passage Program, 1992.

Planning report/final EIS, Shasta Outflow Temperature Control, 1991.

Federico Barajas, U.S. Bureau of Reclamation, August 14, 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Sacramento Municipal Utility District-El Dorado County Water Agency - Upper American River Project

Lead Agency: Sacramento Municipal Utility District

Project Description: This project was the latest version of hydroelectric facilities proposed for the upper American River. Previous projects proposed consisted of the South Fork American River Project and the Alder Creek Project. This project would have consisted of expanding the existing Upper American River Project by adding the Jones Fork hydroelectric power plant, the Iowa Hill pumped-storage facility, the South Fork diversion, and the Lower Ice House Reservoir. The Lower Ice House Reservoir had a proposed capacity of up to 30,000 acre-feet. The water would have been controlled and used by El Dorado County Water Agency for domestic and commercial water supply purposes on an as-needed basis during times of drought. The proposed Jones Fork facility would have included a 35-megawatt hydroelectric power plant enabling Sacramento Municipal Utility District (SMUD) to increase operational flexibility and meet peak electrical emergency demands. The Iowa Hill facility would have included a 250-megawatt pumped-storage facility.

As of August 1996, this joint project had been discontinued and the individual projects put on hold. SMUD continues to study potential projects but has no active projects on the upper American River.

Project Schedule: Not applicable.

Project Status as of August 1996: Discontinued.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for the CALFED analysis? Yes

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? No

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? No

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Possibly

Include Project in the Cumulative Impact Analysis? No

References:

Craig Jones, Supervisor of Supply-side Evaluation and System Integration, SMUD, 916/732-5368, August 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Sacramento River Drainage and Seepage Utilization Study

Lead Agency: U.S. Bureau of Reclamation

Project Description: The study area for this project extended from Stony Creek to Suisun Bay, totaling 575,000 irrigable acres, with the Colusa Basin and the Sacramento River being primary areas of concern. The study evaluated alternatives to alleviate seepage and drainage problems caused by water imports through the Tehama-Colusa Canal and the limited capacity of the Colusa Basin Drain. Ten alternatives were evaluated. Seven were not economically justified. One alternative, which addressed extension of the Colusa Basin Drain, appeared to be economically justified if the drain water supply could be delivered to Solano County for reuse. Project feasibility investigations for that alternative continued under the Solano County Water Project feasibility study. The study also recommended formation of a regional drainage entity and rerouting of drainage flows from the Tehama-Colusa Canal back to existing drain and canal facilities.

Project Schedule: U.S. Bureau of Reclamation Studies began in 1977.

Project Status as of August 1996: Feasibility authorization was not sought. The U.S. Bureau of Reclamation encouraged local planning agencies to resolve the drainage problems.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? No

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? No

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

Summary Information from Past Sacramento River Drainage and Seepage Investigations, October 1976.

U.S. Bureau of Reclamation, Sacramento River Drainage and Seepage Utilization Working Document, February 1977.

U.S. Bureau of Reclamation, Sacramento River Drainage and Seepage Utilization Investigation, California, Appraisal Report, June 1980.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Sacramento River Flood Control System Evaluation

Lead Agency: U.S. Army Corps of Engineers

Project Description: The project is evaluating 1,000 miles of levees, overflow weirs, and flood bypass channels. Integrity of the structures will be evaluated to determine reconstruction needs. The study area is located along the Sacramento River from its confluence with Deer Creek (upstream of Chico) to Knights Landing.

Project Schedule: The final programmatic EIS/EIR was completed in 1992. Phase I has been completed. Phases II and III are under construction. Phases IV and V are still in the planning stages.

Project Status as of August 1996: The project is ongoing.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Yes

Criterion 2. Does the action have funding for implementation? Yes

Criterion 3. Does the action have final environmental documentation? Yes

Criterion 4. Does the action have final permits and approvals? Yes

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? Yes (partial)

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Certain elements may be implemented but, because of funding constraints, not all.

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? Yes (partial)

References:

Phil Lee, U. S. Army Corps of Engineers, August 1996, personal communication.

U.S. Army Corps of Engineers, Sacramento River Flood Control System Evaluation, May 1992.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Sacramento-San Joaquin Delta Levees Subvention Project

Lead Agency: California Department of Water Resources

Project Description: This project was created within California Senate Bill 34, which became law in March 1988. The project was authorized to provide \$120 million over a 10-year period (\$12 million per year) for upgrading and maintaining delta levees. The project consists of two primary components. The first component, defined as the Delta Levees Subvention Program, consists of an annual \$6 million budget available to make payments or reimbursements to local flood control districts for upgrading and maintaining levees within their individual jurisdictions. The second \$6 million per year is specified for upgrading and maintaining the eight western Delta islands (e.g., Sherman, Twitchell, Webb) and the communities of Thornton and Walnut Grove.

Project Schedule: The project is currently funding improvements to existing facilities and is scheduled to continue through 1999.

Project Status as of August 1996: The project is ongoing.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Yes

Criterion 2. Does the action have funding for implementation? Yes

Criterion 3. Does the action have final environmental documentation? Yes (project by project)

Criterion 4. Does the action have final permits and approvals? Yes

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? Yes

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Yes

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No. The project is included in the No-Action Alternative.

References:

Renny Porterfield, California Department of Water Resources, August 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: San Francisco Bay Area and San Joaquin Valley Water Reuse Project

Lead Agency: City and County of San Francisco and U.S. Bureau of Reclamation

Project Description: The City and County of San Francisco began investigating collection, conveyance, and reuse of reclaimed wastewater from the San Francisco Bay Area in 1981. In 1991, the City and County of San Francisco updated the findings contained in the original 1981 study and found that the alternatives originally recommended were no longer economically and environmentally feasible. Water quality limits on discharge of treated wastewater to San Francisco Bay, as regulated by the State Water Resources Control Board, have become increasingly stringent. To meet these limits, dischargers would have had to produce very high quality reclaimed water of a value that could be put to other uses. The study indicated that the effluent quality would be adequate for all types of irrigation. However, the cost of reusing the water within developed areas would be prohibitive because of complex infrastructure needs and because existing developed areas could not use the large volume potentially available (400,000 acre-feet per year). Therefore, an alternative was developed to convey the reclaimed water to agricultural areas in the San Joaquin Valley. The reclaimed water would replace some of the CVP water supplied to farmers within the Delta-Mendota Canal Unit. Nondiverted CVP water could then be made available for other uses, such as meeting Delta water quality standards.

Project Schedule: The project was revised and is now called the Central California Regional Water Recycling Project.

Project Status as of August 1996: This project was discontinued; see Central California Regional Water Recycling Project.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for the CALFED analysis? Not applicable

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? No

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? No

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

Wendy Iwata, City of San Francisco, Public Works Department, Phone 415/558-4022, August 1996. personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: San Francisco - Central California Regional Water Recycling Project

Lead Agency: City and County of San Francisco

Project Description: The City and County of San Francisco is evaluating alternatives for regional water recycling. Early in the study, the team focused on local recycled water demands, the cost of planned recycling projects, and the projected quality of recycled water. Four alternatives are being evaluated from environmental, social, and marketability perspectives:

- *Export to the Delta-Mendota Canal:* Local reuse of recycled water would be maximized. Recycled water not be u ed locally would be used primarily for agricultural irrigation within the Delta-Mendota Canal service area. Mitigation of salts imported into the Delta-Mendota Canal area would occur by way of several alternatives, including: reducing the salt content of recycled water prior to export, using in-valley salt management solutions, constructing an ocean outfall south of Half Moon Bay, or possibly using San Francisco's Southwest Ocean Outfall.
- *Export to the Sacramento Delta Area:* Local reuse of recycled water would be maximized. Recycled water not used locally would be used to repel the intrusion of salt water into the Delta from San Francisco Bay.
- *Export to the Sacramento Delta and/or Salinas Area:* Local reuse of recycled water would be maximized. Recycled water not used locally would be used to repel the intrusion of salt water into the Delta and/or for agricultural irrigation south of the Bay Area. Recycled water for irrigation would be used in place of existing water supplies pumped from the ground. Excessive groundwater pumping has caused seawater to migrate into the Salinas area's groundwater supply and has impacted groundwater quality.
- *Indirect Potable Reuse:* Local reuse of recycled water would be maximized. Wastewater would be repurified through advanced processes so it could be blended with fresh water in reservoirs for ultimate use as potable water. Supplementing Bay Area water supplies and/or exporting the water to supplement SWP supplies are two subalternatives under consideration.

The Step 1 Feasibility Study concluded that by the year 2020 a total of 650,000 acre-feet of recycled water or "recycled water flow" could be produced annually within the Bay Area. Step 2 of the Central California Regional Water Recycling Project will include preparation of a regional water recycling plan to evaluate:

- projections for local recycling;

- the feasibility of a regional distribution system;
- the technical, economic, and environmental feasibility of regional recycling;
- key issues raised in Step 1, including water quality, salt management, project costs and benefits, and marketability of crops; and
- institutional constraints to regional recycling.

Project Schedule: Step 2 is anticipated to take more than 2 years to complete. The goal of the study team is to finish Step 2 by October 1998.

Project Status as of August 1996: The project is ongoing. Regional alternatives found to be feasible in Step 2 will be carried forward to a site-specific EIR/EIS prepared during the Step 3 study process. The U.S. Bureau of Reclamation, California Department of Water Resources, and numerous Bay Area agencies have committed to support Step 2.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for the CALFED analysis? Not applicable

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Possibly

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

Wendy Iwata, City of San Francisco, Public Works Department, Phone 415/558-4022, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: San Luis Unit Drainage Plan

Lead Agency: U.S. Bureau of Reclamation

Project Description: The U.S. Bureau of Reclamation prepared a plan to collect, treat as necessary, and dispose of 60,000 to 100,000 acre-feet of subsurface drainwater from Westlands Water District. The plan and draft EIS, completed in December 1991, applied to all five water districts in the unit: Westlands, Panoche, San Luis, Broadview, and Pacheco. The study determined that, using current technology and given environmental restrictions, no financially feasible means exist to treat and dispose of 60,000 to 100,000 acre-feet of highly saline drainwater. Therefore, the recommended plan included a combination of measures that would reduce subsurface drainage, control releases of drainwater to the San Joaquin River, and continue development of potential treatment technologies. The plan was successfully challenged by Westlands Water District as not meeting the requirements of court judgment. However, U.S. Bureau of Reclamation, under the Central Valley Project Improvement Act, and the California Department of Water Resources, under a 1992 program, can purchase land under the land retirement program.

Project Schedule: A draft EIS has been prepared.

Project Status as of August 1996: The EIS has not been finalized and the plan has not been adopted. The project is likely terminated.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? No

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? No

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

U.S. Bureau of Reclamation, San Luis Unit Drainage Program Draft EIS, December 1991.

U.S. Bureau of Reclamation, San Luis Unit Drainage Program Plan Formulation Appendix, December 1991.

Mike Delamore, U.S. Bureau of Reclamation, August 14, 1996, personal communication.

Projects Considered in Development of the No-Action Alternative and Cumulative Impact Analysis

Project Name: Semitropic Water Storage District - Semitropic Groundwater Banking Project

Lead Agency: Semitropic Improvement District of the Semitropic Water Storage District and Metropolitan Water District of Southern California

Project Description: This long-term water storage project is designed to recharge groundwater and reduce overdraft, increase operational reliability and flexibility, and optimize the distribution and use of available water resources between Semitropic Water Storage District (Semitropic) and Metropolitan Water District of Southern California (MWD). During periods when such water is available, MWD would deliver a portion of its State Water Project (SWP) entitlement water to Semitropic, which could use the water in lieu of pumping groundwater for irrigation or to recharge the aquifer using spreading basins.

Upon request, Semitropic would return MWD's previously stored water, either by pumping water from its groundwater basin through pumpback facilities into the California Aqueduct or by providing MWD with an equivalent portion of its SWP water supply. To accomplish this program in-lieu service area, conveyance facilities, groundwater wells, and pumps will be constructed.

Based on distribution system modeling, which optimized surface and groundwater storage systems, the annual replenishment requirement for MWD's service area is approximately 1,100,000 acre-feet per year. Of that amount, 694,000 acre-feet can be stored in surface reservoirs. The remaining 406,000 acre-feet can be stored using groundwater conjunctive-use opportunities. Given this level of annual groundwater conjunctive-use requirements, Semitropic and MWD should provide adequate facilities to meet Semitropic's projected replenishment goals of 90,000 to 130,000 acre-feet per year and 140,000 acre-feet per year of production capacity.

The proposed project, combined with comprehensive water management programs, is intended to meet the needs of Semitropic and MWD from 1995 to 2020.

Following are key features of the project.

- *Maximum and minimum storage capacity:* Minimum storage capacity is 0; maximum is 1 million acre-feet; however, Metropolitan only plans to store 350,000 acre-feet.
- *Monthly water demands:* None. Water demands are variable and based on the availability of water.
- *Refill capacity:* 90,000 acre-feet per year at buildout.
- *Discharge capacity:* 0 to 140,000 acre-feet.

- *Available water:* Depends on the water year.
- *Availability of monthly water budget or diversion schedule:* There is no monthly water budget or diversion schedule. Diversion varies depending on the water year. In dry years, the project would take water; in wet years, put water.
- *Water diversion and use controls:* Water-year type.

Project Schedule: The draft EIR was released in March 1994. The final EIR was released in July 1994.

Project Status as of August 1996: The project is under construction and operating.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Yes

Criterion 2. Does the action have funding for implementation? Yes

Criterion 3. Does the action have final environmental documentation? Yes

Criterion 4. Does the action have final permits and approvals? Yes

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for the CALFED analysis? Yes

Include Project in the No-Action Alternative? Yes

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Yes

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No. The project is included in the No-Action Alternative.

References:

Semitropic Improvement District of Semitropic Water Storage District and Metropolitan Water District of Southern California, 1994, Semitropic Groundwater Banking Project Draft EIR, State Clearinghouse Number 93072024, Wasco, California.

Bob Harding, Metropolitan Water District of Southern California, Phone 213/217-6582, Fax 213/217-7778, August 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Shasta Lake Enlargement

Lead Agency: U.S. Bureau of Reclamation

Project Description: An investigation was conducted between 1980 and 1985 by the U.S. Bureau of Reclamation and California Department of Water Resources to determine the feasibility of enlarging Shasta Dam and Reservoir. The investigation was not completed. The project would increase Shasta's storage by 9,750,000 acre-feet and develop an incremental Central Valley Project (CVP) yield of 1.45 million acre-feet per year at a cost of \$1.4 billion dollars (1978 prices).

Project Schedule: Feasibility studies were started in 1980.

Project Status as of August 1996: The project is deferred.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? No

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? No

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

U.S. Bureau of Reclamation, 1993, Draft Report on Assessment of Past MP-Region, U.S. Bureau of Reclamation Planning Activities involving New Water Supplies, pp 20-22.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Shasta Temperature Control Device

Lead Agency: U.S. Bureau of Reclamation

Project Description: The project would construct a shutter device attached to the upstream face of Shasta Dam. The shutter device would provide for selective control of water withdrawals from Shasta Lake over a wide range of depths and temperatures. The project would allow cool-water releases to benefit winter-run chinook salmon in the Sacramento River during their spawning and incubation cycles. It also would allow for continued hydropower generation and release of warmer water when water temperatures are not critical. This operational pattern would conserve colder water for more critical time periods. The device also could be used for selective withdrawal to control turbidity and dissolved oxygen concentrations.

The U.S. Bureau of Reclamation has operated since 1987 under an interim plan for protecting the winter-run chinook salmon. The interim measure consists of a partial release from Shasta Lake at an outlet located lower than the Shasta power plant intake. The released flows bypass the power plant, which results in lost power and energy production. Power and energy replacement costs have totaled \$8.8 million between 1987 and 1991.

In May 1990, the State Water Resources Control Board issued Decision 90-05, which defined temperature and flow requirements in the Sacramento River downstream from Shasta Dam. This decision also required that the Shasta Temperature Control Device be installed by December 1992. That date was amended to December 1994 in Decision 91-03.

Project Schedule: Currently being constructed.

Project Status as of August 1996: Currently being constructed.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Yes

Criterion 2. Does the action have funding for implementation? Yes

Criterion 3. Does the action have final environmental documentation? Yes

Criterion 4. Does the action have final permits and approvals? Yes

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? Yes

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Yes

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No. The project is included in the No-Action Alternative.

References:

U.S. Bureau of Reclamation file documents.
Shasta Outflow Temperature Control Record of Decision, July 1991.

Project Name: Sites Reservoir

Lead Agency: U.S. Bureau of Reclamation

Project Description: Sites Reservoir was proposed as an offstream pumped storage reservoir along the Tehama-Colusa Canal as part of the West Sacramento Canals Unit. Located on Funks and Stone Creeks upstream of Funks Reservoir, Sites Reservoir would have a gross storage capacity of more than 1.2 million acre-feet and would be created by the Golden Gate and Sites Dams. The reservoir would be used for offstream storage of Sacramento River flows to allow expansion of the Tehama-Colusa Canal service area. The reservoir would inundate Antelope Valley from about 2 miles north of the Glenn-Colusa County line to about 5.5 miles south of the town of Sites, including the town of Sites. The reservoir pumping and power plants would be integrated into the CVP.

Project Schedule: The West Sacramento Canals Unit Reformulation Study was completed in 1981.

Project Status as of August 1996: The project has been deferred.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Under consideration

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? No

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? No

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

U.S. Bureau of Reclamation, West Sacramento Canal Unit Feasibility Studies for Water Supply Development, 1962.

U.S. Bureau of Reclamation, West Sacramento Canal Unit Reformulation Plan, Concluding Report, 1981.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Sonora-Keystone Unit Studies

Lead Agency: U.S. Bureau of Reclamation

Project Description: This project would consist of development of the Sonora-Keystone Unit of the CVP to utilize available stream flows from the South Fork of the Stanislaus River, the North Fork of the Tuolumne River, and Sullivan Creek. The multipurpose project would include construction of Brownes Meadow Reservoir, enlargement of Phoenix Reservoir, and use of the existing Lyons Reservoir to meet existing and proposed agricultural, municipal, industrial, and recreational needs in Tuolumne County. Stage 1 of the project would develop 30,000 acre-feet of water, with a yield of 13,700 acre-feet for municipal and industrial purposes and 16,700 acre-feet for irrigation requirements to serve 4,860 acres of irrigable land. Stage 2 would involve construction of a second system of reservoirs and pipelines to meet projected water needs to 2020.

Project Schedule: A feasibility report prepared in September 1971.

Project Status as of August 1996: The project has been deferred.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? No. Construction of the proposed project would develop a separate CVP unit within Tuolumne County and would use those water resources, not existing CVP sources or systems.

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? No

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? No

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? No Construction of the proposed project would develop a separate CVP unit within Tuolumne County and would use those water resources, not existing CVP sources or systems.

Include Project in the Cumulative Impact Analysis? No

References:

Sonora-Keystone Unit, A Report of the Feasibility of Water Supply Development, Proposed, September 1971.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: South Sacramento Streams Study

Lead Agency: U.S. Army Corps of Engineers

Project Description: The project evaluates the need for and possible location of single-use flood control detention sites and multiuse flood control/recreation sites for detention of flood waters in the Sacramento Delta. The principal focus of the project is restoring 100-year flood protection in the Morrison Creek watershed, which includes Laguna and Alder Creeks.

Project Schedule: A reconnaissance study was completed in October 1994 and found a federal interest in the project. A feasibility study is underway and scheduled for completion by December 1997.

Project Status as of August 1996: The project is ongoing.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? No

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Possibly

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

Ken Meyers, U.S. Army Corps of Engineers, August 1996, personal communication.

Project Name: Spring Creek Toxicity Program

Lead Agency: U.S. Bureau of Reclamation

Project Description: The project would have raised the existing Spring Creek debris dam by 125 feet to increase the capacity of Spring Creek Reservoir, thereby reducing the number of uncontrolled releases of acid mine drainage into Keswick Reservoir and the Sacramento River during rainfall events.

This project is not likely to continue as a result of public comments received by the Environmental Protection Agency (EPA) on Water Management Feasibility Study, Public Comment, June 1994, which selected enlargement of the Spring Creek dam as the preferred remedial action at the Iron Mountain Mine Superfund site. EPA presented an alternate remedial action in Water Management Feasibility Study Addendum, Public Comment, May 1996, which proposes collection and treatment of acid mine drainage in the Slickrock Creek watershed upstream of Spring Creek rather than enlargement of the Spring Creek debris dam.

Other remedial actions implemented at the site include: copper cementation plants; construction of the Spring Creek debris dam in 1963; the 1980 Memorandum of Understanding between U.S. Bureau of Reclamation, State Water Resources Control Board, and California Department of Fish and Game; a partial cap above Richmond Mine; bypass diversions on Slickrock and Spring Creeks; and year-round collection and treatment of acid mine drainage that emanates from several mine portals.

Project Schedule: The environmental analysis was completed in July 1993. Enlargement of the Spring Creek debris dam is on hold indefinitely. EPA is to respond to public comments on the May 1996 feasibility study addendum by October 1996.

Project Status as of August 1996: The project is ongoing.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Yes

Criterion 2. Does the action have funding for implementation? Yes

Criterion 3. Does the action have final environmental documentation? Yes

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? Yes

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Ongoing

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Possibly

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

U.S. Environmental Protection Agency, Public Comment, Remedial Investigation Report, Boulder Creek Operable Unit, Iron Mountain Mine, May 1992.

U.S. Bureau of Reclamation, Final Draft Iron Mountain Mine, Spring Creek Debris Dam Enlargement Environmental Analysis, July 1993, prepared for the U.S. Environmental Protection Agency.

U.S. Environmental Protection Agency, Water Management Feasibility Study, Public Comment, Iron Mountain Mine, June 1994.

U.S. Environmental Protection Agency, Water Management Feasibility Study Addendum, Public Comment, Iron Mountain Mine, May 1996.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Stanislaus River Basin and Calaveras River Water Use Program

Lead Agency: U.S. Bureau of Reclamation and California Department of Water Resources

Project Description: U.S. Bureau of Reclamation (Reclamation) and California Department of Water Resources (DWR) conducted a joint study (STANCAL) of the long-term uses of groundwater and surface water resources in the Stanislaus and Calaveras River basins. A conjunctive use plan was considered to manage both groundwater and surface water supplies to meet current and future in-basin and out-of-basin needs. Reclamation has a long-term, firm contract with Central San Joaquin Water Conservation District to provide a firm supply of 49,000 acre-feet per year. In a record of decision by the Commissioner of the Reclamation in 1981, this quantity was estimated to be the available remaining firm yield after meeting projected Stanislaus River Basin water needs for the year 2020. In addition to this firm supply contract, Reclamation has committed 75,000 acre-feet and 31,000 acre-feet of interim supply to Stockton East Water District and Central San Joaquin Water Conservation District, respectively. This water is scheduled to be delivered through the Farmington Canal and other facilities. It is anticipated that the interim water supply available will gradually decrease as development increases the in-basin requirements. Minimum downstream flows and water quality requirements also will reduce available water. DWR terminated its participation in the study in March 1995. Because study areas for STANCAL and the American River Water Resources Investigation overlap, Reclamation decided that information from the American River Water Resources Investigation met Central Valley Project Improvement Act requirements for determining existing and future basin water needs. Because of a lack of funding and the fact that the New Melones Reservoir Water Management Study - Short-Term was underway, a transition report was submitted. Based on the results of continuing New Melones Reservoir water management studies, Reclamation will decide whether a new planning study is appropriate.

Project Schedule: The scoping report was done in January 1991. In May 1996, a transition (completion) report was published. On August 8, 1996, notice was given in the Federal Register of cancellation for the environmental impact statement.

Project Status as of August 1996: The project has been completed.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Not applicable

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? The project is completed.

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? No

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

Stanislaus River Basin and Calaveras River Water Use Program, January 1991.

Program Participation Meeting handouts provided June 1993.

Transition Report: American River/Folsom South Conjunctive Use Optimization Study, May 1996.

David Lewis, U.S. Bureau of Reclamation, August 14, 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Stone Lakes National Wildlife Refuge

Lead Agency: U.S. Fish and Wildlife Service

Project Description: The Stone Lakes National Wildlife Refuge was established in October 1994 as the 505th unit of the National Wildlife Refuge System. The 18,000-acre refuge extends south along Interstate 5 from Upper Beach Lake to just north of the Mokelumne River. 5,500 acres are managed under an agreement between the County of Sacramento and the State of California. The U.S. Fish and Wildlife Service currently has fee title to 830 acres. The goals of the refuge are: to preserve, enhance, and restore Central Valley plant communities and wetlands; assist in the recovery of special-status species; create a link between refuge habitats; and provide environmental education.

Project Schedule: In the late 1980s, the Stone Lakes Refuge Alliance was formed. In 1988, Congress approved funding for the U.S. Fish and Wildlife Service to begin planning and coordinating the Stone Lakes Wildlife Refuge. The draft environmental impact statement (EIS) was issued in May 1991, and the final EIS and land protection plan were issued in April 1992. The purpose of the land protection plan was to identify specific tracts of land included within the acquisition boundary and describe how and why each tract should be protected. The land protection plan also identified acquisition and protection priorities and parcel ownership acreages.

Project Status as of August 1996: Additional land acquisition and restoration activities continue. The refuge has just received a \$1,000,000 grant from the North American Wetlands Conservation Fund to acquire additional acreage by the end of this year. An additional 1,383 acres will be donated in 1997.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Yes

Criterion 2. Does the action have funding for implementation? Yes

Criterion 3. Does the action have final environmental documentation? Yes

Criterion 4. Does the action have final permits and approvals? Yes

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? Yes

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Yes

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No. The project is included in the No-Action Alternative.

References:

Final EIS, Stone Lakes National Wildlife Refuge, Department of Interior, U.S. Fish and Wildlife Service, Pacific Region, May 1992.

Nina Bicknese, U.S. Fish and Wildlife Service, August 1996, personal communication.

Projects Considered in Development of the No-Action Alternative and Cumulative Impact Analysis

Project Name: Suisun Marsh Protection Plan

Lead Agency: U.S. Bureau of Reclamation and California Department of Water Resources

Project Description: Suisun Marsh is in southern Solano County, west of the Sacramento-San Joaquin Delta and north of Suisun Bay. This tidally influenced marsh is a vital wintering and nesting area for waterfowl of the Pacific Flyway and represents about 12% of California's remaining wetland habitat. This unique resource is the largest contiguous estuarine marsh remaining in the United States. In 1974, the California Legislature recognized the threat of urbanization and enacted the Suisun Marsh Preservation Act, requiring that a protection plan be developed for the marsh. In 1976, the Suisun Marsh Protection Plan was submitted to the governor and California Legislature. The plan proposed primary and secondary management areas, management policies, a local protection program, acquisitions, and funding programs. In 1977, the California legislature passed Assembly Bill 1717, which added the Suisun Marsh Preservation Act of 1977 to the Public Resources Code and legislated the protection measures outlined in the Suisun Marsh Protection Plan. In 1978, the State Water Resources Control Board (SWRCB) issued Water Right Decision 1485, which set channel water salinity standards for Suisun Marsh from October through May to preserve the area as a brackish tidal marsh and to provide optimum source water for waterfowl food production. Decision 1485 placed operational conditions on water right permits for the Central Valley Project (CVP) and the State Water Project (SWP), requiring that channel salinity standards be met. In 1984, in response to Order 7, the California Department of Water Resources (DWR) published the Plan for Protection for the Suisun Marsh, including the environmental impact report (EIR).

Components of the protection plan that have been completed are:

- Phase I (also referred to as "Initial Facilities")
 - Morrow Island Distribution System
 - Roaring River Distribution System
 - Goodyear Slough Outfall
- Phase II
 - Suisun Marsh Salinity Control Gates (also known as the "Montezuma Slough Control Structure")

The U.S. Bureau of Reclamation, DWR, the California Department of Fish and Game, and the Suisun Resource Conservation District have formed a Suisun Marsh Preservation Agreement Negotiation Team to update the 1987 Suisun Marsh Protection Agreement. Under the new conditions, the four large facilities identified in the Suisun Marsh Preservation Agreement that are not built will not be needed. The negotiation team identified 18 actions, 11 of which were

considered highly feasible. The negotiation team then advanced the 11 feasible actions to the SWRCB for inclusion in the EIR for implementation of the 1995 water quality control plan.

Project Schedule: This project is ongoing.

Project Status as of August 1996: This project is ongoing.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? No

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for the CALFED analysis? Yes for Phases I and II

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Possibly

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

Jim Frederick, U.S. Bureau of Reclamation, 2800 Cottage Way, Room W-2103, Sacramento, CA 95825, Phone 916/978-5134, Fax 916/978-5284, August 1996, personal communication.

Kamyar Guivetachi, California Department of Water Resources, 3251 S Street, Room A-10, Sacramento, CA 95816, Phone 916/227-7529, August 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Tracy Pumping Plant Mitigation Program

Lead Agency: U.S. Bureau of Reclamation

Project Description: The Tracy Pumping Plant exports up to 4,600 cfs of water from the south Delta to the Delta-Mendota Canal. The pumping plant has a fish-collection facility to divert and salvage fish that could be entrained in the plant. The facility has been in operation since 1957. Salvaged fish are trucked to a point outside the influence of the pumping plant. The initial studies anticipated that 90% of the fish would be salvaged. However, actual salvage values have been less than anticipated, especially for striped bass. The fish collection facility does not meet current fish-screen Criterion. Changes since its construction in pumping activities (year-round versus partial years originally), debris loading, and additional species concerns all render the plant less effective for fish protection than originally designed. Furthermore, the plant has physically deteriorated, to the point that a major shutdown could occur, jeopardizing water deliveries to the Delta-Mendota Canal. No restoration funds have been identified until fiscal year 1998. Until then, the U.S. Bureau of Reclamation will continue the current Tracy Fish Collection Facilities Evaluation and Improvement Program, which began 5 years ago. The program is identifying and making physical improvements and operational changes, assessing fishery conditions, and monitoring salvage operations. In addition to assessing and improving the present facility, two approaches are under study: whether to continue to repair and maintain the existing facility or to replace it with a new one. While a number of improvements have been made and others planned, long-term resolution will require coordination with all agencies involved in an effort similar to the Red Bluff Diversion Dam Fish Passage Program to determine which technologies and strategies should be considered.

Project Schedule: The project consists of six actions. Action 1 has been ongoing since 1990 and is scheduled to continue beyond the start of fiscal year 1998. The other actions will be initiated and should end during this time period.

Project Status as of August 1996: The project is ongoing.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Studies, monitoring, and evaluation have been occurring.

Criterion 2. Does the action have funding for implementation? Partial. Energy and water funding is being used but no restoration funds are available until 1998.

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? No

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Yes

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? Yes

References:

U.S. Bureau of Reclamation and California Department of Fish and Game, Agreement to Reduce and Offset Direct Fish Losses Associated with the Operation of the Tracy Pumping Plant and the Tracy Fish Collection Facility, 1992.

Herbert Ng, U.S. Bureau of Reclamation, August 1996, personal communication.

Project Name: Trinity River Restoration Program

Lead Agency: U.S. Bureau of Reclamation

Project Description: Passage of the Trinity River Basin Fish and Wildlife Restoration Act in October 1984 provided for a 10-year program to restore fish and wildlife resources to pre-CVP levels. The program was legislated to continue until 1995 and was reauthorized to continue through September 30, 1998. Major features of the program include construction of Buckhorn Dam and a sediment control facility, modernizing the Trinity River Fish Hatchery, habitat improvement projects in the Trinity River and its tributaries, and watershed stabilization projects to reduce sedimentation of streams. The project is being completed with the assistance of a task force consisting of representatives from 14 federal, State, and county entities and the Hoopa Valley Indian Tribe. Construction of the CVP Trinity River Division facilities resulted in the loss of about 20,000 acres of deer habitat and over 100 miles of salmon and steelhead habitat. The purpose of the program is to restore natural fish populations below the dam. The Trinity River flow study is a component of the restoration program and will be considered in the EIS.

Project Schedule: The restoration program is ongoing.

Project Status as of August 1996: The restoration program is ongoing.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Yes

Criterion 2. Does the action have funding for implementation? Yes

Criterion 3. Does the action have final environmental documentation? Yes

Criterion 4. Does the action have final permits and approvals? Yes

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? Yes

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Possibly

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No. The project is included in the No-Action Alternative.

References:

Klamath and Trinity River Restoration Initiatives, April 1993.

U.S. Bureau of Reclamation, Status of the Trinity River Restoration Program, August 1990.

Russell Smith, U.S. Bureau of Reclamation, August 15, 1996, personal communication.

U.S. Fish and Wildlife Service, Trinity River Basin Fish and Wildlife Management Program, Final EIS, 1983.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Upper Sacramento River Fisheries and Riparian Habitat Study

Lead Agency: U.S. Fish and Wildlife Service and U.S. Bureau of Reclamation

Project Description: The Upper Sacramento Fisheries and Riparian Habitat Advisory Council was established in 1986 by Senate Bill 1086. The bill called for preparation of a management plan to protect, restore, and enhance the fish and riparian wildlife habitat of the upper Sacramento River. A report of the Council's findings was prepared by The Resources Agency and presented in 1989. A development plan presented in the report identified two action items to protect and restore riparian habitat and 20 action items to resolve fishery problems along the main stem of the Sacramento River and its tributaries. Proposals included in the plan range from cleanup of the Iron Mountain Mine near Redding and reconstruction of the Coleman National Fish Hatchery to construction of fish ladders and screens on tributary streams. Collectively, the 20 fishery action items are called the Fisheries Restoration Plan.

The advisory council was reconvened in August 1992 and formed a Riparian Committee to delineate a riparian conservation eligibility area between Keswick Dam and the Feather River confluence and to develop a riparian conservation area management plan, management entity, and enabling agreements. A draft delineation of the riparian conservation eligibility area was completed in September 1995 and encompasses 213,000 acres; about 40% of the riparian forest acreage that bordered the Sacramento River prior to settlement. The reach between Keswick and Red Bluff includes some 22,000 acres of existing riparian habitat encompassed by the 100-year flood line and areas of contiguous valley oak woodland. Reach 2, from Red Bluff to Chico Landing, includes about 58,000 acres, of which 12,000 to 15,000 acres is designated as potential inner-river meander zone habitat. In this meander zone, natural river processes of erosion and deposition would be allowed to occur and management would be geared toward creating successional habitats with enough time to result in climax communities. Reach 3, from Chico Landing to Colusa, includes about 76,000 acres, confined largely by the Sacramento Flood Control Project and the Sacramento River Bank Protection Project. Reach 4, Colusa to Verona, contains about 57,000 acres, including all areas between project levees and alluvial areas up to a mile from the river.

The management plan is being written by staff of the California Department of Water Resources' Northern District with input from members of the riparian committee. As currently proposed, a local nonprofit organization, directed by a 15-member board, would be created through Memoranda of Understanding or Agreement between the agencies with management responsibility in the area.

Project Schedule: The fishery restoration components of the plan are being implemented under more recent plans, including the California Department of Fish and Game's Restoring Central Valley Streams: A Plan for Action, issued in November 1993, and the federal Draft Anadromous Fish Restoration Plan, released in December 1995. Completion of development of a nonprofit management organization and enabling agreements is scheduled for mid-October 1996.

Project Status as of August 1996: The project is ongoing.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Partially

Criterion 2. Does the action have funding for implementation? Partially

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? No

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? No. Many of the actions in the plan are being considered for implementation by CALFED.

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Yes

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

Resources Agency, Upper Sacramento River Fisheries and Riparian Habitat Management Plan, January, 1989.

Paul Ward, California Department of Fish and Game, August 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Watsonville (Pajaro Valley Basin) Management Plan

Lead Agency: U.S. Bureau of Reclamation and Pajaro Valley Water Management Agency

Project Description: A basin management plan was developed to address seawater intrusion from Monterey Bay into the coastal aquifer of the Pajaro Valley. Ongoing projects include development of a data management system, a Pajaro Valley groundwater - surface water finite element model, evaluation of more than 30 supplemental water supply sources and demand management measures, and evaluation of future water needs. A final draft best management plan was prepared in September 1993. A key element of the plan called for import of Central Valley Project (CVP) water through the San Felipe Division. However, the pipeline from the San Felipe Project has not been extended to the Pajaro Valley Water Management Agency system, and due to passage of the Central Valley Project Improvement Act (CVPIA), Pajaro Valley Water Management Agency will have to wait until the terms and conditions of the CVPIA are met before water can be imported to them.

Project Schedule: The project is ongoing.

Project Status as of August 1996: The project is ongoing. The U.S. Bureau of Reclamation is preparing to go to the State Water Resources Control Board to expand the use of CVP water to include Pajaro Valley Water Management Agency.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Possibly

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? Yes

References:

Pajaro Valley Water Management Agency, basin management plan and related previous studies, September 1993.

Projects Considered in Development of the No-Action Alternative and Cumulative Impact Analysis

Project Name: West Delta Water Management Program

Lead Agency: California Department of Water Resources

Project Description: West Delta water management planning has focused on a number of Delta problems. First is installation of an overland water supply facility on Sherman Island. This overland facility, to be funded by the State Water Project, would address the water supply needs only of Sherman Island. Other issues and programs have also come into focus and reshaped and broadened the western Delta planning perspective. An unstable agricultural economy, continuing problems of subsidence, levee instability, and loss of wetland and riparian habitats have necessitated a more comprehensive planning approach.

Implementation of this program involves the following main elements:

- amending the 1981 agreement between North Delta Water Agency and the California Department of Water Resources (DWR),
- acquiring land on both islands (the initial study and negative declaration was completed for Sherman Island in January 1990 and for Twitchell Island in May 1993),
- implementing the Sherman Island Wildlife Management Plan and the Twitchell Island Wildlife Management Plan,
- improving threatened levees on both islands as part of the State's Delta Flood Control Act of 1988 levee program,
- securing Memoranda of Agreement from State and federal permitting agencies, and
- completing a detailed, acre-by-acre final design.

North Delta Water Agency and DWR signed an agreement in 1981 to ensure that the State will maintain a water supply that is dependable and of adequate quality for agricultural uses within the boundaries of the agency's system. The agreement provides for installation of an overland facility to provide a dependable water supply on Sherman Island. The alternative under consideration is the Sherman Island Wildlife Management Plan. Final design of the overland facility is subject to approval by North Delta Water Agency and by Sherman Island's Reclamation District 341 as reflected in the contract, and a contract amendment is required to allow approval of the Wildlife Plan by Reclamation District 341 and North Delta Water Agency. To implement the Sherman Island Wildlife Management Plan, the 1981 contract must be amended to allow the plan to be substituted for the overland facility.

The proposed land acquisition phase is part of the joint program between DWR and the California Department of Fish and Game (DFG) to implement the wildlife management plans. The land acquisition process consists of property selection and appraisal, acquisition of purchase options, and subsequent purchase of fee simple and/or possibly easements to establish wildlife habitat on Sherman Island. Once sufficient acreage has been acquired to implement the plan, all landowners willing to participate in the project are offered a purchase option for their property.

DWR purchased more than 3,000 acres of land on Twitchell Island (approximately 80% of the island) in 1993. During this interim period, State-owned lands are being managed for agriculture on 70% and grazing on the remaining 30%. DWR also purchased 870 acres on Sherman Island.

Implementation of the wildlife management plans will be accomplished in several stages. Currently, the properties are being managed as grazing land and/or agriculture. DWR is also investigating the possibility of limited, managed hunting programs prior to development of wildlife habitat. In the future, a wetland/riparian/upland complex of habitats will be constructed for the benefit of wintering waterfowl and an array of wildlife species. Habitat management will:

- emphasize development of wetland, riparian, and upland habitats to maximize wildlife benefits;
- maintain the island's integrity by reducing the rate of soil subsidence and thereby reducing the probability of flooding;
- manage agricultural crop production to minimize subsidence and provide flood and other resources for wildlife while using the most cost-effective methods possible; and
- effectively manage the island for wildlife.

A Memorandum of Agreement for use of Twitchell Island for wildlife management and potential mitigation for impacts of the department's projects in the Delta was completed between DWR and DFG on November 6, 1991. The U.S. Fish and Wildlife Service was contacted before proceeding with a final plan.

Project Schedule: The project is ongoing. DWR is actively pursuing land acquisitions and negotiations with water users.

Project Status as of August 1996: The project is ongoing. A small-scale (100-acre) habitat improvement pilot program is scheduled to begin in September 1996.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? No

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Possibly

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

California Department of Water Resources/North Delta Water Agency Agreement, 1981.

South Delta Water Management Program Draft EIR/EIS, June 1990.

California Department of Water Resources, Initial Study and Negative Declaration for Proposed Twitchell Island Wildlife Management Plan, May 1993.

Mike Ford, California Department of Water Resources, August 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: West Sacramento Project.

Lead Agency: U.S. Army Corps of Engineers

Project Description: This project will raise 4.9 miles of levee, starting with the reach along the Sacramento Weir, proceeding along the Sacramento Bypass to its intersection with the Yolo Bypass, and then continuing along the Yolo Bypass to its intersection with the Deep Water Ship Channel. The environmental impact statement/environmental impact report (EIS/EIR) designated a preferred mitigation site in an area between the ship channel and the east levee of the Yolo Bypass. The project is designed to provide 400-year flood protection to the City of West Sacramento.

Project Schedule: The final EIS/EIR, prepared in cooperation with the State of California, was completed in 1992. A design memorandum was completed in May 1995 and approved by the Office of the Secretary of the Army for Civil Works in March 1996.

Project Status as of August 1996: The project plan and specifications will be completed by December 1996. After a two-month period of technical review, the project should be advertised some time in March 1997.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Yes

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? Yes

Criterion 4. Does the action have final permits and approvals? Yes

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? No

Include Project in the No-Action Alternative? No. The project would not directly affect SWP or CVP water management.

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Yes

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? Yes

References:

U.S. Army Corps of Engineers and California State Reclamation Board, Sacramento Metropolitan Area, California, Feasibility Report and EIR/EIS, February 1992.

John Brown, U.S. Army Corps of Engineers, August 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Western Energy Expansion Study

Lead Agency: U.S. Bureau of Reclamation

Project Description: A study was conducted to identify and evaluate increased electrical power and energy generation opportunities in 17 western states. The study focused primarily on development of hydropower, including pumped storage. Thirty-four hydroelectric projects were identified, of which three were within the California Mid-Pacific Region: the Monticello, Whiskeytown, and Friant power plants. Other projects evaluated with the Mid-Pacific Region included the San Luis Solar Generation Study; the Pumped Storage Inventory Study; and upgrading of the Trinity generator and turbine, the Carr turbine, the Spring Creek generator and turbine, the Keswick turbine, the Shasta turbine, and the Folsom turbine. The benefit-cost ratios for the Monticello, Whiskeytown, and Friant power plant improvements were favorable, ranging from 1.74:1.00 to 1.92:1.00. Ratios for the other projects were not provided.

Project Schedule: The report was prepared in February 1977.

Project Status as of August 1996: The project has been completed.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? The report was prepared in February 1977.

Criterion 2. Does the action have funding for implementation? Not applicable

Criterion 3. Does the action have final environmental documentation? Not applicable

Criterion 4. Does the action have final permits and approvals? Not applicable

Criterion 5. Will the action be excluded from the CALFED actions? Not applicable

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Not applicable

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? The report was prepared in February 1977.

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? No

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? No

Include Project in the Cumulative Impact Analysis? No

References:

Report on the Western Energy Expansion Study, February 1977.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Western Sacramento Canals Unit

Lead Agency: U.S. Bureau of Reclamation

Project Description: The West Sacramento Canals Unit, as initially proposed in 1964, would have extended the CVP service area into Yolo and Solano Counties. Water would have been provided through an extension of the Tehama-Colusa Canal and the following facilities would have been added: Sites Reservoir and pumping/generating plant; Oat Reservoir; Noonan Reservoir; Middletown Reservoir; and the West Sacramento Valley, Yolo-Zamora, and Lake Solano Canals. The Unit was revised in 1969, to a recommended alternative similar to the original configuration. In 1977, when construction of the Tehama-Colusa Canal was nearing completion, the unit was revised again. The reformulation plan included larger reservoir sizes at Sites, Oat, and Noonan. A preliminary cost-benefit analysis in a 1981 report indicated that the West Sacramento Canals Unit was not economically feasible at that time.

Project Schedule: The project was deferred.

Project Status as of August 1996: The project was deferred.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Yes

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? No

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? No

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

U.S. Bureau of Reclamation, West Sacramento Valley Canals Unit Formulation Plan, 1964.

U.S. Bureau of Reclamation, West Sacramento Valley Canals Unit Revised Formulation Plan, 1969.

U.S. Bureau of Reclamation, West Sacramento Valley Canals Unit Reformulation Plan, Concluding Report, 1981.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Westlands Water District - Conveyance of Nonproject Groundwater Using the California Aqueduct

Lead Agency: Westlands Water District and Mendota Pool Group

Project Description: The proposed project would discharge a maximum of 78,000 acre-feet annually of nonproject groundwater that meets State and federal drinking water standards and is pumped via privately owned pipelines direct from the participating well to the Mendota Pool. Groundwater blends with Mendota Pool water and is conveyed through Westland Water District laterals 6 and 7 to the California Aqueduct. Flows into the Mendota Pool and California Aqueduct are metered by Westlands Water District and verified by the California Department of Water Resources. CVP water credits are given to qualified farmers who participate in the program and are provided as water stored in San Luis Reservoir.

Project Schedule: The environmental impact report (EIR) was prepared and distributed in October 1995. The final EIR has not yet been prepared.

Project Status as of August 1996: The final EIR needs to be approved and certified by Westlands Water District. The project is on hold until further notice based on discussions with a Mendota Pool Group representative.

Project Schedule: Draft EIR was released in October 1995.
Final EIR has not yet been prepared.

Project Status as of August 1996: The project is ongoing.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for the CALFED analysis? Yes

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Possibly

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

Jones & Stokes Associates, 1995, EIR on conveyance of nonproject groundwater from the Mendota Pool Area using the California Aqueduct.

John Bryner, Mendota Pool Group representative, Phone 209/498-5815, August 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Westlands Water District - Conveyance of Nonproject Groundwater from the Mendota Pool Area Using the California Aqueduct

Lead Agency: Westlands Water District and the Canalside Group

Project Description: Westlands Water District is serving as lead agency for a groundwater conveyance project proposed by the Canalside Group. The proposed project involves a system of wells located along the California Aqueduct that would discharge directly into the aqueduct. This project would pump a maximum of 150,000 acre-feet per year.

Project Schedule: Draft environmental impact report (EIR) was released for public review in October 1995.
Final EIR has not yet been released.

Project Status as of August 1996: The project is ongoing.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for the CALFED analysis? Yes

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? Yes

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Possibly

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

Jones & Stokes Associates, Inc., EIR on Conveyance of Nonproject Groundwater using the California Aqueduct, October 1995.

Dale Melville, Canalside Group, Phone 209/449-2700, August 1996, personal communication.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Whiskeytown Power Plant

Lead Agency: U.S. Bureau of Reclamation

Project Description: During the late 1970s, the Department of Interior was seeking means to supplement power production capabilities in the western United States. Among the alternatives considered was development or expansion of hydroelectric power generation capabilities at CVP dams. An appraisal study was conducted by the Water and Power Resources Service (currently the U.S. Bureau of Reclamation) describing the addition of a power plant at Whiskeytown Dam. The plant would be constructed at the downstream discharge and would have a maximum electric power generation capacity of 3,000 kilowatts. Due to the proximity of Whiskeytown Dam to other CVP hydroelectric generation facilities, it would be possible to provide a dependable capacity of 2,700 kilowatts. These estimates were based on no changes occurring in operation of the dam, which includes reduced downstream releases during some months. The plant was recommended for construction in 1979 but has not been authorized to date.

Project Schedule: The project has been deferred.

Project Status as of August 1996: The project has been deferred.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Yes

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? No

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? No

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? No

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

U.S. Water and Power Resources Service, Whiskeytown Power Plant, An Appraisal Report on Adding Hydroelectric Powerplants at Whiskeytown Dam, 1979.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Wind-Hydro Opportunities Study

Lead Agency: U.S. Bureau of Reclamation

Project Description: The study was conducted to identify opportunities to integrate wind and hydroelectric power generation in the Mid-Pacific Region. Siting and power studies were to be evaluated for the Delta and San Luis Reservoir vicinity. If the study proceeded to the demonstration phase, results would be monitored to determine the benefits and costs of wind power generation and the effects, if any, on the CVP's dependable power generation capacity. Three general areas were proposed for power generation studies: the Delta between Carquinez Straits and Fairfield, the vicinity of Altamont Pass near Livermore, and the vicinity of Pacheco Pass. These areas have since been developed for wind power generation.

Project Schedule: A report was prepared in February 1977. The capability study was submitted in January 1979.

Project Status as of August 1996: The project has been deferred.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? Not applicable

Criterion 2. Does the action have funding for implementation? Not applicable

Criterion 3. Does the action have final environmental documentation? Not applicable

Criterion 4. Does the action have final permits and approvals? Not applicable

Criterion 5. Will the action be excluded from the CALFED actions? Not applicable

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? Not applicable

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? No

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? No

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? No

Include Project in the Cumulative Impact Analysis? No

References:

A Proposal for a Study on Wind-Hydro Opportunities in the Mid-Pacific Region, California, April 1978.

**Projects Considered in Development of the No-Action Alternative
and Cumulative Impact Analysis**

Project Name: Yolo Bypass Westside Tributaries Study

Lead Agency: U.S. Army Corps of Engineers

Project Description: The project is currently in the reconnaissance phase. The purpose of the project is to identify feasible flood control alternatives for selected drainage areas of Bear, Cache, and Putah Creeks. Specific alternatives include locating and sizing new structural and nonstructural flood control solutions. Some of the structures under consideration include detention basins on Cache and/or Bear Creek and levee protection for Dry Slough, Willow Slough, or lower Woodland areas. Nonstructural or site-specific levees around water/wastewater treatment facilities are also included.

Project Schedule: The reconnaissance study was initiated in 1993. The next phase, completion of the feasibility study, depends on the recommendations of the reconnaissance study and on identification of a cosponsor (presumably Yolo County) for 50 percent of the project costs.

Project Status as of August 1996: The U.S. Army Corps of Engineers is currently updating its project study plan. There is no firm timeline for when (or if) the study will enter the feasibility phase.

CALFED No-Action Screening Criteria

Criterion 1. Has the action been approved for implementation? No

Criterion 2. Does the action have funding for implementation? No

Criterion 3. Does the action have final environmental documentation? No

Criterion 4. Does the action have final permits and approvals? No

Criterion 5. Will the action be excluded from the CALFED actions? Probably

Criterion 6. Would the effects of the action be identifiable at the level of detail being considered for CALFED analysis? No

Include Project in the No-Action Alternative? No

CALFED Cumulative Effects Screening Criteria

Criterion 1. Is the action under active consideration? Yes

Criterion 2. Does the action have recently completed environmental documentation or are environmental documents in some stage of active completion? No

Criterion 3. Would the action be completed and operational within the timeframe being considered for the CALFED Bay-Delta Program (assumed to be 2020)? Possibly

Criterion 4. Does the action, in combination with the CALFED action alternatives, have the potential to affect the same resources? Yes

Include Project in the Cumulative Impact Analysis? No

References:

Larry Johnson, U.S. Army Corps of Engineers, August 1996, personal communication.

Attachement 1

Addendum to the No Action Alternative and Cumulative Impact Analysis Screening Report

This second addendum to the September 18, 1996 draft No Action Alternative and Cumulative Impact Analysis Screening Report has been prepared to adjust findings in the September 18, 1996 report. The September 18, 1996 report, the first addendum dated December 31, 1996 and this addendum constitute the No Action Alternative and Cumulative Impact Screening Report.

Adjustments to Projects in the No Action Alternative

Inland Feeder Project (MWD) - The September 18, 1986 Report (Report) indicates that the project does not have final environmental documentation. It was placed in the No Action Alternative because the "feeder" would carry water to the Eastside Reservoir which is already under construction. While there will be a conveyance system to the reservoir and it may be this particular project, the absence of the environmental documents moves the project from the No Action Alternative to Cumulative Impact Analysis.

Sacramento-San Joaquin Delta Levees Subvention Program - Report indicates that the project should be part of the No Action Alternative. Project was authorized in 1988 and funded for the next 10 years. However, projects are selected on an annual basis and environmental documentation prepared at that time. The absence of environmental documents and permits moves the project from the No Action Alternative to the Cumulative Impact Analysis.

Contra Costa Pumping Plant Modifications - Report indicates the project is part of the Cumulative Impact Analysis. Action is part of CVPIA. All CVPIA actions except for three are a part of the Cumulative Impact Analysis. Delete this action since it is a duplicate.

Refuge Water Supply - Report indicates the project is part of the Cumulative Impact Analysis. Action is a part of CVPIA. All CVPIA actions except for three are a part of the Cumulative Impact Analysis. Delete this action since it is a duplicate.