CHAPTER 4
OVERVIEW OF ANALYTICAL APPROACH

This chapter describes the scope and extent of the environmental analyses for this EIR/EIS, presented by study area region (see Section 2.1). Specifically, this chapter describes the framework for the impact analyses, identifies the environmental resource areas evaluated in this EIR/EIS, and explains why some resource areas have been dismissed from further evaluation. In addition, this chapter introduces the approach for the cumulative effects analysis, discusses irreversible and irretrievable commitments of resources, and discusses the relationship between short-term uses of the environment and maintenance and enhancement of the long-term productivity of resources.

4.1 EVALUATED ENVIRONMENTAL RESOURCE AREAS

Environmental resources within the project study area were examined to determine whether they could be directly or indirectly affected by implementation of a project that changes water management on the lower Yuba River. Some, but not all, of these environmental resources include: (1) fisheries and aquatic resources; (2) rivers used to convey transfer water, including conveyance of transfer water stored in Oroville and Shasta reservoirs; (3) rivers that may be influenced by implementation of the Proposed Project/Action or alternatives; (4) the Yuba Groundwater Basin and overlying lands within Yuba County; and (5) lands within YCWA and its Member Unit service areas. The environmental resource areas evaluated in this EIR/EIS, by region and Export Service Area, are presented in **Table 4-1.**

Table 4-1. Regional Connections to the Resource Analytical Chapters

		Project Study Area			
		Yuba Region	CVP/SWP Upstream of the Delta Region	Delta Region	Export Service Area
Environmental Resource Topic (Resource Chapter Number)	(5) Surface Water Supply and Management	√	√	√	√
	(6) Groundwater Resources	√			√
	(7) Power Production and Energy Consumption	√	√	√	√
	(8) Flood Control	√	√	√	
	(9) Surface Water Quality	√	√	√	√
	(10) Fisheries and Aquatic Resources	√	√	√	√
	(11) Terrestrial Resources	√	√	√	√
	(12) Recreation	√	√	√	√
	(13) Visual Resources	√	√		√
	(14) Cultural Resources	√	√		√
	(15) Air Quality	√			√
	(16) Land Use	√	√	√	√
	(17) Socioeconomics	√			√
	(18) Growth Inducement	√			√
	(19) Environmental Justice	√			
	(20) Indian Trust Assets	√	√		
	(21) Cumulative Impacts	√	√	√	√
√ – Resource evaluated for region.					

The following paragraphs provide an overview of the types of operational changes that potentially could affect the regional areas and resources listed in Table 4-1. Implementation of any of the four alternatives could result in operational changes to the Yuba Project, including New Bullards Bar Reservoir, the North Yuba River between New Bullards Bar and Englebright reservoirs, or the lower Yuba River downstream of Englebright Dam. New Bullards Bar Reservoir is the Yuba Project facility used to store surface water in the Yuba River Basin. Changes in the lower Yuba River flow regime also potentially could influence Feather River flows downstream of the confluence with the Yuba River, Sacramento River flows downstream of its confluence with the Feather River, and Delta inflows. YCWA would continue to provide surface water deliveries to its Member Units and other water contractors throughout its service area through its operation of the Yuba Project.

Implementation of some of the alternatives could result in the annual delivery of up to 200 TAF of water to Reclamation and DWR. In 1991, 2001 and 2002, YCWA transferred (primarily to the EWA Program and DWR) volumes of water ranging between approximately 114 TAF and 219 TAF (see Table 2-2). Under any of the alternatives, Reclamation and DWR would convey and manage the delivery of any water transferred to the EWA Program or any supplemental water supplies to federal and state water contractors through the CVP/SWP facilities, including Oroville Reservoir and the Feather River (SWP), the Sacramento River downstream of the Feather River, and Delta facilities (CVP/SWP). Transfer of Yuba Project water to Reclamation and DWR could result in changes to CVP and SWP operations. Reclamation and DWR have indicated that such operational changes potentially could influence reservoir storage and water surface elevations with potential environmental effects at Oroville Reservoir and in the reaches of the Sacramento and Feather rivers located downstream of Oroville Reservoir. The Proposed Project/Action and alternatives would not be expected to result in any changes to CVP operations within the Trinity River, Shasta, Sacramento River or American River divisions (see Sections 4.2.2 and 4.2.3).

Implementation of any of the four alternatives could result in changes in the volumes or patterns of groundwater extractions from the North Yuba and South Yuba subbasins. It is anticipated that, during some water year types, YCWA Member Units would participate in groundwater pumping operations under all the alternatives. For example, under the No Project and No Action alternatives, groundwater substitution based water transfers are assumed to occur at historical volumes. In 1991, 1994, 2001, and 2002, groundwater-substitution-based transfers were 84,840 AF, 26,033 AF, 61,140 AF, and 55,248 AF, respectively. YCWA also could integrate operations of the Yuba Project, specifically New Bullards Bar Reservoir, with participating Member Units to manage Yuba County groundwater supplies. These groundwater supplies would be used to help meet local water supply needs in dry years, facilitating YCWA's operation of its water storage facilities, as needed, to meet higher minimum instream flow requirements in the lower Yuba River.

Surface water released from New Bullards Bar Reservoir would be used to maintain minimum flow requirements and would be conveyed downstream through the lower Yuba, lower Feather, and Sacramento rivers to the Delta. Surface waters reaching the Delta could then be made available for transfer to Reclamation and DWR for use in the Delta and/or to meet CVP and SWP contract requirements south of the Delta. The water also would be available for use under the EWA Program.

In addition, some alternatives have provisions for supplemental surface water transfers and groundwater substitution transfers. These operations would involve releases from New Bullards Bar Reservoir above those required by the instream fishery flow schedules. The

availability of supplemental water supplies would be determined through an assessment of potential water supply shortages in dry years using anticipated annual water supply allocation projection methods specific to each agency. Water provided to federal and state water contractors south of the Delta by implementing any of the four alternatives would not increase supplies to any contractor above its maximum existing contract amount (see Sections 3.2.1.3, 4.1.3.1, and 4.1.3.2)

The impact analyses for this EIR/EIS require the differentiation of the project study area into separate regions because different effects could occur in different regions. Water transfers originating in the Yuba Region would require that water be conveyed through the Delta. Constraints to transferring water through the Delta include both physical and regulatory limitations. Careful coordination of transfers with existing CVP and SWP operations to meet water rights, water quality, and fishery protection measures would be necessary when water would be transferred through the Delta.

Environmental resource topics and infrastructure facility components associated with each of the four evaluated regions are described below. The following information is provided to establish the initial framework for subsequent environmental resource evaluations presented in each of the resource chapters in this EIR/EIS. The respective analytical chapters of this document describe the differences that may occur between the overall project study area features and project operations (as described below) and the area of analysis for a particular resource (e.g., the area of analysis may vary for different resources, as described in Chapters 5 to 20).

4.1.1 YUBA REGION - FEATURES AND PROJECT OPERATIONS

The Yuba Region includes YCWA's Yuba Project facilities on the North Yuba River and lower Yuba River, the Yuba Groundwater Basin, lands overlying the groundwater basin, and additional land areas within the YCWA Member Unit service areas.

Operation of the Yuba Project and other facilities requires annual consideration and integration of a number of factors, including the following:

- Annual hydrologic variations in the watershed
- Seasonality and timing of water availability
- Water rights
- Yuba Project operations for base flow, flood control, and storm runoff management
- Yuba Project routine maintenance requirements
- Yuba Project physical system limitations (capacity constraints)
- Lower Yuba River fishery protection measures
- Consumptive demands for irrigation, rice decomposition, and waterfowl habitat
- Conjunctive use and groundwater management
- Hydropower generation (power contract requirements), including FERC license requirements
- Flood control
- Recreation uses
- Out-of-basin water transfers

4.1.2 CVP/SWP UPSTREAM OF THE DELTA REGION – FEATURES AND PROJECT OPERATIONS

The CVP/SWP Upstream of the Delta Region is restricted to CVP and SWP facilities and associated river reaches that could be affected by operational changes in the Yuba Project.

The CVP Shasta Division is operated for flood control, navigation, agricultural and M&I water supply, hydroelectric power generation, and fish conservation. The Shasta Division includes: Shasta Dam, Reservoir, and Powerplant; Keswick Dam, Reservoir and Powerplant; and the Shasta temperature control device. As discussed in Section 4.2.3, operation of these facilities would not be affected by the Proposed Project/Action or alternatives.

The CVP Sacramento River Division includes the Red Bluff Diversion Dam, Corning Pumping Plant, and Corning and Tehama-Colusa canals. The Sacramento River Division would not be affected by the Proposed Project/Action or alternatives.

SWP facilities on the Feather River include Oroville Dam, Oroville Reservoir, Edward Hyatt Powerplant, and Thermalito Complex, located approximately four miles downstream of Oroville Dam. The Oroville-Thermalito facilities could be affected by changes to the Yuba Project due to refill impacts, or through temporary storage of transfer water in Oroville Reservoir. Backup of transfer water into Oroville Reservoir may occur during Delta balanced conditions when water from Oroville Reservoir otherwise would be released to meet instream flow requirements on the lower Feather River or for export at Banks and Jones pumping plants.

4.1.3 DELTA REGION – FEATURES AND PROJECT OPERATIONS

The Delta Region is considered separately from the CVP/SWP Upstream of the Delta Region because of its legal status and its use as a conveyance system for upstream water acquisitions and water management operations. The Delta lies at the confluence of the Sacramento and San Joaquin rivers and serves as a major operations hub for the CVP and SWP. A series of regulations and agreements with various agencies (e.g., SWRCB, USFWS, NFMS, CDFG and the Corps) govern current CVP and SWP operations in the Delta. These regulations and agreements affect the volume of water that can be exported from the Delta. The CVP and SWP store and release water upstream of the Delta and export water from the Delta to areas generally west and south of the Delta. Reclamation diverts water from the Delta through its CVP Jones Pumping Plant to the Delta-Mendota Canal and San Luis Canal. DWR pumps for export through the 444-mile long California Aqueduct and South Bay Aqueduct at its SWP Banks Pumping Plant on Clifton Court Forebay.

4.1.3.1 CENTRAL VALLEY PROJECT – DELTA FEATURES AND PROJECT OPERATIONS

The CVP operates the Jones Pumping Plant to pump water from the south Delta into the Delta-Mendota Canal to serve CVP contractors in the San Joaquin Valley, the Tulare Basin, the San Benito Unit and the SCVWD. South-of-Delta CVP demands include agricultural and M&I demands, and refuge water needs. Almost all of the CVP Jones water supply is for agricultural uses, representing about 10 percent of the total California agricultural water supply (Reclamation and DWR 2005). The Jones facility includes a pumping plant and the Jones Fish Collection Facility, which intercepts fish that are then collected and transported by tanker truck to release sites away from the pumps. The Jones facility consists of six pumps, with a maximum capacity of about 5,100 cfs. The Jones facility has an authorized pumping capacity of 4,600 cfs,

or 9,125 acre-feet per day. The Delta- Mendota Canal capacity varies from 4,600 cfs in the upper reaches to 4,200 cfs at the O'Neil Forebay. The canal capacity limits pumping at Jones Pumping Plant to about 4,200 cfs during the winter period (November to March) when diversions from the upper reaches of the Delta-Mendota Canal (near the Jones Pumping Plant) are low. From May through August, the CVP monthly demands exceed the CVP capacity to convey water from the Delta. Therefore, additional water must be pumped during the winter and early spring and stored in San Luis Reservoir for later delivery to meet annual allocations for most water years. Consequently, diversions at Jones Pumping Plant remain near capacity from the summer to the following spring except under dry conditions when pumping is limited by the available water supply.

CVP demands exceed permissible Jones pumping capacity, and full CVP deliveries must rely on SWP wheeling (pumping for the CVP at the SWP Banks facility) of some of these CVP demands. The CVPIA also has introduced additional constraints on CVP Jones pumping. A portion of the CVPIA Section 3406 (b)(2) water that is dedicated to anadromous fish restoration purposes (maximum 800 TAF) is normally allocated by the USFWS) to reduce pumping during the Vernalis Adaptive Management Plan (VAMP) period (April 15 to May 15) and additional pumping reductions are often applied during the remainder of May and June (normally a 3,000 cfs limit), and at times during fish-sensitive periods in December through March. Under the CVPIA, the CVP is required to deliver Level 2 wildlife refuge supplies of about 271 TAF per year to refuges located in the San Joaquin River and Tulare River basins. Water for these refuges must be supplied from the Jones facility.

Other CVP facilities in the Delta include the Delta Cross Channel and the Contra Costa Canal. The Delta Cross Channel is a gated diversion channel that connects the Sacramento River to Snodgrass Slough near Walnut Grove. Water from the Sacramento River flows through the Delta Cross Channel to the natural channels of the lower Mokelumne and San Joaquin rivers, and toward the interior Delta to supply the Contra Costa Canal and the CVP Jones facility in the south Delta and improve water quality by reducing saltwater intrusion from Antioch. The Contra Costa Canal originates at Rock Slough and supplies the CCWD. The canal and associated facilities are part of the CVP, but are operated and maintained by CCWD.

4.1.3.2 STATE WATER PROJECT – DELTA FEATURES AND PROJECT OPERATIONS

The SWP operates the Harvey O. Banks Pumping Plant to lift water from the south Delta into the California Aqueduct for delivery to SWP customers in the south San Francisco Bay Area, San Luis Obispo, and Santa Barbara counties, San Joaquin Valley, and Southern California. The Banks Pumping Plant has an installed capacity of about 10,668 cfs, and SWP water rights for diversion specify a maximum diversion of 10,350 cfs. The current permitted diversion capacity is 6,680 cfs, which would provide a maximum of about 4,836,000 AF per year if the full diversion could be maintained every day of the year. Additional permitted diversions of one-third of the San Joaquin River flow at Vernalis are allowed under the current permit rule for a 90-day period from December 15 to March 15 if the Vernalis flow is above 1,000 cfs. Seasonal SWP demands are highest in the summer months, requiring a portion of the demands to be supplied from San Luis Reservoir storage. San Luis Reservoir releases often are needed during these months because SWP Banks pumping is limited during April through June by a combination of VAMP and the 35 percent E/I ratio specified in SWRCB D-1641 from February through June.

The 29 SWP contractors[1] that divert water from the Delta have individual Table A[2] contract amounts that total 4,173,000 AF per year (DWR 2006). SWP contractors can also request Article 21 water, which may be made available by DWR in addition to Table A supplies when: San Luis Reservoir is full; other SWP storage is as full as operational constraints permit; all Table A demands are being met; and the Banks Pumping Plant has capacity to pump additional water within its permitted diversion capacity. These Article 21 deliveries are typically made between January and mid-April, after San Luis Reservoir is full.

The Metropolitan Water District of Southern California (MWDSC) is the largest SWP contractor, with a Table A amount of approximately 1.911 MAF. There are 12 other contractors in Southern California with Table A amounts that total approximately 682 TAF, and whose water also must be pumped from the Delta over the Tehachapi Mountains through the Edmonston Pumping Plant. The Edmonston Pumping Plant has a maximum capacity of 3.25 MAF per year, which limits SWP deliveries to Southern California. San Joaquin Valley agricultural contractors have combined Table A amounts of about 1.2 MAF. The Kern County Water Agency has a Table A amount of approximately 1 MAF, and the three South Bay aqueduct contractors have a total Table A amount of approximately 223 TAF (DWR 2006).

4.1.4 EXPORT SERVICE AREA – FEATURES AND PROJECT OPERATIONS

Reclamation and DWR are responsible for operating the CVP and SWP systems and, likewise, for determining how best to address system-wide needs as environmental conditions change. It is anticipated that conveyance of water provided by the Yuba Accord Alternative through the CVP/SWP system, the Delta and the Export Service Area would be consistent with the procedures and operating principles established by Reclamation and DWR in the 2004 Operating Criteria and Plan (OCAP), and according to authorized water supply delivery and distribution provisions in the long-term water purchase contracts.

On May 25 and June 1, 2007, the court issued orders in *Natural Resources Defense Council v. Kempthorne*, Case No. 1:05-CV-01207 OWW TAG (E. D. Cal.), ruling that the 2005 Biological Opinion that the USFWS prepared is unlawful and inadequate on several listed grounds. To comply with this order and to complete the new OCAP ESA consultations that are described in Section 10.1.4.1 of this EIR/EIS, Reclamation will be preparing a new OCAP for the CVP/SWP system. After Reclamation adopts this new OCAP, any conveyance of water provided by the Yuba Accord Alternative through the CVP/SWP system, the Delta and the Export Service Area would be consistent with all of the procedures and operating principles that are established in this new OCAP.

Under the Yuba Accord Alternative, approximately 60 TAF of Component 1 water would be delivered to the EWA Program[3] or a program equivalent to the EWA during almost every year[4]

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[1] Of the 29 SWP contractors, three are served upstream of the Delta, two divert at the SWP North Bay Pumping Plant, and the remaining 24 are served downstream from the Banks plant in the Delta.

[2] Contracts between DWR and the 29 SWP water contractors define the terms and conditions governing the water delivery and cost repayment for the SWP. Table A is an exhibit to each of these contracts. Water supply related costs of the SWP are paid by the contractors, and Table A serves as a basis for allocating some of the costs among contractors. Additionally, Table A plays a key role in the annual allocation of available water supply among SWP contractors (DWR 2006).

[3] The 60 TAF of Component 1 water in the Yuba Accord Alternative is within the maximum quantity (i.e., an annual maximum of 600 TAF with an average of between 200 TAF and 300 TAF) of the existing EWA water identified in Reclamation's 2004 OCAP.

in which the Yuba Accord Alternative agreements are anticipated to be in place (2008 through 2016). The Yuba Accord Alternative also would authorize Reclamation and DWR to acquire water from YCWA to supplement supplies with the federal and state water contractors, respectively. YCWA would provide Components 2, 3, and 4 water associated with the Yuba Accord Alternative to Reclamation and DWR. Reclamation and DWR would then be responsible for delivering portions of Components 2, 3, and 4 water to the buyers. Typically, water deliveries to CVP contractors are less than the full contractual amounts specified in the long-term water purchase contracts. Water deliveries to SWP contractors also are often less than the full contractual amounts. The Yuba Accord Alternative may allow a somewhat greater portion of these contracted amounts to be provided under dry and critical water year conditions, relative to deliveries that would occur without the Yuba Accord Alternative. CVP and SWP deliveries would not exceed the maximum amounts of water specified in the delivery contracts. Buyers of CVP and SWP water that have existing delivery contracts (long-term water purchase contracts) could be supplied Components 2, 3, and 4 water only during conditions when total water supplies received would be less than the amounts specified in their respective contracts.

The quantity of Component 1 water to be delivered to the EWA Program or an equivalent program would be within the amount previously evaluated by the existing EWA Program (Reclamation *et al.* 2004) and included as part of Existing Condition. Component 1 water would replace water currently purchased under single-year purchase agreements. Therefore, export of this water would not increase the deliveries to CVP and SWP contractors located in the Export Service Area. Component 2, 3, or 4 water purchased by DWR and Reclamation for delivery to CVP and SWP contractors would improve water supply reliability by reducing deficiencies during dry and critical water years. Deliveries would not exceed CVP contract amounts or SWP full Table A, and thus would not increase the overall yield to the CVP/SWP system, or the yield to south of Delta export service areas.

Under the Yuba Accord Alternative, the Water Purchase Agreement contains provisions for continuation of water transfers from YCWA of not less than 20 TAF per year from 2016 through 2025 (Article 15C of Water Purchase Agreement). Reclamation and DWR have agreed to use the 20 TAF of water as a partial continuation of water supplied to the EWA Program (see Section 3.2.1.3).

Although the existing EWA Program EIS/EIR analyzed potential service area effects associated with EWA acquisitions, the existing EWA Program will sunset on December 31, 2007. Currently, DWR and Reclamation plan to temporarily extend the existing EWA Program, and they are in the process of completing supplemental environmental documentation for this extension of the program that is anticipated to be released by the end of 2007. While it is uncertain at this time whether a long-term EWA Program or a program equivalent to the EWA will be implemented in the future, or what the elements of such a program will be, the best assumption that can be made at this time is that the EWA Program or an equivalent program will continue, with conditions similar to those for the existing EWA Program. Information regarding the characterization of Component 1 water in a long-term EWA Program or a

[4] Under the Proposed Project/Action, Component 1 water deliveries would be approximately 60 TAF per year. However, hydrologic conditions may preclude some or all of the Component 1 water from being delivered or accounted for during certain water years. In these years, the Component 1 debt would be repaid in a subsequent year, subject to the terms and conditions outlined in the Water Purchase Agreement and its Exhibit 1, "Scheduling and Accounting Principles."

program equivalent to the EWA is not known at this time, but it is assumed that the quantity would be, at a minimum, commensurate with that which was identified for the existing EWA Program. Because it is uncertain whether the supplemental environmental documentation for the extension of the existing EWA Program will be approved before the existing EWA Program expires, and to bridge the potential gap associated with an interim period between the two EWA Programs, this EIR/EIS addresses potential service area impacts associated with supplemental water provided by the Yuba Accord Alternative to areas south of the Delta.

Therefore, to address these potential impacts, the following resource chapters include discussions of Export Service Area issues: surface water supply and management; surface water quality; fisheries and aquatic resources; terrestrial resources; recreation; visual resources; cultural resources; air quality; and growth inducement). The following subsections provide an overview of the south of Delta CVP/SWP features and project operations, which are used to support the more detailed Export Service Area analyses presented in the specific resource chapters of this EIR/EIS.

4.1.4.1 SAN LUIS DAM AND RESERVOIR

Jointly operated by the CVP and the SWP, San Luis Dam and Reservoir is an offstream storage reservoir within the Export Service Area. Located near Los Banos, California, it has a capacity of about 2 MAF and stores exports from the Delta, which then are used when the water is needed in the Export Service Area. Other facilities associated with San Luis Dam and Reservoir include the O'Neill Dam and Forebay, located downstream of San Luis Dam along the California Aqueduct. The forebay is used as a hydraulic junction point for state and federal waters. The O'Neill Pumping-Generating Plant lifts CVP water from the Delta-Mendota Canal to the O'Neill Forebay. The joint CVP/SWP William R. Giannelli Pumping-Generating Plant (Giannelli Plant) lifts CVP and SWP water from O'Neill Forebay to San Luis Reservoir. The forebay provides re-regulation storage necessary to permit off-peak pumping and on-peak power generation by the Giannelli Plant. When CVP water is released from the O'Neill Forebay to the Delta-Mendota Canal, the units at the O'Neill Pumping-Generating Plant operate as hydroelectric generators (Reclamation and DWR 2005).

Both the CVP and SWP systems use San Luis Reservoir for water allocations to CVP and SWP contractors. Water from San Luis Reservoir is used to supplement other CVP or SWP water supplies during periods of constrained operations in the Delta, and when demands exceed maximum capacity at the Delta pumping plants (Reclamation *et al.* 2003). During irrigation months, water from the California Aqueduct flows through the O'Neill Forebay instead of being pumped into the San Luis Reservoir (Reclamation Website 2006).

4.1.4.2 CENTRAL VALLEY PROJECT – FEATURES AND PROJECT OPERATIONS

The Delta-Mendota Canal is the main conveyance facility of the CVP for water pumped from the Delta. It conveys water from the Jones Pumping Plant in the southern Delta to agricultural lands in the San Joaquin Valley. Water not delivered directly is diverted from the Delta-Mendota Canal at O'Neill Pumping Plant into O'Neill Forebay. The water then flows along the San Luis Canal to CVP contractors in the San Joaquin Valley or is pumped into San Luis Reservoir through the Gianelli Plant for later use. The majority of the remaining water continues to the southern Central Valley (Reclamation *et al.* 2003).

4.1.4.3 STATE WATER PROJECT – FEATURES AND PROJECT OPERATIONS

In the south Delta, the SWP diverts water from Clifton Court Forebay for deliveries south of the Delta. The Banks Pumping Plant lifts water from the Clifton Court Forebay into the California Aqueduct. The California Aqueduct then flows to Bethany Reservoir, where supplies for urban contractors in the south San Francisco Bay Area are pumped into the South Bay Aqueduct. The remainder of the water continues south in the California Aqueduct to O'Neill Forebay. From O'Neill Forebay, the water may be pumped into San Luis Reservoir for seasonal storage, or may continue south through the California Aqueduct to serve San Joaquin Valley agricultural contractors and the mainly urban regions of southern California.

4.2 FEATURES AND FACILITIES ELIMINATED FROM FURTHER ANALYTICAL CONSIDERATION

Within the project study area, several features and facilities have been eliminated from further analytical consideration. A discussion of these features and facilities, including the rationale for elimination, is provided below.

4.2.1 RE-REGULATING RESERVOIRS

For impact assessment purposes in this EIR/EIS, regulating reservoirs downstream of regional study area reservoirs that may be affected by implementation of the Proposed Project/Action or alternatives are not evaluated in detail because these reservoirs normally are operated just to attenuate variable flows, and none of the alternatives would affect operations of the regulating reservoirs. Increases in reservoir inflows would not affect the reservoir storage levels of these regulating reservoirs because releases would increase by corresponding amounts.

4.2.2 TRINITY RIVER AND CLEAR CREEK

Water operations in the Trinity River and Clear Creek are components of the integrated operations of the CVP system. Although the Trinity River is connected to the Sacramento River by the Clear Creek Tunnel and Spring Creek Conduit and thus contributes to the CVP water supply, the Trinity River does not flow directly into the Sacramento River Basin. While Trinity River flows enter the Sacramento River below Keswick Dam through Clear Creek, Sacramento River flows below Keswick Dam do not influence or reenter the Trinity River Basin. Because of this CVP system configuration, and hydrologic and water temperature modeling results that demonstrate that the Proposed Project/Action and alternatives would not directly or indirectly affect Trinity River resources, the Trinity River system is not further considered in this EIS/EIR.

4.2.3 SHASTA RESERVOIR AND THE UPPER SACRAMENTO RIVER

Reclamation augments Sacramento River flow with water from the Trinity River, and over the past five years, an annual average of 0.72 MAF of water from the Trinity River has been transferred through the Clear and Spring creek tunnels to Keswick Reservoir (Reclamation, Central Valley Operations Diversion, unpub. data, 2006). Keswick Dam, located nine miles downstream of Shasta Dam, regulates the outflow from Shasta Reservoir.

Hydrologic and water temperature modeling results demonstrate that the Proposed Project/Action and alternatives, relative to the bases of comparison, would not directly or indirectly affect Shasta Reservoir storage, or upper Sacramento River flow and water temperature conditions immediately downstream of Keswick Dam (Appendix F4). Because

modeled output indicates that hydrologic conditions in the upper Sacramento River immediately downstream of Keswick Dam generally would not differ under the Proposed Project/Action and alternatives, relative to the bases of comparison, neither would hydrologic conditions in the downstream reaches of the Sacramento River that are located between Keswick Dam and the Feather River confluence with the Sacramento River. Because the Proposed Project/Action and alternatives could result in changes to SWP operations and hydrologic conditions in the lower Feather River, the evaluation of potential resource-specific impacts associated with changed conditions in the Sacramento River is limited in subsequent chapters of this EIR/EIS to those Sacramento River reaches located downstream of the Feather River confluence. Therefore, Shasta Reservoir and the upper Sacramento River are not further considered in this EIS/EIR.

4.2.4 LOWER AMERICAN RIVER AND FOLSOM RESERVOIR

Water operations in Folsom Reservoir and the lower American River also are components of CVP operations. The Proposed Project/Action and alternatives would not change operations at Folsom Reservoir, Folsom Dam, or in the lower American River, because annual operations at Folsom Reservoir leave little or no opportunity to store project water assets or to "back up" water into this reservoir. Reclamation does not anticipate modifying Folsom Reservoir, Folsom Dam or lower American River operations as a result of the Proposed Yuba Accord for the following reasons:

- Average annual inflow to Folsom Reservoir is about 2.7 MAF, slightly more than 2.5 times the active storage in the reservoir;
- The inflow-to-storage ratio is so large that Folsom Dam and Reservoir is operated as an annual storage reservoir with typically little or no opportunity to store water assets outside of naturally occurring inflow;
- In a case when water assets might potentially be stored in Folsom Reservoir, the likelihood that assets would be spilled due to required flood control operations would be high; and
- Lower American River flow operations are highly sensitive to, and regulated by, fishery considerations such that changes to flow regimes are undesirable and unlikely if alternative operations can accomplish CVP objectives.

For these reasons, CVP operators intend to maintain lower American River releases below Nimbus Dam consistent in magnitude and temporal distribution with those that have occurred historically. Because of these known operational limitations to the American River system, and hydrologic and water temperature modeling results that demonstrate that the Proposed Project/Action and alternatives would not directly or indirectly affect Folsom Reservoir or lower American River resources, the American River system is not further considered in this EIS/EIR.

4.3 FRAMEWORK FOR ENVIRONMENTAL IMPACTS/CONSEQUENCES ANALYSES

This EIR/EIS presents information pertinent to assessing the potential impacts of the Proposed Project/Action and alternatives on the environment, in accordance with CEQA and NEPA requirements. The document includes analytical sections for the following 17 resource categories: surface water supply and management, groundwater resources, hydropower, flood

control, surface water quality, fisheries and aquatic resources, terrestrial resources, recreation, visual resources, cultural resources, air quality, land use, socioeconomics, growth inducement, environmental justice, Indian Trust Assets (ITAs), and cumulative impacts (see Table 4-1). Chapters 5 through 20 each contain the following required CEQA/NEPA components for these resource categories:

- Environmental Setting/Existing Condition, including a detailed presentation of existing environmental conditions within the specific areas of analysis for each resource area, presented for the Yuba Region, CVP/SWP Upstream of the Delta Region, Delta Region, and Export Service Area.
- Environmental Impacts/Environmental Consequences, including impact analysis methods, significance criteria, qualitative and quantitative descriptions of potential impacts on the physical, biological, and social environments, and mitigation measures for each of the following alternatives:
  - Yuba Accord Alternative
  - Modified Flow Alternative
  - No Project Alternative
  - No Action Alternative
- Mitigation Measures (for resources with potentially significant impacts)
- Growth-inducing Impacts
- Cumulative Impacts

4.4 CEQA AND NEPA TERMINOLOGY AND BASES OF COMPARISON

CEQA and NEPA are similar in that both laws require the preparation of environmental studies to evaluate the environmental effects of proposed governmental activities. This joint EIR/EIS has been developed to address CEQA and NEPA requirements for analyzing potential impacts of the Proposed Yuba Accord on the environment. Although many concepts are common to both CEQA and NEPA, the laws sometimes use different terminology for similar parameters. Some of these terms are used in formulating the basis of comparison for determining potential project-related environmental impacts. A key to corresponding CEQA and NEPA terminology used in this document is presented in **Table 4-2**.

Table 4-2. Identification of Important CEQA and NEPA Terminology

California Environmental Quality Act	National Environmental Policy Act
Responsible Agency	Cooperating Agency
Proposed Project	Proposed Action
No Project Alternative	No Action Alternative
Environmentally Superior Alternative	Environmentally Preferred Alternative
Project Objectives	Purpose and Need
Environmental Setting	Affected Environment
Environmental Impacts	Environmental Consequences
Environmental Impact Report (EIR)	Environmental Impact Statement (EIS)
Notice of Preparation (NOP)	Notice of Intent (NOI)
Notice of Completion (NOC)	Notice of Availability (NOA)
Notice of Determination (NOD)/Findings	Record of Decision (ROD)

CEQA requires a description of the environmental setting:

> *"An EIR must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published, or if no notice of preparation is published, at the time the environmental analysis is commenced, from both a local and regional perspective*." (Title 14 CCR Section 15125).

The environmental setting is the basis of comparison from which the Proposed Project/Action and alternatives are compared. The environmental setting for this analysis includes the environmental conditions at the time YCWA filed the NOP on June 20, 2005. To account for monthly and annual variations in hydrologic conditions, the analyses of the environmental setting were made using the 72 years of available hydrologic data, with the assumption that the physical and regulatory conditions that existed on June 20, 2005 were in place during this entire 72-year period. The Environmental Setting/Affected Environment sections of each resource chapter in this EIR/EIS describe the existing conditions of the cultural, physical, and biological environments in the study area. These conditions vary for each of the resource topics evaluated in the EIR/EIS.

Reclamation's NEPA guidelines require the lead agency to evaluate a no action alternative that describes future conditions without the proposed action:

> *"No action" represents a projection of current conditions to the most reasonable future responses or conditions that could occur during the life of the project without any action alternatives being implemented. The no action alternative should not automatically be considered to be the same as the existing condition of the affected environment, since reasonably foreseeable future actions may be taken whether or not any of the project action alternatives are chosen. 'No action' is therefore often described as the 'future without the project*.'" (Reclamation 2000).

The NEPA action alternatives are compared to the "no action" alternative to determine the net effects or impacts of each of the action alternatives.

CEQA guidelines also recognize the need to consider potential impacts associated with potential future changes to the environmental setting through the no project alternative. Therefore, for some resource topics, potential impacts associated with the Proposed Project/Action and alternatives are evaluated under both the Existing Condition and future conditions without the project. In this manner, the requirements of both CEQA and NEPA are met.

4.5 OVERVIEW OF IMPACT ANALYSIS COMPARISONS

To analyze the potential impacts of the Proposed Project/Action and alternatives described in Chapter 3, scenarios with the Proposed Project/Action and alternatives are compared to various baseline scenarios. Many of the assumptions for these scenarios are described in Chapters 2 and 3. More details regarding the modeling assumptions for these scenarios are presented in Appendix D. As for the analyses of the environmental setting, the analyses of the Proposed Project/Action and alternatives were made using the 72 years of available hydrologic data, with the assumption that the physical and regulatory conditions that apply to the analyzed scenario were in place during this entire 72-year period.

CEQA and NEPA have different legal and regulatory standards that require slightly different assumptions in the modeling scenarios used to compare the Proposed Project/Action and alternatives to the appropriate CEQA and NEPA bases of comparison in the impact

assessments. It therefore was necessary to use separate CEQA and NEPA modeling scenarios to make the impact analyses that are required by CEQA and NEPA. For this reason, each scenario that was modeled and then compared for an impact analysis has either a "CEQA" or a "NEPA" prefix before the name of the scenario being evaluated. A detailed discussion of the different assumptions used for the CEQA and NEPA modeling scenarios is included in Appendix D, Modeling Technical Memorandum. Even though different scenarios were used for the CEQA and NEPA modeling, there is only one "Yuba Accord Alternative" and only one "Modified Flow Alternative." These alternatives are described in detail in Chapter 3.

The comparisons of modeled scenarios that are made in this EIR/EIS (including the cumulative impact analyses described in Section 4.9 and Chapter 21) are presented in **Table 4-3**.

Table 4-3. Summary of Comparisons of Scenarios Evaluated in this EIR/EIS

Statute	Baseline Scenario	Compared Alternative Scenario	Purpose of Comparison
CEQA	CEQA Existing Condition	CEQA Yuba Accord Alternative	To evaluate potential impacts of the Proposed Project and alternatives scenarios, relative to the Existing Condition
		CEQA Modified Flow Alternative	
		CEQA No Project Alternative	
	CEQA Existing Condition	Yuba Accord Alternative Cumulative Condition	To evaluate potential cumulative impacts, relative to the Existing Condition
NEPA	NEPA Affected Environment	NEPA No Action Alternative	To evaluate potential impacts of the No Action Alternative, relative to the Affected Environment
	NEPA No Action Alternative	NEPA Yuba Accord Alternative	To evaluate potential impacts of the Proposed Action and alternatives, relative to the No Action Alternative
		NEPA Modified Flow Alternative	
	NEPA Affected Environment	Yuba Accord Alternative Cumulative Condition	To evaluate potential cumulative impacts of the Proposed Action and alternatives to the overall cumulative impacts
		Modified Flow Alternative Cumulative Condition	
Water Rights	CEQA No Project Alternative	CEQA Yuba Accord Alternative	To evaluate potential impacts of the SWRCB action
		CEQA Modified Flow Alternative	

Because many of the modeling assumptions used for the CEQA and NEPA scenarios are similar or the same, the corresponding CEQA and NEPA scenarios (CEQA No Project and NEPA No Action, CEQA Yuba Accord Alternative and NEPA Yuba Accord Alternative, CEQA Modified Flow Alternative and NEPA Modified Flow Alternative) are quite similar. However, there are some relatively minor, but important differences between these similar scenarios, which are necessary to meet the specific legal requirements of CEQA and NEPA.

The principal difference between the CEQA scenarios and the NEPA scenarios is that the NEPA scenarios include several potential future water projects in the Sacramento Valley (e.g., Sacramento Valley Water Management Program, CVP/SWP Intertie, Freeport Regional Water Project) while the CEQA scenarios do not. Because comparisons of both the CEQA and the NEPA scenarios are made in this EIR/EIS, it evaluates the impacts of the Proposed Project/Action and alternatives that would occur both with and without these other proposed projects.

For CEQA impact assessments, the alternatives (i.e., Yuba Accord, Modified Flow and No Project) are compared to the CEQA Existing Condition, which includes the RD-1644 Interim instream flow requirements and current demands at Daguerre Point Dam. For NEPA impact assessments, the NEPA No Action Alternative, which includes the RD-1644 Long-term instream flow requirements and the projected future demands at Daguerre Point Dam, is compared to the NEPA Affected Environment (which is the same as the CEQA Existing Condition). The

NEPA action alternatives (i.e., Yuba Accord, Modified Flow) then are compared to the NEPA No Action Alternative.

The CEQA action alternatives (i.e., CEQA Yuba Accord and CEQA Modified Flow) also are compared to the CEQA No Project Alternative, which includes the RD-1644 Long-term instream flow requirements and projected future demands at Daguerre Point Dam. Although these latter comparisons are not required by CEQA or NEPA, they are made for water-rights purposes, to provide the SWRCB and interested parties with information regarding the effects of a potential SWRCB action to amend RD-1644 to implement one of these action alternatives.

The results of these comparisons are evaluated to describe the potential changes in hydrologic parameters (e.g., instream flows, reservoir elevations, end-of-month reservoir storage, water temperatures and fish salvage) that would be expected to occur in the Yuba Region, the CVP/SWP Upstream of the Delta Region, the Delta Region and the Export Service Area under the Proposed Project/Action or one of the alternatives, relative to the basis of comparison. The evaluations of environmental impacts are made by comparing the differences in model outputs that are calculated in each of these comparisons over the 72-year period of hydrologic record to the impact indicators and significance criteria that were developed for each resource area. These evaluations are presented in the individual resource chapters (Chapters 5-20).

4.6 ASSESSMENTS OF IMPACTS

In each resource chapter, the subsection describing the anticipated environmental impacts and consequences discusses the impacts associated with the following comparisons of scenarios, in the following order: (a) the CEQA Yuba Accord Alternative compared to the CEQA No Project Alternative; (b) the CEQA Modified Flow Alternative compared to the CEQA No Project Alternative; (c) the CEQA Yuba Accord Alternative compared to the CEQA Existing Condition; (d) the CEQA Modified Flow Alternative compared to the CEQA Existing Condition; (e) the CEQA No Project/NEPA No Action Alternative compared to the CEQA Existing Condition/NEPA Affected Environment; (f) the NEPA Yuba Accord Alternative compared to the NEPA No Action Alternative; and (g) the NEPA Modified Flow Alternative compared to the NEPA No Action Alternative.

The first two comparisons (CEQA Yuba Accord Alternative compared to the CEQA No Project Alternative and CEQA Modified Flow Alternative compared to the CEQA No Project Alternative) are made to determine whether the action alternative would satisfy the requirement of Water Code section 1736 that the proposed change associated with the action alternative "would not unreasonably affect fish, wildlife, or other instream beneficial uses." The impact assessments for these comparisons therefore state whether or not the proposed change would unreasonably affect the evaluated parameter.

The next three comparisons (CEQA Yuba Accord Alternative compared to the CEQA Existing Condition, CEQA Modified Flow Alternative compared to the CEQA Existing Condition, and CEQA No Project Alternative compared to the CEQA Existing Condition) are made to satisfy the requirements of CEQA. For these comparisons, the following types of impact assessments are made:

- ***Beneficial Impact***: A beneficial impact would result in an improvement to the environment regardless of the threshold of significance.
- ***Less Than Significant Impact***: A less than significant impact would cause no substantial change in the environment (no mitigation is required).

- ***Potentially Significant Impact***: A potentially significant impact may cause a substantial change in the environment; however, additional information is needed regarding the extent of the impact. A potentially significant impact is treated as a significant impact unless additional information indicates that the impact will not be significant.
- ***Significant Impact***: A significant impact would cause a substantial adverse change in the physical conditions of the environment. Significant impacts are identified by the evaluation of project effects using significant criteria specific to each resource. Mitigation measures and/or project alternatives are identified to reduce project effects to the environment.
- ***Significant Unavoidable Impact***: A significant unavoidable impact would result in a substantial change in the environment that cannot be avoided or mitigated to a less than significant level if the project is implemented.

Under NEPA, significance levels are used to determine whether an EIS is required. Once a decision to prepare an EIS is made, the magnitude of impacts is evaluated in the EIS, but no further assessments of the significance of the impacts are required. Nevertheless, to be consistent with the impact analyses that are made for the comparisons of CEQA action alternatives, this EIR/EIS makes the same types of impact assessments for the two comparisons of NEPA action alternatives (NEPA Yuba Accord Alternative compared to the NEPA No Action Alternative, and NEPA Modified Flow Alternative compared to the NEPA No Action Alternative).

A quantitative analysis was conducted to evaluate differences in the Yuba Region and the CVP/SWP system that would be expected to occur under the CEQA No Project Alternative, relative to the CEQA Existing Condition. This analysis was based on OCAP Study 3, which was used to characterize near-term conditions (2001 level of development). The analysis of the NEPA No Action Alternative compared to the NEPA Affected Environment consists of two components: (1) an analysis of near-term future without project conditions relative to the NEPA Affected Environment, which is quantified by the analysis of the CEQA No Project Alternative relative to the CEQA Existing Condition; and (2) a qualitative analysis of longer-term future without-project conditions (the NEPA No Action Alternative). The comparisons of the NEPA No Action Alternative to the NEPA Affected Environment in this EIR/EIS do not include any statements regarding levels of significance of impacts.

4.7 RESOURCE TOPICS DISMISSED FROM FURTHER EVALUATION

During preparation of this EIR/EIS, it became evident that some environmental resources are present in the project study area, but no impact on these resources was identified that could potentially occur as a result of the Proposed Project/Action and alternatives. These resources are noise, geology and soils, transportation and circulation, public health and worker safety, hazards and hazardous materials, and public services. Therefore, these topics were dismissed from further analysis, for the reasons discussed below.

4.7.1 NOISE

Actions associated with the Proposed Project/Action and alternatives would not involve construction. To the extent that the Proposed Project/Action and alternatives involve the substitution of new electric pumps for existing diesel pumps, there would not be any noise

impacts, because the electric pumps produce less noise than the diesel pumps. Electric irrigation pumps are a relatively low and highly dispersed source of noise. Additionally, the level of pumping under all alternatives is similar. While additional pumping by existing and new electric pumps may produce some additional noise, the increment of such additional noise would be insignificant. Noise impacts therefore are not further evaluated in this EIR/EIS.

4.7.2 GEOLOGY AND SOILS

The Proposed Project/Action and alternatives would not include new construction of water facilities, infrastructure, or any other type of construction or land disturbance. Water transfers associated with the Proposed Project/Action and alternatives would not exceed typical releases from the reservoirs. Therefore, geomorphological effects to riverbanks and levee systems due to actions associated with the Proposed Project/Action and alternatives were not calculated, and this EIR/EIS does not include additional analysis of geology and soils.

4.7.3 TRANSPORTATION AND CIRCULATION

The Proposed Project/Action and alternatives would not include new construction of water facilities, infrastructure, or any other type of construction activities that may increase traffic congestion, or decrease the level of service standards. Therefore, the Proposed Project/Action and alternatives would have no impact on transportation and circulation and these topics were not evaluated.

4.7.4 PUBLIC HEALTH AND WORKER SAFETY

Actions associated with the Proposed Project/Action and alternatives would not involve construction or disturbances in water bodies that would contribute to conditions that might cause mudflows or other water-related hazards. Therefore, the Proposed Project/Action and alternatives would not have an impact on public health or worker safety and these topics were not evaluated.

4.7.5 HAZARDS AND HAZARDOUS MATERIALS

Actions associated with the Proposed Project/Action and alternatives would not involve construction or disturbances in water bodies that would result in fill or discharge of pollutants. The Proposed Project/Action and alternatives would not create hazards or hazardous conditions or include hazards materials. Therefore, this EIR/EIS does not include an analysis of hazards or hazardous materials.

4.7.6 PUBLIC SERVICES

No effects to public services (e.g., waste disposal, emergency services) are expected to result from activities associated with the Proposed Project/Action and alternatives. Under the Proposed Project/Action and alternatives, no road closures would be required. Therefore, no interruptions to emergency access are expected to occur. In addition, no public utilities or infrastructure would be affected and no additional demands on public services would be expected. Therefore, this EIR/EIS does not include an analysis of pubic services.

4.8 CUMULATIVE IMPACTS

CEQA defines cumulative impacts as "*two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts*" (CEQA Guidelines, Section 15355). Similarly, NEPA defines "cumulative effects" "*as effects that result from the incremental impact of proposed action when added to other past, present, and reasonably foreseeable future actions regardless of which agency (federal or non-federal) or person undertakes such other actions.*" (40 CFR Section 1508.7). A draft EIR must discuss cumulative impacts when they are significant and, when they are not deemed significant, the document should explain the basis for that conclusion. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

Cumulative actions have been identified under the Proposed Project/Action and alternatives. These cumulative actions, which include other water acquisition programs and other actions creating similar impacts, are described in Chapter 21. Cumulative impacts of these actions combined with the effects of the Proposed Project/Action and alternatives are analyzed in the individual resource chapters included in this EIR/EIS.

4.9 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

Title 40 of CFR Section 1502.16 and NEPA Section 102(C)(v) require federal agencies to consider to the fullest extent possible any irreversible and irretrievable commitments of resources that would be involved in the proposed action should it be implemented. The CEQA Guidelines (Section 15126.2(c)) contain similar requirements. Irreversible commitments are decisions affecting renewable resources such as soils, wetlands, and waterfowl habitat. Such decisions are considered irreversible if implementation would affect a resource that has deteriorated to the point that renewal can occur only over a long period of time or at great expense, or if the decisions would cause the resources to be destroyed or moved. Irretrievable commitments of natural resources mean loss of production or use of resources as a result of a decision. Irretrievable commitments represent opportunities foregone for the period of time that a resource cannot be used. To illustrate, cultural resources are nonrenewable; any destruction or loss of these resources is irreplaceable.

Uses of non-renewable resources used during project activities may be irreversible because uses of such resources could permanently remove resources from further use, such as the use of fuel that is required to power generators for the extraction of groundwater. CEQA requires evaluation of irretrievable resources to assure that the use is justified. NEPA requires an explanation of which environmental impacts are irreversible or would result in irretrievable commitment of resources.

The Modified Flow Alternative and the No Action Alternative would result in no irretrievable uses or irreversible commitments of resources. The Yuba Accord Alternative is the preferred alternative and therefore, the alternative that determines if the proposed project will include any irretrievable or irreversible uses of resources. The list below identifies the resources under the Yuba Accord Alternative for which there would not be any irreversible or irretrievable commitments.

- Surface Water Supply and Management
- Groundwater
- Flood Control
- Surface Water Quality
- Cultural Resources
- Air Quality
- Land Use
- Socioeconomics

- Fisheries and Aquatic Resources
- Terrestrial Resources
- Recreation
- Visual Resources
- Growth Inducement
- Environmental Justice
- Indian Trust Assets

The Yuba Accord Alternative would not involve construction or the use of any resources besides water, with one exception. This exception for power production and energy consumption , because the use of fuel would be required to power generators for the extraction of groundwater in Yuba County, which would result in unavoidable impacts associated with an increase in energy usage (increased annual power consumption for pumping). These unavoidable impacts would be potentially significant because they would require the generation of electrical energy from another source (to replace lost hydroelectric generation or to provide additional power for pumping). Replacement or additional generation would likely come from a thermal generation source, such as a combined cycle natural gas fired turbine, or a coal fired power plant (see Chapter 7). The operational strategies, protective measures and avoidance actions incorporated into the Yuba Accord Alternative would prevent any irreversible or irretrievable commitments of other nonrenewable resources. There would be no other commitment of nonrenewable resources, and the Yuba Accord Alternative would not commit future generations to permanent use of natural resources.

4.10 RELATIONSHIP BETWEEN SHORT-TERM USES OF THE ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

NEPA Section 102(C)(IV) and title 40 of CFR Section 1502.16 require EISs to discuss the relationship between local short-term uses of the human environment and the maintenance and enhancement of long-term productivity. Long-term productivity refers to the values of the existing environment.

Because there would be no construction activities associated with the Proposed Project/Action or any of the alternatives, none of the short-term uses of the environment that sometimes are associated with construction projects would occur. As discussed in Chapter 7, the Yuba Accord Alternative could have potentially significant impacts on power production and energy consumption because of the additional groundwater pumping that would occur in the YCWA Member Unit service areas. As discussed in Chapter 10, the Modified Flow Alternative could have potentially significant impacts on spring-run and fall-run Chinook salmon population levels.

Because both the Yuba Accord Alternative and the Modified Flow Alternative would be of limited duration and would not involve any construction or other permanent actions, neither of these alternatives would have any effects on the long-term productivity of the existing environment.