FINAL ENVIRONMENTAL ASSESSMENT
LONG-TERM RENEWAL CONTRACT
CONTRA COSTA WATER DISTRICT

February 2005

Prepared by:

U.S. Department of the Interior
Bureau of Reclamation
South-Central California Area Office
1243 N Street
Fresno, California 93721

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EXECUTIVE SUMMARY

INTRODUCTION

The U.S. Bureau of Reclamation (Reclamation) and the Contra Costa Water District (CCWD) propose to execute a long-term water service contract to deliver water from the Central Valley Project (CVP) to the CCWD for municipal and industrial (M&I) uses. The long term contract would allow continued CVP water delivery of up to 195,000 acre-feet per year to the Contra Costa Canal federal service area. This Environmental Assessment (EA), prepared by Reclamation under the National Environmental Policy Act (NEPA), evaluates the environmental consequences of alternative means of implementing the proposed action.

PURPOSE AND NEED

The Reclamation Projects Authorization and Adjustment Act of 1992 (Public Law 102-575) included Title XXXIV, the Central Valley Project Improvement Act (CVPIA). The CVPIA amended the previous authorizations of the CVP to include fish and wildlife protection, restoration, and mitigation as project purposes having equal priority with irrigation and domestic uses, and fish and wildlife enhancement as a project purpose equal to power generation. Section 3404(c) of the CVPIA directs the Secretary of the Interior (Secretary) to replace existing CVP water service and repayment contracts following completion of a Programmatic Environmental Impact Statement (PEIS) and other needed environmental documents. Reclamation and the U. S. Fish and Wildlife Service (Service) released the Final CVPIA PEIS in October 1999.

The purpose of the proposed action is to replace the CCWD water service contract, consistent with the provisions of the CVPIA. The project alternatives will include the terms and conditions of the contracts and tiered water pricing.

Long-term contract renewal is needed to:

- Continue beneficial use of water, developed and managed as part of the CVP, with a reasonable balance among competing demands, including the needs of irrigation and domestic uses; fish and wildlife protection, restoration, and mitigation; fish and wildlife enhancement; power generation; recreation; and other water uses consistent with requirements imposed by the State Water Resources Control Board (State Board) and the CVPIA.
- Incorporate certain administrative conditions into the replacement contract to ensure CVP's continued compliance with current federal reclamation law and other applicable statutes.
- Allow the continued reimbursement to the federal government for costs related to CVP construction and operation.

RELATED ACTIVITIES

CCWD is planning or has implemented several activities related to the delivery of water to its customers to the year 2044 and beyond. These activities include implementation of the Future Water Supply Implementation (FWSI) program and construction/operation of the Multi-Purpose Pipeline (MPP) project. The FWSI program provides a plan for meeting the expected water supply needs for CCWD's customers through 2044, including the replacement of the existing CVP water service contract with Reclamation through the CVP. The MPP project, which was completed in 2003, provides the physical means to convey and deliver existing and future water supplies, as well as substantially increases the reliability of the existing conveyance system. Water service contract replacement is expected to occur for a renewal period of 40 years.

DEVELOPMENT OF ALTERNATIVES

Three alternatives were developed for the replacement of long-term contracts between Reclamation and the CCWD. The alternatives present a range of water service agreement provisions that could be implemented for long-term contract renewals.

The No Action Alternative consists of replacing the existing water service contract with provisions described in the Preferred Alternative of the CVPIA PEIS. In November 1999, Reclamation published a proposed long-term water service contract. In April 2000, the CVP contractors presented an alternative long-term water service contract. Reclamation and the CVP contractors continued to negotiate the CVP-wide terms and conditions with these proposals serving as "bookends." This EA also considers these proposals with the No Action Alternative as bookends to be considered for the environmental documentation to evaluate the impacts and benefits of renewing the long-term water service contracts.

No Action Alternative

The No Action Alternative assumes renewal of long-term CVP water service contracts for a period of 25 years in accordance with implementation of the CVPIA, as described in the PEIS Preferred Alternative. The PEIS Preferred Alternative assumed that most contract provisions would be similar to the provisions in the 1997 CVP Interim Renewal Contracts, which included contract terms and conditions consistent with the requirements of the CVPIA. In addition, the No Action Alternative assumes tiered pricing provisions and environmental commitments as described in the PEIS Preferred Alternative.

These provisions were described in the Final CVPIA PEIS. Several of these issues are summarized in the description of the No Action Alternative because they are included in a different manner in Alternatives 1 and/or 2, and therefore could result in changes in environmental impacts or benefits. These issues include tiered water pricing, definition of M&I water users, water measurement, and water conservation.

Tiered Water Pricing

Tiered water pricing in the No Action Alternative is based on use of a "80/10/10 Tiered Water Pricing from Contract Rate to Full Cost" approach with Ability-to-Pay policies. The terms "Contract Rate" and "Full Cost Rate" are defined by the 1982 Reclamation Reform Act (RRA). The Contract Rate is equal to operation and maintenance expenses plus capital cost recovery for CVP facilities without interest charges. The Full Cost Rate includes the interest charges. The prices of CVP water used in the No Action Alternative are based on 1994 irrigation and M&I CVP water rates.

Definition of Municipal and Industrial Users

The definition of M&I water users was established in portions of a 1982 guidance memorandum by Reclamation. In most instances, the term "municipal users" is easily definable. However, with respect to small tracts of land, the 1982 memorandum identified agricultural water as agricultural water service to tracts that can support $5,000 gross income from a commercial farm operation. The memorandum indicates that this criterion can be generally met by parcels greater than 2 acres. However, under the No Action Alternative, M&I water is defined as water for parcels of 5 acres or less. The No Action Alternative provides CVP contractors with the ability to request from the Contracting Officer a contract modification to pay agricultural rates for parcels between 2 and 5 acres if they are able to demonstrate agricultural use.

Water Measurement

The No Action Alternative includes water measurement at every turnout to measure CVP water deliveries. It is assumed that if other sources are commingled with the CVP water, including groundwater or other surface waters, the measurement devices would only report water deliveries. Additional calculations would be required to determine the exact quantity of CVP water.

Water Conservation

The water conservation assumptions in the No Action Alternative include water conservation actions for municipal and on-farm uses assumed in California Department of Water Resources Bulletin 160-93, and conservation plans completed under the RRA, with implementation of all cost-effective Best Management Practices that are economical and appropriate, including measurement devices, pricing structures, demand management, public information, and financial incentives.

Alternative 1

Alternative 1 is based on the proposal presented by CVP Contractors to Reclamation in April 2000. However, there were several issues included in the April 2000 proposal that could not be included in Alternative 1 because they are not consistent with existing federal or state requirements or would require a separate federal action, as described below.

- The April 2000 proposal includes Explanatory Recitals and Provisions to provide a highly reliable water supply of a high water quality, and provisions to implement measures that would improve the capabilities of the CVP facilities and operations to meet this goal. *These issues were not included in Alternative 1 because these issues would require additional federal actions with separate environmental documentation. Currently, Reclamation is*

completing the least cost plan to restore project yield in accordance with Section 3408(j) of CVPIA and under the CALFED program.

- The April 2000 proposal includes language to require renewal of contracts after 25 years upon request of the contractor. *The study period for this EA is 40 year. Renewal after 40 years would be a new federal action and would require new environmental documentation.*

- The April 2000 proposal did not include provisions for compliance with biological opinions. *Biological* consultations *are required by the Consultation and Coordination requirements established by Executive Order for all Reclamation activities.*

- The April 2000 proposal included provisions for water transfers. *It is recognized that water transfers will continue and that the CVP long-term contracts will provide the mechanisms for the transfers.* Reclamation *would continue with separate environmental documents for transfers, establishing criteria to allow rapid technical and environmental review of future transfers.*

- The April 2000 proposal included provisions for transfer of operations and maintenance requirements. *It is recognized that transfers of operations and maintenance to the group of* contractors *will continue and that the CVP long-term contracts will provide mechanisms for such transfers. Reclamation would continue with separate environmental documents for such transfers.*

- The April 2000 proposal included provisions for resolution of disputes. *Assumptions for resolution of* disputes *were not included in Alternative 1 but, at this time, they would not appear to affect environmental conditions.*

- The April 2000 proposal included provisions for expansion of the CVP service areas by the existing CVP water contractors. *The study area for the long-term contract renewal process is defined by the existing service area boundaries. Expansion of the service area boundaries would be a new federal action and would require new environmental documentation.*

The April 2000 proposal did include several provisions that were different than the assumptions for the No Action Alternative and the provisions included in Alternative 1, as summarized in Table 2-1. It should be noted that the tiered pricing assumptions and definition of M&I users in Alternative 1 would be the same as in the No Action Alternative.

Alternative 2

Alternative 2 is based upon the proposal presented by Reclamation to CVP Contractors in November 1999. However, there were several provisions included in the November 1999 proposal that are not included in Alternative 2 because they would require a separate federal action, as described below.

- The November 1999 proposal included provisions for water transfers. *Water transfers were not included in Alternative 2 because these actions would be separate federal actions and would require separate environmental documentation.*

- The November 1999 proposal included provisions for transfer of operations and maintenance requirements. *Operations and maintenance transfers were not included in Alternative 2 because these actions would be separate federal actions and would require separate environmental documentation.*

The November 1999 proposal did include several provisions that were different than the assumptions for the No Action Alternative and the provisions included in Alternative 2, as summarized below and in Table 2-1. The primary differences are related to tiered pricing and the definition of M&I users.

Tiered Water Pricing

Tiered water pricing in Alternative 2 is based on a definition of "Category 1" and "Category 2" water supplies. "Category 1" is defined as the quantity of CVP water that is reasonably likely to be available for delivery to a contractor and is calculated on an annual basis as the average quantity of delivered water during the most recent 5-year period. "Category 2" is defined as that additional quantity of CVP water in excess of Category 1 water that may be delivered to a contractor in some years. Under this approach, the first 80 percent of Category 1 volume would be priced at the applicable Contract Rate for the CVP. The next 10 percent of the Category 1 volume would be priced at a value equal to the average between the Contract Rate and Full Cost Rate. The final 10 percent of the Category 1 volume would be priced at the Full Cost Rate. The Category 2 volume would be priced at the Full Cost Rate.

The prices of CVP water, including Restoration Fund payments, would be determined using the current Ability-to-Pay policies, if applicable. The Ability-to-Pay policies do not apply to CVP operation and maintenance costs, M&I water costs, or any non-CVP costs, including federal government loans for construction of irrigation facilities.

The prices of CVP water used in Alternative 2 are based on irrigation and M&I CVP water rates presented in the November 17, 1999 Financial Workshop Handouts 1 and 2.

Definition of Municipal and Industrial Users

The definition of M&I water users includes all tracts less than or equal to 5 acres unless the Contracting Officer is satisfied that the use in such parcels meets the definition of "Irrigation Water."

ALTERNATIVES CONSIDERED BUT ELIMINATED

Nonrenewal of Long-Term Contracts

Nonrenewal of existing contracts is considered infeasible based on Section 3404(c) of the CVPIA. This alternative was considered but eliminated from analysis in this EA because Reclamation has no discretion not to renew the contracts.

Reduction in Contract Amounts

Reduction of contract amounts was considered in certain cases but rejected from analysis because the completed water needs analyses completed for all contracts found in almost all cases that the needs would exceed or equal the current total contract amount, and in order to implement good water management, the contractors would need to be able to store or immediately use water available in wetter years when more water is available. By quantifying contract amounts in terms of the needs analyses and the CVP delivery capability, the contractors can make their own economic decisions. Allowing the contractors to retain the full water quantity gives the contractors assurance that the water will be available to them for storage investments. Additionally, the CVPIA, in and of itself, achieves a balance in part through its dedication of significant amounts of CVP water and actions to acquire water for environmental purposes.

Renewal of the Existing Amendatory Contract

In 1994, Reclamation and CCWD executed *Amendatory Contract Between the United States and Contra Costa Water District Providing for Water Service and for Facilities Repayment* (Amendatory Contract) (No. I75r-3401). This Amendatory Contract provides up to 195,000 acre-feet per year to the CCWD federal service area through the year 2010. The Amendatory Contract does not specify provisions for tiered pricing. Continuing to supply CVP water to the CCWD service area under the existing Amendatory Contract was considered but eliminated from analysis in this EA because the Amendatory Contract expires in 2010 and would therefore not meet the purpose and need for a long-term contract.

SELECTION OF THE PREFERRED ALTERNATIVE

It is anticipated that the final contract language and the Preferred Alternative for the long-term renewal contract will represent a negotiated position between the No Action Alternative and Alternatives 1 and 2. Therefore, it is anticipated that the impacts will be either equal to or less than those identified for Alternative 1, Alternative 2, or the No Action Alternative.

SUMMARY OF PREVIOUS ENVIRONMENTAL DOCUMENTATION

Reclamation and CCWD have undertaken a number of environmental studies evaluating the environmental impacts associated with continued provision of CVP water to CCWD, and specifically to the Contra Costa Canal federal service area. The CVPIA PEIS prepared by Reclamation and the Service programmatically evaluated the regional environmental effects of implementing the CVPIA provisions. The FWSI EIR, prepared by CCWD, programmatically evaluated the environmental effects of implementing water system improvements to facilitate projected increased water demand in Contra Costa County. The MPP EIR/EIS, prepared by CCWD, evaluated the project-specific impacts of constructing a water supply pipeline adjacent to the Contra Costa Canal. The CCWD environmental documents were developed consistent with the Contra Costa County General Plan EIR (County General Plan EIR). However, because the CCWD environmental documents were published relatively recently, their analyses included impacts related to growth planned and approved since publication of the County General Plan EIR. The CCWD environmental documents are incorporated by reference into this EA.

The CVPIA PEIS and FWSI EIR are particularly relevant to this EA because they evaluate programmatic and project-level impacts associated with the continued provision of water by CCWD, and therefore provide the programmatic context for consideration of the more specific impacts associated with the proposed CVP long-term water service contract. The project-specific analysis of impacts potentially occurring within the Contra Costa Canal right-of-way are provided in the MPP EIR/EIS, which adequately evaluates localized indirect impacts that could occur under the long-term contract renewal action.

FOCUS OF THE ENVIRONMENTAL ASSESSMENT

The scope of analysis in this EA is based on previously performed analyses of potential impacts from continued CVP water delivery supply to the CCWD federal service area. The proposed action was first evaluated in the CVPIA PEIS, which assumed that all existing CVP water service contracts, including the CCWD water service contract, would be renewed. The document provided a programmatic review upon which future site-specific actions could be tiered. The FWSI EIR evaluated impacts from projected CCWD water supply demands of 219,400 acre-feet per year by 2040. The MPP EIR/EIS evaluated impacts from developing the physical means to convey and deliver existing and future water supplies, as well as substantially increase the reliability of the existing CCWD conveyance system. The proposed long-term water service contract is a component of these projects because it secures delivery of up to 195,000 acre-feet of water per year to the Contra Costa Canal, part of the CCWD water supply system, with a modified pricing structure. Therefore, the evaluation of impacts under these previous documents provides adequate analysis for most environmental resources, and these documents are incorporated by reference in this EA.

SUMMARY OF ENVIRONMENTAL IMPACTS

The potential impacts of the alternatives are summarized in Table ES-1. The impact analysis focuses on land use, socioeconomics, biological resources, cultural resources, and Indian trust assets. The land use discussion is included to provide a context in which the proposed action can be understood. It summarizes the prevalent land uses and describes County-wide growth management programs. Socioeconomic resources are evaluated because of the potential impacts resulting from the proposed revised pricing structure included as part of the proposed action. Due to the project-specific nature of the socioeconomic resource area, it was identified in the CVPIA PEIS as the single resource area that would require future evaluation. Biological resources are evaluated to summarize project-specific impacts of the proposed action and to describe the on-going consultations among Reclamation, CCWD, and the Service. These consultations included the recent Biological Assessment (Reclamation 2004) prepared for the proposed action and the Biological Opinion issued in April 2000, which establishes the responsibilities of CCWD to protect sensitive biological resources. Cultural resources are included in this EA to disclose the federal requirements specific to the proposed action and the role of Reclamation in complying with Section 106 of the National Historic Preservation Act. Indian trust assets are evaluated to determine if the alternatives would affect the use and enjoyment of such assets.

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TABLE ES-1
SUMMARY OF ENVIRONMENTAL IMPACTS

Resource	*Description of Impact*
NO ACTION ALTERNATIVE	
Land Use	The proposed long-term water service contract renewal (proposed action) does not include the development of any physical facilities and structures and therefore would not have a direct effect on land use. Indirect effects to land use could occur due to growth accommodated by the continued provision of water. The No Action Alternative is consistent with Contra Costa County General Plan Policy 7-17, which directs the County to encourage water service agencies to develop supplies and facilities to meet future water needs based on the growth policies contained in the County and cities' general plans.
Socioeconomics	For M&I water costs in the average hydrologic condition, CCWD would pay an estimated $8.2 million to acquire (a) the 155,700 acre-feet of CVP M&I water that would be made available to its customers and (b) an additional 11,300 acre-feet of supplies from alternative water sources it would need to address demand not met by CVP supplies.
	The projected cost of CCWD M&I water in a dry year would be about $20 million.
Biological Resources	No new structures or physical changes to the environment would result from long-term contract renewal. Therefore, no direct effects on biological resources are expected. Indirect impacts to biological resources would result from the planned growth analyzed in the County and cities' general plans. Indirect effects related to the secondary effects of growth within CCWD's service area were evaluated in the FWSI EIR. The FWSI EIR found that the continued provision of water would result in indirect effects to native land and agricultural habitats, special-status communities, and special-status plant and animal species. These impacts were mitigated through the biological opinion developed in consultation with the Service.
Cultural Resources	Although the proposed contract renewal would not directly result in any construction activities, impacts associated with the secondary or indirect impacts of growth resulting from construction and development are expected to occur; these impacts are analyzed in the County General Plan EIR. No indirect impacts beyond those anticipated in the County General Plan EIR would occur from issuing the long-term contract. The secondary impacts resulting from development in currently non-urban areas could affect both known and undiscovered archaeological resources, especially in areas of high sensitivity. Areas specifically identified in the County General Plan EIR that are in the CCWD service area include the Bethel Island region and Alhambra Road west of Martinez.
ALTERNATIVE 1	
Land Use	There would be no impacts in addition to those identified for the No Action Alternative.
Socioeconomics	CCWD's cost of M&I water would be similar to the No Action Alternative. No incremental impacts would result.
	No change in land use or associated value of crop production is anticipated.
	There would be no impacts on the regional economy.
Biological Resources	There would be no impacts in addition to those identified for the No Action Alternative.

Resource	*Description of Impact*
Cultural Resources	There would be no impacts in addition to those identified for the No Action Alternative.
ALTERNATIVE 2	
Land Use	There would be no impacts in addition to those identified for the No Action Alternative.
Socioeconomics	A minimum 30 percent increase in CCWD costs relative to the No Action Alternative would result. Cost of CVP M&I water would increase by about: • $1.3 million in an average hydrologic year following 5 years of average hydrologic conditions, • $1.5 million in an average hydrologic year following 5 years of dry hydrologic conditions, and • $1.2 million in an average hydrologic year following 5 years of wet hydrologic conditions. CCWD's recent average residential water bill would increase by less than 1 percent.
	In a dry year, CCWD's cost of M&I water would increase by about 5 percent over the cost under the No Action Alternative in a dry year.
	There would be an incremental decrease in total industrial output in the County estimated between $1.68 and $2.09 million, depending on hydrologic conditions. This is a decrease of less than approximately 0.01 percent in the County's output.
	There would be an incremental decrease in total employment in the County estimated between 22 and 28 full-time-equivalent jobs, depending on hydrologic conditions. This is a decrease of less than approximately 0.01 percent in the County's employment base under the No Action Alternative.
	The projected incremental decrease in Total Income Place of Work (POW) in the County is estimated to be between $0.94 million and $1.16 million, depending on hydrologic conditions. This is a decrease of less than approximately 0.01 percent in the County's Total Income POW compared to estimated No Action conditions.
Biological Resources	There would be no impacts in addition to those identified for the No Action Alternative.
Cultural Resources	There would be no impacts in addition to those identified for the No Action Alternative.

Chapter 1
Purpose and Need

INTRODUCTION

The Central Valley Project (CVP) is the largest water storage and delivery system in California, with a geographic scope covering 35 of the state's 58 counties. The CVP is divided into nine divisions; one of these divisions is the Delta Division, which includes the Contra Costa Canal system. This Environmental Assessment (EA) addresses the proposed renewal of the long-term water service contract for the Contra Costa Canal system, which is operated by the Contra Costa Water District (CCWD). The U.S. Bureau of Reclamation (Reclamation) and the CCWD propose to execute a new long-term water service contract to replace the existing *Amendatory Contract Between the United States and Contra Costa Water District Providing for Water Service and for Facilities Repayment* (Amendatory Contract) (No. I75r-3401) that is set to expire December 31, 2010. The new long-term water service contract will provide for delivery of water from the CVP to the CCWD (Figure 1-1). The execution of this contract would bring the CCWD contract in line with all other long-term water service contracts being proposed and/or executed within the CVP and would allow CVP water deliveries to the CCWD service area to continue.

The long-term water service contract proposed in this EA would continue to deliver the same amount of CVP water as the existing contract for a period of up to 40 years. The location of the proposed action is the land in the CCWD service area that would receive CVP water under the proposed long-term water service contract.

This EA has been prepared pursuant to and in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 USC § 4321-4370d) and the Council on Environmental Quality (CEQ) regulations on implementing NEPA (40 CFR Parts 1500-1508).

PURPOSE AND NEED FOR THE ACTION

Reclamation is responsible for operational control of the CVP, including securing payment for the cost of water facilities and operations and maintenance established in the water service contract with the federal government. In addition, as a duly authorized representative, Reclamation administers all actions pertaining to the establishment of water service contracts on behalf of the Secretary. of the Interior.

The purpose of this action is to execute a new long-term water service contract for the CCWD service area, consistent with Reclamation authority and all applicable state and federal laws, including the Central Valley Project Improvement Act (CVPIA) (H.R. 429, Public Law 102-575). The project alternatives include the terms and conditions of the long-term water service contract and tiered water pricing. Execution of a new long-term water service contract is needed to:

- Continue the beneficial use of water, developed and managed as part of the CVP, with a reasonable balance among competing demands, including the needs of irrigation and domestic uses; fish and wildlife protection, restoration, and mitigation; fish and wildlife enhancement; power generation; recreation; and other uses consistent with requirements imposed by the State Water Resources Control Board (State Board) and the CVPIA;

- Incorporate certain administrative conditions into the renewed contract to ensure CVP's continued compliance with current federal reclamation law and other applicable statues; and

- Allow the continued reimbursement to the federal government for costs related to CVP construction and operation.

BASIS TO RENEW CENTRAL VALLEY PROJECT WATER SERVICE CONTRACTS

The River and Harbors Act of 1935 included the initial authorization for the CVP. The Central Valley Project Authorization Act of 1937 re-authorized the CVP and allowed the Secretary to enter into repayment contracts and other necessary contracts with "all agencies with which contracts are authorized under reclamation law."

Public Law 88-44, the Reclamation Project Act of 1939, provided for repayment of construction charges and authorized sale of CVP water to municipalities and other public corporations and agencies, plant investment, and certain irrigation water deliveries to leased lands. This act required the Secretary to comply with laws of the State relating to the control, appropriation, use, or distribution of water used in irrigation or vested rights acquired hereunder. This act also provided that the Secretary include provision for contract renewal, upon request of the other party to any long-term contract for municipal, domestic, or industrial water supply. The contract renewal would be subject to renegotiation of: (1) the charges set forth in the contract in the light of circumstances prevailing at the time of renewal; and (2) any other matters with respect to which the right to renegotiate is reserved in the contract. The act also states that the Secretary shall, upon request, provide in any such long-term contract that the other party to the contract shall, during the term of the contract and of any renewal (subject to fulfillment of other obligations), have a first right to a stated share or quantity of the CVP water supply available for municipal, domestic, industrial, or irrigation use.

Section 9(c) of the Reclamation Project Act of 1939 authorized the Secretary to enter into contracts to furnish water for municipal water supply or miscellaneous purposes, provided that such contracts require repayment to the United States over a period not to exceed 40 years. Section 9(e) of the Reclamation Project Act of 1939 allowed the Secretary to enter into either short- or long-term contracts to furnish water for irrigation purposes, with each such contract to be for a period not to exceed 40 years.

The Water Service Contracts Act of 1944 provided for delivery of specific quantities of irrigation and municipal and industrial (M&I) water to contractors.

The Reclamation Project Act of 1956 provided the right of renewal of long-term repayment or water service contracts for agricultural contractors for a term not to exceed 40 years. The Reclamation

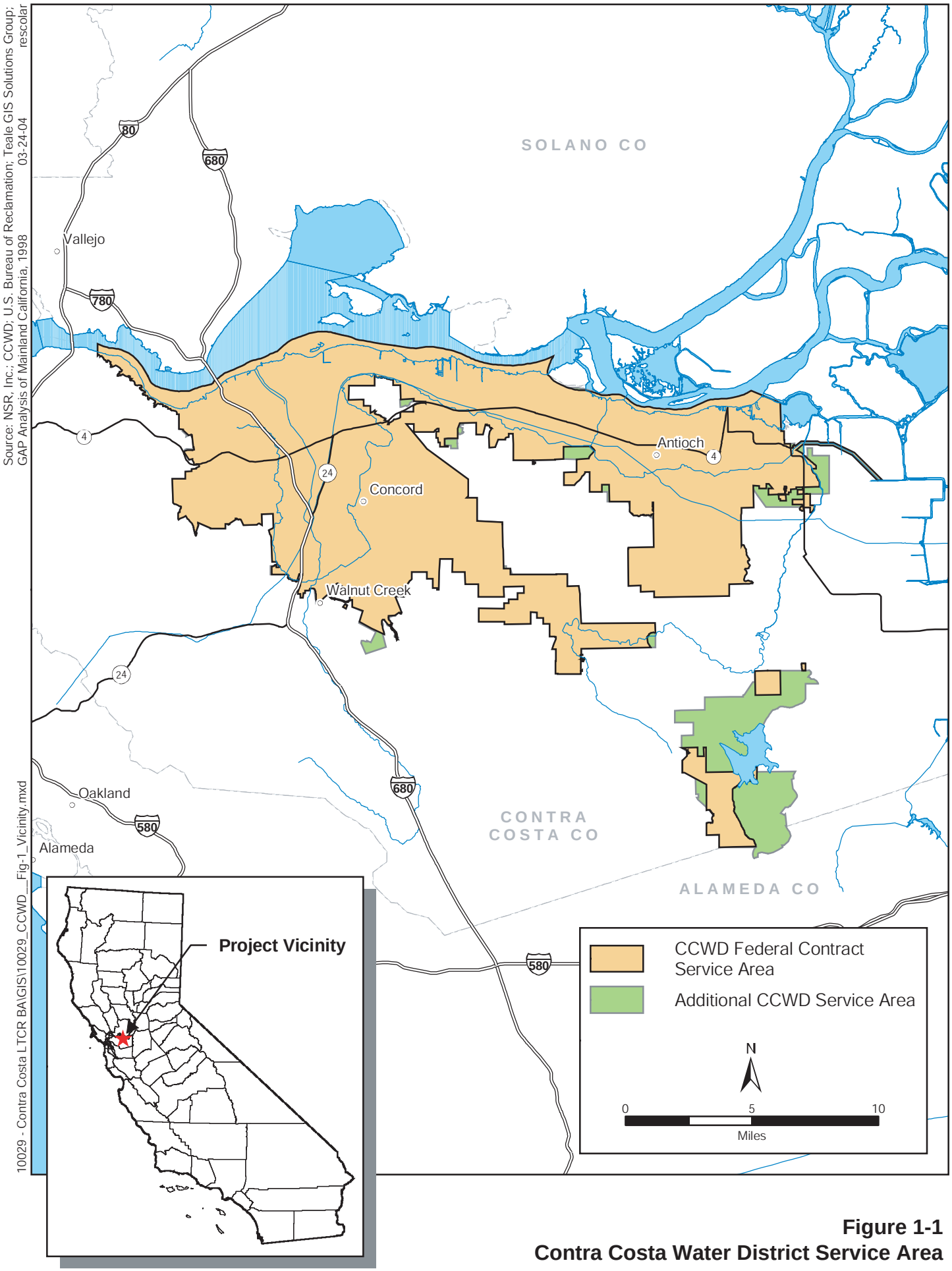

Figure 1-1
Contra Costa Water District Service Area

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Project Act of June 21, 1963, Renewal of Water Supply Contracts, extended the right of renewal of long-term repayment or water service contracts for M&I contractors.

On October 30, 1992, the President signed into law the Reclamation Projects Authorization and Adjustment Act of 1992 (Public Law 102-575) that included Title XXXIV, the Central Valley Project Improvement Act (CVPIA). The CVPIA amended the previous authorizations of the CVP to include fish and wildlife protection, restoration, and mitigation as project purposes having equal priority with irrigation and domestic uses and fish and wildlife enhancement as a project purpose equal to power generation. Section 3409 of the CVPIA required the Secretary to prepare a Programmatic Environmental Impact Statement (PEIS) to evaluate the direct and indirect impacts and benefits of implementing the CVPIA. That PEIS was prepared under the NEPA by Reclamation and U.S. Fish and Wildlife Service (Service). Reclamation released a Draft PEIS on November 7, 1997. An extended comment period closed on April 17, 1998. Reclamation and the Service released the final CVPIA PEIS in October 1999 and the joint Record of Decision (ROD) in January 2001.

Section 3404(c) of the CVPIA directs the Secretary to renew existing CVP water service and repayment contracts following completion of the PEIS and other needed environmental documentation by stating that:

> "...the Secretary shall, upon request, renew any existing long-term repayment or water service contract for the delivery of water for a period of 25 years and may renew such contracts for successive periods of up to 25 years each....(after) appropriate environmental review, including preparation of the environmental impact statement required in section 3409 (i.e., the PEIS)...."

Section 3404(c) of the CVPIA clearly indicates that 25 years will be the upper limit for long-term irrigation repayment and water service contracts within the CVP. However, Section 3404(c) did not amend the provisions of Section (9(c) of the Reclamation Project Act of 1939 and the Act of June 21, 1963, which authorized renewal of M&I water contract terms for up to 40 years. These 1939 and 1963 authorizations remain in place as guidance for establishing the terms of M&I contracts.

BASIS TO RENEW CONTRA COSTA WATER DISTRICT WATER SERVICE CONTRACT

The Central Valley Project Authorization Act of 1937 authorized construction of the initial CVP project features for navigation, flood control, waste storage, construction of distribution systems, and hydropower generation. The River and Harbors Act of 1940 further authorized construction of CVP facilities and mandated that dams and reservoirs be used first for river regulation, improvement of navigation, and flood control; second for irrigation and domestic uses; and third for power. In 1994, CCWD entered into an Amendatory Contract with Reclamation for the delivery of up to 195,000 acre-feet of water per year for M&I and agricultural uses in the CCWD service area. The Amendatory Contract expires in 2010.

Contra Costa Canal, one of the first CVP facilities, was completed in 1948. Figure 1-2 shows the CVP facilities within the CCWD service area. Facilities within the CCWD federal service area

include the Contra Costa Canal system; the intake channel from Rock Slough; the Clayton and Ygnacio Relift Canals and pumping plants 1, 2, 3, and 4; the Contra Loma Dam and Reservoir; the Short Cut Pipeline; and the lateral distribution system.

RELATIONSHIP OF THIS DOCUMENT TO THE 1999 CVPIA PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT

The CVPIA PEIS provided a programmatic evaluation of the impacts of implementing the CVPIA (Reclamation and Service 1999). The impact analysis considered a No Action Alternative; five main alternatives, including a Preferred Alternative; and 15 supplemental analyses.

The impact analysis in the PEIS was completed at a subregional level but was presented in the PEIS on a regional basis. In the PEIS, the Contra Costa Canal was considered a "north of the Delta" facility. The PEIS No Action Alternative assumed that existing water service contracts would be renewed under the same terms as expiring contracts. The CVPIA PEIS included a Preferred Alternative that addressed the regional impacts and benefits of the general method that Reclamation anticipated for implementation of CVPIA, including long-term contract renewals.

The PEIS evaluated the impacts and benefits of long-term contract renewals under CVPIA. Following completion of the PEIS, Reclamation began preparing more specific information related to the renewal of long-term water service contracts, including this document, which addresses specific impacts related to executing a long-term renewal contract for the Contra Costa Canal service area. This document is tiered from the PEIS and includes the Preferred Alternative of the PEIS as the No Action Alternative.

The PEIS and the Biological Opinion prepared for the operation and maintenance of the CVP and implementation of CVPIA considered and addressed impacts caused by CVP actions. Therefore, this document does not need to address operations of the CVP.

OTHER RELATED DOCUMENTS OR ACTIVITIES

There are several activities being implemented by Reclamation as part of the obligation to manage and operate the CVP. The following discussion identifies these activities and describes their relationship to the execution of a new long-term water service contract with the CCWD. Related studies and projects that have been conducted recently or are currently being completed are summarized in Table 1-1.

In 2003, the CCWD completed a 21-mile Multi-Purpose Pipeline (MMP) that connects a water treatment plant in East Contra Costa County to the distribution system in Central Contra Costa County. The MPP provides the physical means to convey and deliver existing and future water supplies, as well as to substantially increase the reliability of the existing conveyance system. CCWD is also implementing its Future Water Supply Implementation (FWSI) program. The FWSI program provides a plan for meeting the expected water supply needs of CCWD's customers through 2040, including the renewal of the water service contract with Reclamation through the CVP. The city

TABLE 1-1
RELATED ACTIVITIES

Project or Study and Lead Agency	Summary
Long-Term Contract Renewal of Other Existing CVP Water Service Contracts – Reclamation	Reclamation is in negotiation with other CVP water contractors for renewal of long-term contracts, including contractors for the American River Division, Feather Water District, Shasta and Trinity River Divisions, Sacramento Canals Unit, San Luis Unit, San Felipe Unit, Delta-Mendota Canal Unit, San Joaquin National Veterans Cemetery, City of Lindsay, City of Fresno, Cross Valley, and Mercy Springs Water District.
Implementation of CVPIA	Reclamation and the Service are proceeding with implementation of other provisions of CVPIA, including stream restoration, refuge water supplies, and further analysis of yield replacement.
CALFED Bay-Delta Program – CALFED	Established in May 1995, the consortium of federal and state agencies is charged with the development of a long-term solution to Delta water concerns. CALFED completed an Environmental Impact Report (EIR)/Environmental Impact Statement (EIS) as part of this process. Renewal of long-term CVP contracts is assumed within the CALFED EIR/EIS and ROD.
Coordinated Operating Agreement (COA) and Operations Criteria and Plan (OCAP) Update – U.S. Bureau of Reclamation and California Department of Water Resources	Provisions and requirements of the CVPIA, State Water Resources Control Board Order 1641, the CALFED Bay-Delta Program, and other agency mandates require that the existing operational roles and responsibilities of the State Water Project and CVP be reviewed and updated to provide appropriate long-term operating criteria and procedures for the two primary water storage and delivery projects affecting waterways of the Central Valley.
Trinity River Mainstem Fishery Restoration Environmental Impact Statement/Environmental Impact Report	The Service completed a Final EIS/EIR and ROD. Based on subsequent litigation, the Service is preparing a Supplemental EIS and an EIR. The Service and Reclamation also are implementing a portion of the recommendations for restoration activities along the Trinity River.
Vernalis Adaptive Management Plan	The Vernalis Adaptive Management Plan (VAMP) provides protective measures for fall-run chinook salmon and gathers scientific information on survival of salmon smolts through the Delta. The VAMP will be implemented through experimental flows on the San Joaquin River and export pumping rates with a temporary fish barrier on Old River during the 1-month period each year from approximately April 15 to May 15. Additional attraction flows are targeted for October. The VAMP includes water acquisition for a pulse flow at Vernalis during the April and May period, and other flows identified to meet anadromous fish flow objectives. The San Joaquin River Group Authority, Reclamation, and the Service prepared a Final EIS/EIR for the water acquisition component of VAMP in January 1999.

and County governments also are implementing projects within their respective spheres of jurisdiction that relate to the CCWD service area. The following summarizes the Reclamation, CCWD, and local jurisdiction projects related to the continued provision of adequate amounts of raw and treated water in the CCWD service area.

Los Vaqueros Project

In 1994, Reclamation executed an Amendatory Contract with CCWD (No. I75r-3401) that provided for operation of the Los Vaqueros Project (LVP). Completed in 1998, the LVP includes a 100,000 acre-foot reservoir located 8 miles south of Brentwood, and related intake, pumping, conveyance, and blending facilities. Water to fill the reservoir comes from the south Delta by means of a new pump station on Old River near Highway 4. The purpose of the reservoir is to improve CCWD's water quality by storing higher quality Delta water during wet periods to blend with CCWD's on-going Delta supply during dry periods. The reservoir also provides CCWD with an assured 30- to 90-day emergency water supply. The Los Vaqueros pumping plants, pipelines, and reservoir are owned and operated by CCWD. On March 2, 2004, voters approved a measure to allow CCWD and CALFED to move forward on CALFED-funded expansion studies related to the Los Vaqueros Reservoir.

Future Water Supply Implementation Program

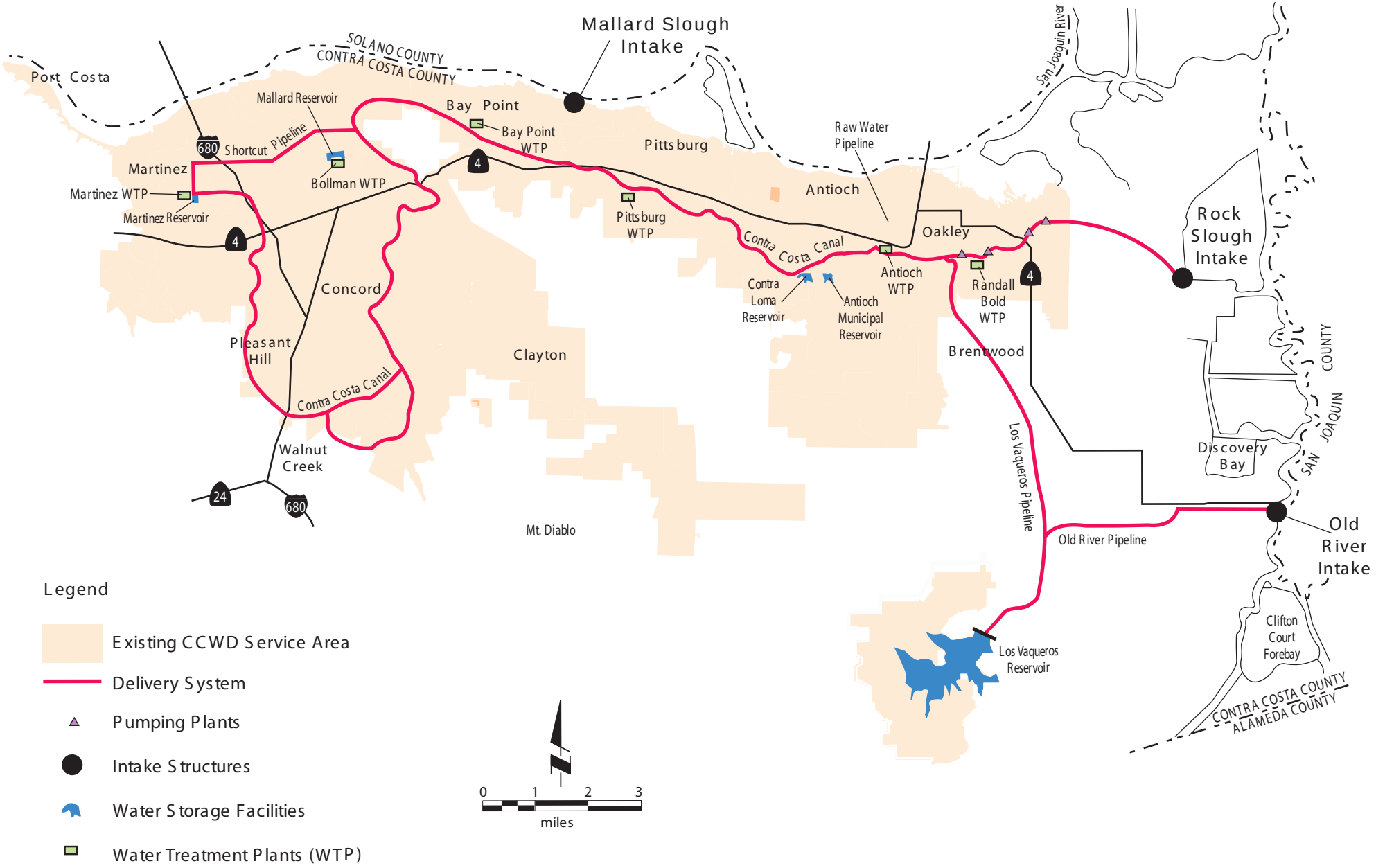
CCWD completed the Future Water Supply Study in 1996 to identify the preferred approach to offering customers a high-quality, reliable water supply for the next 50 years. The study recommendations included developing future water supplies to meet projected demands of 219,400 acre-feet per year by the year 2040, through a combination of phased components. Components of the FWSI program include renegotiation and renewal of the CVP Amendatory Contract; increased conservation by wholesale and retail customers; and purchase of water transfers of up to 24,400 acre-feet per year to accommodate near-term drought needs while allowing the flexibility to meet future demands.

The Seismic Reliability and Improvements Project Study

A study addressing the seismic reliability of the District-wide water delivery system was completed by CCWD in January 1997. To respond to the reliability and capacity needs of CCWD customers, five improvements to the raw water delivery system, in addition to the Multipurpose Pipeline (MPP) project described below, were identified to meet the criteria for reliable service following an earthquake. The improvements include: (1) a pipeline intertie between the existing Shortcut Pipeline and the Mallard Reservoir; (2) modifications to the Shortcut Pipeline at the Concord Fault crossing; (3) landslide mitigation at the canal tunnel; (4) landslide mitigation at Canal Milepost 25; and (5) modification of petroleum pipelines where they cross over the canal.

Multi-Purpose Pipeline Project

The Seismic Reliability and Improvements Project identified the MPP as one of the primary projects to increase the reliability and capacity of the raw water delivery system, and to deliver additional treated water to supplement the Bollman Water Treatment Plant supply. Under the project, which was completed in 2003, CCWD obtained approval from Reclamation to construct and operate two



Source: Jones & Stokes Associates, Inc.

Figure 1-2
CCWD Federal Contract Service Area and Facilities

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water pipelines within the Contra Costa Canal right-of-way (ROW) and to make minor improvements to the canal. The 20-mile pipeline carries treated water from the Randall-Bold Water Treatment Plant in Oakley to CCWD's treated water service area.

The MPP project includes a multi-purpose pipeline, raw water pipeline, and modifications to the canal. The modifications to the canal occurred at the canal gates, the Neroly Blending Facility, and the segment of the canal between Pumping Plant 4 and the tunnel. The gate modifications were designed to improve water flow. The Neroly Blending Facility is a segment of the canal where water from the Sacramento–San Joaquin Delta mixes with water from the Los Vaqueros Reservoir. To improve mixing and to meet year 2020 capacity requirements, this segment of the canal was enlarged.

Mallard Slough Pump Station Project

The Mallard Slough Pump Station is at the southern end of a dredged intake channel in northern Contra Costa County. The pump station pumps up to 25 million gallons per day of raw water to Mallard Reservoir via the Mallard Pipeline. The primary objectives of the project were to replace the approximately 65-year-old pump station to minimize impacts on fisheries and to increase emergency capacity by improving the reliability of the emergency raw water supply following seismic events. This project also included the installation of a new pipeline to convey the flows to the canal. The connection to the existing Mallard Pipeline was maintained for redundancy. Project construction was completed in 2000.

Contra Loma Reservoir Swim Lagoon Project

The Contra Loma Dam and Reservoir were constructed to respond to peaking requirements and system reliability for the CCWD. On June 28, 1997, CCWD was issued a compliance order from the California Department of Health Services (DOHS) regarding Contra Loma Reservoir. The compliance order required that CCWD either prohibit body contact recreation in Contra Loma Reservoir or eliminate use of the reservoir as a source of domestic water supply. In response to the compliance order, CCWD constructed a separate swimming lagoon within the existing reservoir. A concrete-covered earthen berm was constructed that physically separated the swim lagoon from the main portion of the 80-acre reservoir. The purpose of the project was to comply with the DOHS order while maintaining the operational benefits currently derived from the Contra Loma Reservoir. The project is a component of the Contra Costa Canal system.

TERM OF THE CONTRACT

The CVPIA states that the Secretary shall, upon request, renew any existing long-term irrigation repayment or water service contracts for the delivery of CVP water for a 25-year period. Section 3404(c) of the CVPIA clearly indicates that 25 years will be the upper limit for long-term irrigation repayment and water service contracts within the CVP. However, Section 3404(c) did not amend the provisions of Section 9(c) of the Reclamation Project Act of 1939 and the Reclamation Project Act of June 21, 1963, which authorized renewal of M&I water contracts for up to 40 years. These authorizations remain in place as guidance for establishing the terms of M&I contracts. Therefore, under the federal action, the term for agricultural (irrigation) water service contracts is 25 years, the term for mixed agricultural/M&I water service contracts is 25 years, and the term for M&I-only

long-term water service contracts is 40 years. Because the proposed long-term water service contract with the CCWD will provide for delivery of CVP water for M&I uses only, the term of the proposed contract is 40 years.

PUBLIC INVOLVEMENT PROCESS

On October 15, 1998, Reclamation published a notice of intent (NOI) in the Federal Register to announce the preparation of environmental documents for long-term renewal of CVP water service contracts. Scoping meetings were held at eight locations throughout the CVP service area. Reclamation completed a scoping report in April 1999. Scoping served as a fact-finding process that helped identify public concerns and recommendations about the NEPA process, issues that would be addressed in this document, and the scope and level of detail for analyses.

The long-term water service contract renewal process was conducted as a public process. Throughout the contract renewal process, meetings were held with the contractors, other agencies, interest groups, and the public. Issues raised during the public involvement process were addressed in the negotiations process and were used to prepare this EA.

CHAPTER 2
DESCRIPTION OF ALTERNATIVES

INTRODUCTION

This chapter summarizes the negotiations process for the long-term water service contracts and describes the alternatives considered in this EA. Because many districts that contract for CVP water have been operating under interim contracts, the discussion includes references to interim contracts and long-term contract renewals. As explained in Chapter 1, the CCWD has been operating under an Amendatory Contract that is scheduled to expire in 2010. For the purposes of this analysis, the term "long-term contract renewals" includes the replacement of CCWD's existing Amendatory Contract.

LONG-TERM WATER SERVICE CONTRACT NEGOTIATIONS PROCESS

The CVPIA states that the Secretary shall, upon request, renew any existing long-term irrigation repayment or water service contract for the delivery of CVP water for a period of 25 years and may renew such contracts for successive periods of up to 25 years each. Consistent with the 1963 Act, municipal and industrial (M&I) contracts shall be renewed for successive periods of up to 40 years each under terms and conditions that are mutually agreeable. The CVPIA also states that no renewals shall be authorized until appropriate environmental review has been completed. The PEIS provided a programmatic environmental analysis of long-term water service contract renewals and identified the need for site-specific environmental documents for each long-term contract renewal.

The CVPIA also stated that contracts that expire prior to the completion of the PEIS may be renewed for interim periods. The interim renewal contracts reflect existing Reclamation law, including modifications by the Reclamation Reform Act (RRA) and applicable CVPIA requirements. The initial interim contract renewals were negotiated in 1994 with subsequent renewals for periods of 2 years or less to provide for continued water service. Many of the provisions from the interim contracts were assumed to be part of the contract renewal provisions in the description of the PEIS Preferred Alternative.

In 1998, the long-term contract renewal process was initiated. Reclamation reviewed the interim contract provisions that were consistent with Reclamation law and other requirements, comments on the Draft PEIS, and comments obtained during the interim contract renewal process. Reclamation proposed that the overall provisions of the long-term contracts would be negotiated with representatives of all CVP water service contractors. Following the acceptance of the CVP-wide provisions, Reclamation proposed that division-specific provisions and, finally, contractor-specific provisions would be negotiated. Reclamation also proposed that all water service contracts, except for those with the Central San Joaquin Irrigation District, Stockton East Water District, and Colusa Drain Mutual Water Company, would be renewed pursuant to this action. Contract renewals for these three districts are being delayed until the completion of water management studies for their primary sources of CVP water, the Stanislaus River and the Sacramento River.

Reclamation published the initial proposed contract in November 1999, and several negotiation sessions were held throughout the following 6 months. The CVP water service contractors published a counter-proposal in April 2000. The November 1999 proposal represents one "bookend" for the negotiations and the April 2000 proposal represents the other "bookend." The results of the negotiations are reflected in the subsequent proposals.

The primary differences between the proposals are summarized in Table 2-1 at the end of this chapter.

ISSUES CONSIDERED AS PART OF LONG-TERM CONTRACT RENEWALS

The long-term contract renewal process addressed several issues besides the contract provisions. These issues included needs analyses, changes in service areas, and water transfers.

Needs Analyses

The water rights granted to the CVP by the State Water Resources Control Board require the federal government to determine that CVP water is being used in a beneficial manner. To this end, a needs analysis methodology was developed, specifically for long-term contract renewals, to determine if the contractors could use their full contract amount. This assessment was computed for each contractor of the CVP using a multi-step approach. First, the existing water demand was calculated for each contractor based on historic water uses. For agricultural water users, crop acreage, cropping patterns, crop water needs, effective precipitation, and conveyance loss information provided by each contractor were reviewed. For M&I water uses, residential, commercial, industrial, institutional, recreational, and environmental uses along with landscape coefficients, system losses, and landscape acreage information provided by each contractor were reviewed. Second, future changes in water demands were reviewed based on crops, M&I expansion, and changes in efficiencies. Third, existing and future non-CVP water supplies were identified for each contractor, including groundwater and other surface water supplies. The initial calculation of CVP water needs was limited by the assumption that other (non-federal) water supplies would be used first, and groundwater pumping would not exceed the safe yield of aquifers. In addition, the actual water needs were calculated at each division or unit level to allow for intra-regional transfers on an annual basis.

Beneficial and efficient future water demands were identified for each contractor. The demands were compared to available non-CVP water supplies to determine the need for CVP water. If the negative amount (unmet demand) fell within 10% of the contractor's total water supply for contracts greater than 15,000 AF/yr, or within 25% for contracts less than 15,000 AF/yr, the test of full future need of the water supplies under the contract was deemed to be met.

Because the CVP was initially established as a supplemental water supply for areas with inadequate supplies, the needs for most contractors were at least equal to the CVP water service contract and frequently exceeded the previous contract amount. Increased total contract amounts were not included in the needs assessment because the CVPIA stated that Reclamation cannot increase contract supply quantities. Water Needs Assessment (WNA) was completed by Reclamation in March 2004 for the Contra Costa Water District. (The result of the Water Needs Assessment is provided in Appendix A). The WNA presented the contractor's total water supplies including

transfers or exchanges into or out of the contractor's service areas, the total water demands, and the amount of the surplus or unmet demand.

The analysis for the Water Needs Assessment did not consider that ability of the CVP to deliver CVP water. CVP water has been constrained in recent years and may be constrained in the future due to many factors including hydrologic conditions and implementation of federal and state laws. The likelihood contractors will actually receive the full contract amount in any given year is uncertain. The water service contract amount proposed in this EA is the same as in the existing Amendatory Contract.

Changes in Water Service Areas

This environmental analysis does not consider future changes in water service area boundaries for use of CVP water. Any future changes to water service area boundaries for use of CVP water will be evaluated in separate technical and environmental analyses.

Water Transfers

Intra-CVP contract transfers have occurred regularly throughout the CVP; such transfers are frequently limited to scheduling changes between adjoining districts. It is recognized that water transfers will continue to occur and that the CVP long-term water service contracts will provide the mechanism. Because CVPIA has allowed these transfers, as evaluated in the PEIS for the Preferred Alternative, the No Action Alternative in this EA includes water transfer provisions. These provisions for transfers are also included in Alternatives 1 and 2 of this EA. However, it would be difficult to identify all of the water transfer programs that could occur with CVP water in the next 40 years. Reclamation would continue to issue separate environmental documents for proposed transfers and would establish criteria and protocols to allow rapid technical and environmental review of future proposed transfers.

ALTERNATIVES

Three alternatives were identified for the renewal of the long-term water service contracts between Reclamation and CCWD for the Contra Costa Canal system. These alternatives were also analyzed in an initial Draft EA dated October 2000.

The alternatives represent a range of water service agreement provisions that could be implemented for long-term contract renewals. The No Action Alternative in this EA consists of renewing the existing water service contract with the provisions described in the Preferred Alternative of the CVPIA PEIS. In November 1999, Reclamation published a proposed long-term water service contract with specific provisions for CVP contractors to consider. (This form-contract eventually became Alternative 2 in the October 2000 Draft EA.) In April 2000, the CVP contractors responded to Reclamation's November 1999 form-contract with an alternative form-contract. (That April 2000 form-contract was analyzed in the October 2000 Draft EA as Alternative 1.) Subsequently, Reclamation and the CVP Contractors have continued to negotiate the CVP-wide terms and conditions, with Alternatives 1 and 2 serving as "bookends."

No Action Alternative

The No Action Alternative for this EA assumes renewal of long-term CVP water service contracts for a period of 25 years in accordance with the CVPIA, as described in the PEIS Preferred Alternative. The No Action Alternative assumes that most contract provisions would be similar to the provisions in the 1997 CVP Interim Renewal Contracts, which included provisions consistent with applicable CVPIA requirements. In addition, the No Action Alternative assumes tiered pricing provisions and environmental commitments, as described in the CVPIA PEIS Preferred Alternative. The provisions of the No Action Alternative are summarized in Table 2-1 at the end of this chapter. These provisions were also described in the Final CVPIA PEIS.

Several applicable CVPIA provisions summarized in the description of the No Action Alternative are addressed in a different manner in Alternatives 1 and/or 2, and therefore could result in changes in environmental impacts or benefits. These issues include tiered water pricing, the definition of M&I water users, water measurement, and water conservation. Each of these issues is described in the following paragraphs.

Tiered Water Pricing

Tiered water pricing in the No Action Alterative is based on use of an "80/10/10 Tiered Water Pricing from Contract Rate to Full Cost," including appropriate Ability-to-Pay limitations. Under this approach, the first 80 percent of the maximum contract total would be priced at the applicable Contract Rate. The next 10 percent of the contract total would be priced at a rate equal to the average of the Contract Rate and Full Cost Rate. The final 10 percent of the contract total would be priced at the Full Cost Rate. The terms "Contract Rate" and "Full Cost Rate" are defined by the CVP rate-setting policies and by P.L. 99-546 and the Reclamation Reform Act (RRA), respectively. The Contract Rate for irrigation and M&I water includes the contractor's allocated share of CVP main project operation and maintenance, operation and maintenance deficit, if any, and capital cost. The Contract Rate for irrigation water does not include interest on capital. The Contract Rate for M&I water includes interest on capital computed at the CVP M&I interest rate. The Full Cost Rate for irrigation and M&I water includes interest at the RRA interest rate.

In addition to the CVP water rate, contractors are required to pay a Restoration Payment on all deliveries of CVP water. Reclamation law and policy provide full or partial relief to irrigation contractors on Restoration Payments and the capital rate component of the water rate. Ability-to-Pay relief, relative to the irrigation water rate, is fully applicable only to the first 80 percent of the contract total. Ability-to-Pay relief is not applicable to the third tier water rate. The second tier may reflect partial Ability-to-Pay relief, since it is equal to the average of the first and third tiers. The relief could be up to 100 percent of the capital cost repayment and is based on local farm budgets. The Ability-to-Pay law and policy do not apply to CVP operation and maintenance costs, M&I water rates, CVP distribution facilities, or non-CVP water costs.

The prices of CVP water in the No Action Alternative are based on 1994 CVP irrigation and M&I water rates.

Definition of Municipal and Industrial Users

The definition of M&I water users was established in portions of a 1982 Reclamation policy memorandum. In many instances, "municipal users" is easily definable. However, with respect to small tracts of land, the 1982 memorandum identified agricultural water as agricultural water service to tracts that can support $5,000 gross income from a commercial farm operation. The memorandum indicates that this criterion can be generally met by parcels greater than 2 acres. However, under the No Action Alternative, M&I water is defined as water for parcels of 5 acres or less. The No Action Alternative provides CVP contractors with the ability to request from the Contracting Officer a contract modification to pay agricultural rates for parcels between 2 and 5 acres if they are able to demonstrate agricultural use.

Water Measurement

The No Action Alternative includes water measurement at every turnout or connection to measure CVP water deliveries. It is assumed that if other sources are commingled with the CVP water, including groundwater or other surface waters, the measurement devices would report gross water deliveries and additional calculations would then be required to determine the exact quantity of CVP water. However, if groundwater or other surface waters are delivered to the users by other means, the No Action Alternative does not include additional measurement devices, except as required by individual users' water conservation plans.

Water Conservation

The water conservation assumptions in the No Action Alternative include water conservation actions for municipal and on-farm uses assumed in California Department of Water Resources Bulletin 160-93 and conservation plans completed under the 1982 RRA, consistent with the criteria and requirements of the CVPIA. Such criteria address Best Management Practices that are cost effective, economical, and appropriate, including measurement devices, pricing structures, demand management, public information measures, and financial incentives.

Alternative 1

Alternative 1 is based on the proposal presented by CVP Contractors to Reclamation in April 2000. However, there were several issues included in the April 2000 proposal that could not be included in Alternative 1 because they are not consistent with existing federal or state requirements or would require a separate federal action, as described below.

- The April 2000 proposal included Terms and Conditions to provide a highly reliable water supply and provisions to improve the water supply capabilities of the CVP facilities and operations to meet this goal. *These issues were not included in Alternative 1 because they issues would require additional federal actions with separate environmental documentation and would also limit the Secretary's obligation to achieve a reasonable balance among competing demands, as required by the CVPIA. Currently, Reclamation is completing the least-cost plan to restore project yield in accordance with Section 3408(j) of CVPIA and under the CALFED program.*

- The April 2000 proposal included language to require renewal of contracts after 25 years upon request of the contractor. *The study period for this revised EA is 40 years, which was authorized under the Reclamation Project Act of 1963 and was not clearly disallowed under CVPIA.*

- The April 2000 proposal did not include provisions for compliance with biological opinions from the U.S. Fish and Wildlife Service (Service) and the National Marine Fisheries Service. *Biological consultations with the Service and National Marine Fisheries Service (NOAA-Fisheries) are required by the Consultation and Coordination requirements established by Executive Order for all Reclamation activities. These are binding on Reclamation and provisions are being developed to address this requirement.*

- The April 2000 proposal included provisions for water transfers. *It is recognized that water transfers will continue and that the CVP long-term contracts will provide the mechanisms for the transfers. However, it would be difficult to identify all of the water transfer programs that could occur with CVP water in the next 40 years. Reclamation will continue to complete separate environmental documents for transfers and will establish criteria for rapid technical and environmental review of proposed transfers.*

- The April 2000 proposal included provisions for transfer of operations and maintenance requirements. *It is recognized that transfers of operation and maintenance to the group of contractors will continue and that the CVP long-term contracts will provide the mechanisms for such transfers. However, it would be difficult to identify all of the operation and maintenance transfer programs that could occur with CVP water in the next 40 years. Reclamation will require separate environmental documentation for such transfers.*

- The April 2000 proposal included provisions for resolution of disputes. *Assumptions for resolution of disputes were not included in Alternative 1, but at this time, any such assumptions would not appear to affect environmental conditions.*

- The April 2000 proposal included provisions for expansion of the CVP service areas by the existing CVP water contractors. *The study area for the long-term contract renewal process is defined by the existing service area boundaries. Expansion of the service area boundaries would be a new federal action and would require separate environmental documentation.*

The April 2000 proposal included several provisions that were different than the assumptions for the No Action Alternative, and those provisions are included in Alternative 1, as summarized in Table 2-1. The April 2000 proposal also included several provisions that involve specific language changes that would not significantly modify CVP operations in a manner that would affect the environment as compared to the No-Action Alternative but could affect the specific operations of a contractor.

It should be noted that the tiered pricing requirements (including unit prices for CVP water) and the definition of M&I water users in Alternative 1 would be the same as in the No Action Alternative.

Alternative 2

Alternative 2 is based on the proposal presented by Reclamation to CVP water service contractors in November 1999. However, there were several provisions included in the November 1999 proposal that are not included in Alternative 2. These provisions would constitute a separate federal action, as described below.

- The November 1999 proposal included provisions for the contractor to request approval from Reclamation for proposed water transfers. *Water transfers were not included in Alternative 2 because such actions cannot now be definitely described, and they essentially constitute a separate federal action that would require separate environmental documentation.*

- The November 1999 proposal included provisions for transfer of operations and maintenance to third parties. *Operations and maintenance transfers were not included in Alternative 2 because these actions would be a separate federal action and would require separate environmental documentation.*

The November 1999 proposal included several provisions that were different than the assumptions for the No Action Alternative and these provisions are included in Alternative 2, as summarized below and in Table 2-1. The primary differences are related to tiered pricing and the definition of M&I water users.

Tiered Water Pricing

Tiered water pricing under Alternative 2 is based on the definitions of "Category 1" and "Category 2" water supplies. "Category 1" is defined as the quantity of CVP water that is reasonably likely to be available for delivery to a contractor, and is calculated on an annual basis as the average quantity of delivered water during the most recent 5-year period. For the purposes of Alternative 2, the "Category 1" water supply is defined as the "contract total." "Category 2" is defined as that additional quantity of CVP water in excess of Category 1 water that may be delivered to a contractor in some years. Under Alternative 2, the first 80 percent of Category 1 volume would be priced at the applicable Contract Rate for the CVP. The next 10 percent of the Category 1 volume would be priced at a rate equal to the average between the Contract Rate and Full Cost Rate as defined by Reclamation law and policy. The final 10 percent of the Category 1 volume would be priced at the Full Cost Rate as required by the CVPIA. All Category 2 water, when available, would be priced at the Full Cost Rate. It should be noted that Category 1 and Category 2 volumes would change each year based on the average deliveries for the "most recent 5 years," with limited exceptions based on the findings of the water needs assessment. Alternative 2 assumes the sum of Category 1 and Category 2 water is equal to the maximum quantity included in the contractors' existing water service contract. The quantity is the same as under the No Action Alternative and Alternative 1. The terms "Contract Rate" and "Full Cost Rate" are discussed under Tiered Pricing for the No Action Alternative. The same Ability-to-Pay adjustments would be applicable to Restoration Payments and tiered water rates, as described for the No Action Alternative.

The prices of CVP water used in Alternative 2 are based on CVP agricultural and M&I water rates presented in the November 17, 1999, Financial Workshop Handouts 1 and 2.

Definition of Municipal and Industrial Users

The definition of M&I water users includes users with tracts less than or equal to 5 acres, unless the Contracting Officer is satisfied that the use of such water meets the definition of "Irrigation Water."

ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER CONSIDERATION

Nonrenewal of Long-term Contracts

Nonrenewal of existing contracts is considered infeasible based on Section 3404(c) of the CVPIA. This alternative was considered but eliminated from analysis in this EA because Reclamation does not have the discretion to not renew the contracts.

Continuing with Existing Amendatory Contract

Continuing to supply CVP water to the CCWD service area under the existing Amendatory Contract was considered but eliminated from analysis in this EA because the Amendatory Contract expires in 2010 and would therefore not meet the purpose and need for a long-term contract.

Reduction in Contract Amounts

Reduction of contract amounts was considered in certain cases but eliminated from analysis because the completed water needs analyses found that, in almost all cases, the needs would exceed or equal the current total contract amount. In addition, in order to implement good water management, the contractors would need to be able to store or immediately use water available in wetter years when more water is available. By quantifying contract amounts in terms of the needs analyses and the CVP delivery capability, the contractors can make their own economic decisions. Allowing the contractors to retain the full water quantity gives the contractors assurance that the water will be available to them for storage investments. In addition, the CVPIA, in and of itself, achieves a balance in part through its dedication of significant amounts of CVP water to environmental purposes and actions to acquire water for environmental purposes.

SELECTION OF THE PREFERRED ALTERNATIVE

It is anticipated that the final contract language and the Preferred Alternative will represent a negotiated position between Alternatives 1 and 2. Therefore, it is anticipated that the impacts will be either equal to or less than those identified for Alternative 1, Alternative 2, and the No Action Alternative.

SUMMARY OF ENVIRONMENTAL IMPACTS

The potential impacts of the alternatives are summarized in Table 2-2. The impact analysis focused on land use, socioeconomics, biological resources, and cultural resources. The land use discussion is included to provide a context in which the proposed action can be understood. It summarizes the prevalent land uses in the CCWD service area and describes County-wide growth management programs. Socioeconomic resources are evaluated because of the potential impacts resulting from the proposed revised pricing structure included as part of the proposed action. Due to their project-

specific nature, socioeconomic resources were identified in the CVPIA PEIS as the single resource area that would require future evaluation. Biological resources are evaluated because of the extensive negotiations and consultations among Reclamation, CCWD, and the Service. These consultations included the recent biological opinion, issued in April 2000, which establishes the responsibilities of CCWD to protect sensitive biological resources. Reclamation has initiated consultation with U.S. Fish and Wildlife Service and National Oceanic and Atmospheric Administration. Cultural resources and Indian trust assets are included in this EA to disclose the federal requirements specific to the proposed action and the role of Reclamation in complying with Section 106 of the National Historic Preservation Act and with American Indian Tribal Trust Rights.

TABLE 2-1
COMPARISON OF CONTRACT PROVISIONS CONSIDERED IN ALTERNATIVES

Provision	*No Action Alternative Based on PEIS and Interim Contracts*	*Alternative 1 Based on April 2000 Proposal*	*Alternative 2 Based on November 1999 Proposal*
Explanatory Recitals	Assumes water rights held by CVP from State Board for use by water service contractors under CVP policies.	Assumes CVP Water Right as being held in trust for project beneficiaries that may become the owners of the perpetual right.	Same as No Action Alternative.
	Assumes that CVP is a significant part of the urban and agricultural water supply of users.	Assumes CVP is a significant, essential, and irreplaceable part of the urban and agricultural water supply of users.	Same as No Action Alternative.
	Assumes increased use of water rights, need to meet water quality standards and fish protection measures, and other measures constrained use of CVP.	Assumes that CVPIA impaired ability of CVP to deliver water.	Same as No Action Alternative.
	Assumes the need for the 3408(j) study.	Assumes implementation of yield increase projects per 3408(j) study.	Same as No Action Alternative.
	Assumes that loss of water supply reliability would have impact on socioeconomic conditions and change land use.	Assumes that loss of water supply reliability would have significant adverse socioeconomic and environmental impacts in CVP service area.	Same as No Action Alternative.
Definitions			
"Charges"	Charges defined as payments required in addition to Rates.	Assumes rewording of definition of Charges to exclude both Rates and Tiered Pricing Increments.	Same as No Action Alternative.
"Category 1 and Category 2"	Tiered Pricing as in PEIS.	Not included.	Tiered Pricing for Categories 1 and 2.
"Contract Total"	Contract Total described as Total Contract.	Same as No Action Alternative.	Described as basis for Category 1 to calculate Tiered Pricing.
"Landholder"	Landholder described in existing Reclamation Law.	Assumes rewording to specifically define Landholder with respect to ownership, leases, and operations.	Assumes rewording to specifically define Landholder with respect to ownership and leases.

TABLE 2-1 (continued)
COMPARISON OF CONTRACT PROVISIONS
CONSIDERED IN ALTERNATIVES

Provision	*No Action Alternative Based on PEIS and Interim Contracts*	*Alternative 1 Based on April 2000 Proposal*	*Alternative 2 Based on November 1999 Proposal*
"M&I Water"	Assumes rewording to provide water for irrigation of land in units less than or equal to 5 acres as M&I water unless Contracting Officer satisfied use is irrigation.	M&I water described for irrigation of land in units less than or equal to 2 acres.	Same as No Action Alternative.
Terms of Contract – Right to Use Contract	Assumes that contracts may be renewed. Assumes convertibility of contract to a 9(d) contract same as existing contracts.	States that contract shall be renewed. Includes conditions that are related to negotiations of the terms and costs associated with conversion to a 9(d) contract.	Same as No Action Alternative. Same as No Action Alternative.
Water to be Made Available and Delivered to the Contractor	Assumes water availability in any with existing conditions.	Similar to No Action Alternative.	Actual water availability in a year is unaffected by Categories 1 and 2.
Water to be Made Available and Delivered to the Contractor (continued)	Assumes compliance with Biological Opinions and other environmental documents for contracting. Assumes that current operating policies strive to minimize impacts to CVP water users.	Not included. Assumes that CVP operations will be conducted in a manner to minimize shortages and studies to increase yield shall be completed with necessary authorizations.	Same as No Action Alternative. Same as No Action Alternative.
Time for Delivery of Water	Assumes methods for determining timing of deliveries as in existing contracts.	Assumes minor changes related to timing of submittal of schedule.	Same as No Action Alternative.
Point of Diversion and Responsibility for Distribution of Water	Assumes methods for determining point of diversion as in existing contracts.	Assumes minor changes related to reporting.	Same as No Action Alternative.
Measurement of Water Within District	Assumes measurement for each turnout or connection for facilities that are used to deliver CVP water as well as other water supplies.	Assumes measurement at delivery points.	Assumes similar actions in No Action Alternative but applies to all water supplies.

TABLE 2-1 (continued)
COMPARISON OF CONTRACT PROVISIONS
CONSIDERED IN ALTERNATIVES

Provision	*No Action Alternative Based on PEIS and Interim Contracts*	*Alternative 1 Based on April 2000 Proposal*	*Alternative 2 Based on November 1999 Proposal*
Rates and Method of Payment for Water	Assumes Tiered Pricing is total water quantity. Assumes advanced payment for rates for 2 months.	Assumes Tiered Pricing is total water quantity. Assumes advanced payment for rates for 1 month.	Assumes Tiered Pricing is total water quantity. Assumes advanced payment for rates for 6 months.
Non-interest Bearing Operation and Maintenance Deficits	Assumes language from existing contracts.	Same as No Action Alternative.	Same as No Action Alternative.
Sales, Transfers, or Exchanges of Water	Assumes continuation of transfers with the rate for transferred water being the higher of the sellers or purchasers CVP cost of service rate.	Assumes continuation of transfers with the rate for transferred water being the purchasers CVP cost of service rate.	Same as No Action Alternative.
Application of Payments and Adjustments	Assumes payments will be applied as in existing contracts.	Assumes minor changes associated with methods described for overpayment.	Same as No Action Alternative.
Temporary Reduction Return Flows	Assumes that current operating policies strive to minimize impacts to CVP water users.	Assumes minor changes associated with methods described for discontinuance or reduction of payment obligations.	Same as No Action Alternative.
Constraints on Availability of Project Water	Assumes that current operating policies strive to minimize impacts to CVP water users.	Assumes Contractors do not consent to future Congressional enactments which may impact.	Same as No Action Alternative.
Unavoidable Groundwater Percolation	Assumes that some of applied CVP water will percolate to groundwater.	Same as No Action Alternative.	Same as No Action Alternative.
Rules and Regulations	Assumes that CVP will operate in accordance with then existing rules.	Assumes minor changes with right to non-concur with future enactments retained by Contractors.	Same as No Action Alternative.
Water and Air Pollution Control	Assumes that CVP will operate in accordance with then existing rules.	Same as No Action Alternative.	Same as No Action Alternative.
Quality of Water	Assumes that CVP will operate in accordance with existing rules without obligation to operate towards water quality goals.	Same as No Action Alternative.	Same as No Action Alternative.

TABLE 2-1 (continued)
COMPARISON OF CONTRACT PROVISIONS
CONSIDERED IN ALTERNATIVES

Provision	*No Action Alternative Based on PEIS and Interim Contracts*	*Alternative 1 Based on April 2000 Proposal*	*Alternative 2 Based on November 1999 Proposal*
Water Acquired by the Contractor Other than from the United States	Assumes that CVP will operate in accordance with existing rules.	Assumes changes associated with payment following repayment of funds.	Same as No Action Alternative.
Opinions and Determinations	PEIS recognizes that CVP will be operated in accordance with existing rules.	Assumes minor changes with respect to references to the right to seek relief.	Same as No Action Alternative.
Coordination and Cooperation	Not included.	Assumes that coordination and cooperation between CVP operations and users should be implemented and CVP users should participate in CVP operational decisions.	Not included.
Charges for Delinquent Payments	Assumes that CVP will operate in accordance with existing rules.	Same as No Action Alternative.	Same as No Action Alternative.
Equal Opportunity	Assumes that CVP will operate in accordance with existing rules.	Same as No Action Alternative.	Same as No Action Alternative.
General Obligation	Assumes that CVP will operate in accordance with existing rules.	Similar to No Action Alternative.	Same as No Action Alternative.
Compliance with Civil Rights Laws and Regulations	Assumes that CVP will operate in accordance with existing rules.	Same as No Action Alternative.	Same as No Action Alternative.
Privacy Act Compliance	Assumes that CVP will operate in accordance with existing rules.	Same as No Action Alternative.	Same as No Action Alternative.
Contractor to Pay Certain Miscellaneous Costs	Assumes that CVP will operate in accordance with existing rules.	Similar to No Action Alternative.	Same as No Action Alternative.
Water Conservation	Assumes compliance with conservation programs established by Reclamation and the state.	Assumes conditions similar to No Action Alternative with the ability to use state standards which may or may not be identical to Reclamation's requirements.	Same as No Action Alternative.
Existing or Acquired Water or Water Rights	Assumes that CVP will operate in accordance with existing rules.	Same as No Action Alternative.	Same as No Action Alternative.

TABLE 2-1 (continued)
COMPARISON OF CONTRACT PROVISIONS
CONSIDERED IN ALTERNATIVES

Provision	*No Action Alternative Based on PEIS and Interim Contracts*	*Alternative 1 Based on April 2000 Proposal*	*Alternative 2 Based on November 1999 Proposal*
Operation and Maintenance by Non-federal Entity	Assumes that CVP will operate in accordance with existing rules with no additional changes to operation responsibilities.	Assumes minor changes to language that would allow subsequent modification of operational responsibilities.	Assumes minor changes to language that would allow subsequent modification of operational responsibilities.
Contingent on Appropriation or Allotment of Funds	Assumes that CVP will operate in accordance with existing rules.	Assumes minor changes to language.	Same as No Action Alternative.
Books, Records, and Reports	Assumes that CVP will operate in accordance with existing rules.	Assumes changes for record keeping for both CVP operations and CVP users.	Same as No Action Alternative.
Assignment Limited	Assumes that CVP will operate in accordance with existing rules.	Assumes changes to facilitate assignments.	Same as No Action Alternative.
Severability	Assumes that CVP will operate in accordance with existing rules.	Same as No Action Alternative.	Same as No Action Alternative.
Resolution of Disputes	Not included.	Assumes a Dispute Resolution Process.	Not included.
Officials Not to Benefit	Assumes that CVP will operate in accordance with existing rules.	Same as No Action Alternative.	Same as No Action Alternative.
Changes in Contractor's Service Area	Assumes no change in CVP water service areas absent Contracting Officer consent.	Assumes changes to limit rationale used for non-consent and sets time limit for assumed consent.	Same as No Action Alternative.
Notices	Assumes that CVP will operate in accordance with existing rules.	Same as No Action Alternative.	Same as No Action Alternative.
Confirmation of Contract	Assumes Court confirmation of contract.	Not included. Assumption is that Court confirmation not required.	Same as No Action Alternative.

TABLE 2-2 SUMMARY OF ENVIRONMENTAL IMPACTS	
Resource	*Description of Impact*
NO ACTION ALTERNATIVE	
Land Use	The proposed long-term water service contract renewal (proposed action) does not include the development of any physical facilities and structures and therefore would not have a direct effect on land use. Indirect effects to land use could occur due to growth accommodated by the continued provision of water. The No Action Alternative is consistent with Contra Costa County General Plan Policy 7-17, which directs the County to encourage water service agencies to develop supplies and facilities to meet future water needs based on the growth policies contained in the County and cities' general plans.
Socioeconomics	For M&I water costs in the average hydrologic condition, CCWD would pay an estimated $8.2 million to acquire (a) the 155,700 acre-feet of CVP M&I water that would be made available to its customers and (b) an additional 11,300 acre-feet of supplies from alternative water sources it would need to address demand not met by CVP supplies.
	The projected cost of CCWD M&I water in a dry year would be about $20 million.
Biological Resources	No new structures or physical changes to the environment would result from long-term contract renewal. Therefore, no direct effects on biological resources are expected. Indirect impacts to biological resources would result from the planned growth analyzed in the County and cities' general plans. Indirect effects related to the secondary effects of growth within CCWD's service area were evaluated in the FWSI EIR. The FWSI EIR found that the continued provision of water would result in indirect effects to native land and agricultural habitats, special-status communities, and special-status plant and animal species. These impacts were mitigated through the biological opinion developed in consultation with the Service.
Cultural Resources	Although the proposed contract renewal would not directly result in any construction activities, impacts associated with the secondary or indirect impacts of growth resulting from construction and development are expected to occur; these impacts are analyzed in the County General Plan EIR. No indirect impacts beyond those anticipated in the County General Plan EIR would occur from issuing the long-term contract. The secondary impacts resulting from development in currently non-urban areas could affect both known and undiscovered archaeological resources, especially in areas of high sensitivity. Areas specifically identified in the County General Plan EIR that are in the CCWD service area include the Bethel Island region and Alhambra Road west of Martinez.
ALTERNATIVE 1	
Land Use	There would be no impacts in addition to those identified for the No Action Alternative.
Socioeconomics	CCWD's cost of M&I water would be similar to the No Action Alternative. No incremental impacts would result.
	No change in land use or associated value of crop production is anticipated.

TABLE 2-2 SUMMARY OF ENVIRONMENTAL IMPACTS	
Resource	*Description of Impact*
	There would be no impacts on the regional economy.
Biological Resources	There would be no impacts in addition to those identified for the No Action Alternative.
Cultural Resources	There would be no impacts in addition to those identified for the No Action Alternative.
ALTERNATIVE 2	
Land Use	There would be no impacts in addition to those identified for the No Action Alternative.
Socioeconomics	A minimum 30 percent increase in CCWD costs relative to the No Action Alternative would result. Cost of CVP M&I water would increase by about: • $1.3 million in an average hydrologic year following 5 years of average hydrologic conditions, • $1.5 million in an average hydrologic year following 5 years of dry hydrologic conditions, and • $1.2 million in an average hydrologic year following 5 years of wet hydrologic conditions. CCWD's recent average residential water bill would increase by less than 1 percent.
	In a dry year, CCWD's cost of M&I water would increase by about 5 percent over the cost under the No Action Alternative in a dry year.
	There would be an incremental decrease in total industrial output in the County estimated between $1.68 and $2.09 million, depending on hydrologic conditions. This is a decrease of less than approximately 0.01 percent in the County's output.
	There would be an incremental decrease in total employment in the County estimated between 22 and 28 full-time-equivalent jobs, depending on hydrologic conditions. This is a decrease of less than approximately 0.01 percent in the County's employment base under the No Action Alternative.
	The projected incremental decrease in Total Income Place of Work (POW) in the County is estimated to be between $0.94 million and $1.16 million, depending on hydrologic conditions. This is a decrease of less than approximately 0.01 percent in the County's Total Income POW compared to estimated No Action conditions.
Biological Resources	There would be no impacts in addition to those identified for the No Action Alternative.
Cultural Resources	There would be no impacts in addition to those identified for the No Action Alternative.

CHAPTER 3
SUMMARY OF PREVIOUS ENVIRONMENTAL DOCUMENTATION

INTRODUCTION

Reclamation and CCWD have undertaken a number of environmental studies to evaluate the environmental impacts associated with continued provision of CVP water to CCWD. The CVPIA PEIS, prepared by Reclamation and the Service, evaluated the regional environmental effects of implementing the CVPIA provisions at a programmatic level. The Future Water Supply Implementation Environmental Impact Report (FWSI EIR), prepared by CCWD, evaluated at a programmatic level the environmental effects of implementing water system improvements to facilitate projected increased water demand in Contra Costa County. The Multi-Purpose Pipeline Project Environmental Impact Report/Environmental Impact Statement (MPP EIR/EIS), prepared by CCWD, evaluated the project-specific impacts of constructing a water supply pipeline adjacent to the Contra Costa Canal. The CCWD environmental documents were developed to be consistent with the Contra Costa County General Plan Environmental Impact Report (County General Plan EIR), but because they were published more recently, their analyses also included impacts related to growth planned and approved since publication of the County General Plan EIR. These documents are incorporated by reference into this EA.

The PEIS and FWSI EIR are particularly relevant to this EA because they evaluate programmatic and project-level impacts associated with the continued provision of CVP water to CCWD, and therefore provide the programmatic context for consideration of the more specific impacts associated with the proposed CVP long-term water service contract renewals. The project-specific analysis of impacts potentially occurring adjacent to the Contra Costa Canal provided in the MPP EIR/EIS sufficiently evaluates localized indirect impacts that could occur with the continued provision of CVP water to CCWD. The following discussion summarizes these environmental studies and identifies their relevance to this EA.

CVPIA PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT

On October 30, 1992, the President signed into law the Reclamation Projects Authorization and Adjustment Act of 1992 (Public Law 102-575), which included Title XXXIV, the Central Valley Project Improvement Act. The CVPIA amended the previous authorizations of the CVP to include fish and wildlife protection, restoration, and mitigation as project purposes having equal priority to irrigation and domestic uses and fish and wildlife enhancement as a project purpose equal to power generation. Through the CVPIA, Reclamation is developing policies and programs to improve environmental conditions that were affected by the operations, management, and physical facilities of the CVP. The CVPIA also includes tools to facilitate larger efforts in California to improve environmental conditions in the Central Valley and the San Francisco Bay–Sacramento-San Joaquin Delta system. The PEIS addressed the potential impacts and benefits of implementing provisions of the CVPIA.

The analysis in the PEIS was intended to disclose the probable region-wide effects of implementing the CVPIA and to provide a basis for selecting a decision among alternatives. The PEIS was developed to allow subsequent environmental documents to incorporate the PEIS analysis by reference, thereby limiting the need to re-evaluate the region-wide and cumulative impacts of CVPIA. In some cases, worst-case assumptions were used to maximize the utility of the analysis for tiering from the PEIS.

As project-specific actions are considered, the lead agencies must determine if the specific impacts were adequately analyzed in the PEIS. If the actions under consideration were evaluated in the PEIS and the impacts of such actions would not be greater than those analyzed in the PEIS or would not require additional mitigation measures, the actions could be considered a part of the overall program approved in the PEIS ROD. In this case, an administrative decision could be made that no further environmental documentation would be necessary. If it is determined that a document can be tiered to the PEIS, that document may be an EIS or an EA. In this instance, "tiering" means that the EIS or the EA can use the PEIS by reference to avoid duplication, thereby focusing more narrowly on the new alternatives or more detailed site-specific effects. Therefore, only changes from the alternatives and their effects considered in the PEIS would be addressed in detail in the tiered documents.

Localized Impacts of the PEIS Preferred Alternative

The primary impact to CVP water service contractors of the PEIS Preferred Alternative was not from contract provisions, but rather from the implementation of CVPIA. The re-allocation of CVP water for fish and wildlife purposes under CVPIA reduced average annual CVP water deliveries to water service contractors from 2,270,000 acre-feet per year under the PEIS No Action Alternative to 1,933,000 acre-feet per year under all the PEIS alternatives, including the Preferred Alternative. The reduction occurred differently for various classifications of users, as summarized below.

- Average annual CVP water deliveries for agricultural water service contractors located in the Contra Costa Canal service area decreased by 12 percent from pre-CVPIA affected environment conditions.

- Average annual CVP water deliveries for municipal water service contractors located in the Contra Costa Canal service area decreased by 4 percent from pre-CVPIA affected environment conditions.

FUTURE WATER SUPPLY IMPLEMENTATION EIR

The FWSI EIR adequately evaluated on a programmatic level the direct impacts to the Sacramento-San Joaquin Delta and the secondary or indirect impacts associated with growth in Contra Costa County as a result of the availability of additional water supplies by the District. CCWD's water demand estimates were based on the demands previously planned for by local and regional planning agencies. The FWSI EIR proposed three actions to provide reliability and operational flexibility during droughts: renegotiating the CVP Amendatory Contract (175r-3401); implementing an expanded District-wide conservation program; and completion of two or more water transfers. The FWSI EIR responded to mitigation measures outlined in the County General Plan EIR, including the directive to develop supplies and facilities to meet future water needs based on the growth

policies contained in the County and cities' general plans (Policy 7-17 of the County General Plan). The FWSI EIR found that the implementation of the FWSI would not directly cause growth to occur, but would instead accommodate the growth already planned for in local jurisdictions' general plans and the County General Plan. The FWSI EIR incorporated the County General Plan EIR impact analysis and mitigation measures where appropriate. It expanded the evaluation of terrestrial resources and found that County mitigation and policies governing the permitting of property, in addition to state and federal protections, would be sufficient to reduce the impacts to terrestrial resources to a less-than-significant level.

The environmental resources addressed in the FWSI EIR included population and housing, land use and planning, agriculture, Delta hydrodynamics, Delta water quality, aquatic resources, terrestrial biological resources, public services and utilities, traffic, air quality, noise, cultural resources, aesthetics, and recreation. Potential impacts were related to the ability of the project to accommodate growth or remove an impediment to growth. Potential significant impacts resulting from projected buildout in Contra Costa County were identified for population and housing, land use and planning, agriculture, terrestrial biological resources, public services and utilities, traffic, air quality, noise, and cultural resources. In contrast to the County General Plan EIR, which identified impacts to natural open spaces as significant and unavoidable, the FWSI EIR noted that approximately 40,000 acres of open space have been added to the County inventory since certification of that document. Acquisition of additional acreage was the result of a voter-approved bond measure and CCWD's construction of the Los Vaqueros Reservoir and purchase of its watershed lands.

Indirect effects to the majority of these resources were related to the secondary effects of growth within CCWD's service area accommodated by the availability of additional water supplies. Further analyses of these effects is not required in this EA because they were adequately addressed in the FWSI EIR. The FWSI EIR and CCWD's adopted findings found that impacts to population, jobs, housing, terrestrial biological resources, noise, public services, and utilities as a result of growth could be mitigated to less-than-significant levels. It was concluded in the FWSI EIR and CCWD's adopted findings that all growth-related impacts to cultural resources would be prevented or mitigated to less-than significant-levels through the proper implementation of existing national, state, County, and local policies, including County policies 9-11 through 9-26. CCWD adopted a statement of overriding considerations for potential agricultural, air quality, and traffic impacts related to growth (February 3, 1999). The FWSI EIR did not evaluate the socioeconomic impacts related to the continued water allocation and modified pricing strategy proposed as part of the CVP long-term water service contract renewals.

MULTI-PURPOSE PIPELINE PROJECT EIR/EIS

The MPP EIR/EIS evaluated the direct and indirect impacts of constructing a water transport pipeline to increase the reliability of the Contra Costa County water supply system and allow for increased demand. The MPP project included construction and operation of two new subsurface pipelines and pump stations, along with other improvements to the existing Contra Costa Canal. A pipeline alignment that would parallel the Contra Costa Canal was identified as the preferred alternative in the EIR/EIS. The EIR/EIS found that most project impacts would be temporary impacts resulting from construction activities and that the impacts would be less than significant

with mitigation. The EIR/EIS further concluded that implementation of the MPP Project would support additional growth within the communities served by CCWD, in accordance with the approved local land use plans of the cities and the County. The MPP project would not support growth beyond planned levels or in areas not planned for development by the appropriate land use agencies. Because implementation of the MPP project would support planned growth, it was found to have indirect, secondary effects that were potentially significant, consistent with the FSWI EIR and County General Plan EIR.

The key issues evaluated in the MPP EIR/EIS included water demand/capacity, secondary effects of growth, cumulative effects, hazardous contamination, traffic, encroachment, air quality, noise, parks and recreation, environmental justice, biology, hydrology, and water quality. Potentially significant construction-related impacts from the canal alignment were identified for land use, recreation, transportation, air quality, surface water resources, groundwater resources, geology, seismicity and soils, vegetation and wildlife, cultural resources, hazardous materials, and public services and utilities. Identified mitigation measures reduced all these impacts to less-than-significant levels. Impacts from construction activities to these resources along the Contra Costa Canal were adequately addressed in the MPP EIR/EIS, and no further analysis in this EA is required.

FOCUS OF THE ENVIRONMENTAL ASSESSMENT

The analysis in this EA has been focused on land use, socioeconomics, biological resources, and cultural resources, based on the extensive and adequate analysis of other environmental resources performed in previous documents. The contract renewal action was first evaluated in the CVPIA PEIS, which assumed that all existing water contracts would be renewed. The FWSI EIR evaluated impacts from projected water demands to the year 2040. The MPP EIR/EIS evaluated impacts of a proposed pipeline adjacent to the Contra Costa Canal to convey and deliver water supplies. The proposed long-term water service contract renewal is related to these projects because it would continue delivery of up to 195,000 acre-feet per year of CVP water to CCWD. The direct and indirect impacts of providing water to CCWD have been adequately evaluated in the previous environmental documents, which are incorporated by reference into this EA.

CHAPTER 4
AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

INTRODUCTION

This chapter includes a description of the environment encompassed by the CCWD service area that could be affected by the proposed long-term water service contract renewal. It describes the existing regional and sub-regional conditions; environmental goals and policies to be considered in relation to the proposed contract renewal action; the direct and indirect environmental consequences of each of the alternatives; and cumulative effects. The description of the environment includes an overview of the CCWD service area, facilities, and operations.

Resources evaluated in detail in this EA include land use, socioeconomics, biological resources, and cultural resources, and Indian trust assets. The land use discussion provides a context in which the proposed action can be understood. It summarizes the prevalent land uses and describes County-wide growth management programs. (Growth-inducing impacts as an indirect effect of the proposed action are discussed in Chapter 5, "Other Impacts.") Socioeconomic resources are evaluated because of the potential impacts resulting from the revised pricing structure included as part of the proposed action. Because of the project-specific nature of socioeconomic resources, they were identified in the CVPIA PEIS as the single resource area that would require future evaluation. Biological resources are evaluated to integrate on-going consultations among Reclamation, CCWD, and the Service. These consultations included the Biological Assessment for the proposed long-term water service contract for the Contra Costa Water District (Reclamation 2004), and the Biological Opinion, issued by the Service in April 2000, which establishes the responsibilities of CCWD regarding sensitive biological resources for future CCWD water supply projects. Cultural resources are included in this EA to disclose the federal requirements specific to the proposed action, and the role of Reclamation in complying with Section 106 of the National Historic Preservation Act.

CONTRACT SERVICE AREA DESCRIPTION

The CCWD contract service area (112,922 acres) is composed of Central and East Contra Costa County. Contra Costa County has been one of the fastest growing counties in the San Francisco Bay Area, due in large part to the availability of housing that is generally more affordable than in the majority of the surrounding region. Contra Costa County encompasses over 470,000 acres, much of which will approach buildout within the next 15 to 20 years. As the County has undergone a transition from rural to increased urban land uses, urbanized development has moved from the central part of the county to the east and into the CCWD service area.

Early growth in the Central County occurred in Martinez along the San Joaquin River, with subsequent suburban growth reflecting the outfall from San Francisco. Over the last two decades, employment centers have developed within the Central County. The majority of the Central County has been urbanized, and future development will generally be limited to in-fill of the few vacant parcels remaining and redevelopment along major transportation corridors. Many of the cities in

this region are now reaching planned buildout. Interstate 680 provides a major north-south transportation and commercial corridor through the region.

The East County includes Antioch, Bay Point, Pittsburg, and Oakley. Antioch is projected to add the highest number of households of any area within the County by the year 2010; Bay Point and Pittsburg are projected to add the second highest (Association of Bay Area Governments 1997). The majority of recent growth has occurred in open space and ranch land previously used for grazing. State Highway 4 provides a major east-west transportation corridor through the region. East County also includes much of the hilly terrain of the Diablo Range.

CONTRA COSTA WATER DISTRICT

CCWD was formed in 1936 under the authority of the State Water Code and is the primary supplier of water to users in central and eastern Contra Costa County. Originally formed to provide water for irrigation and industry, CCWD now serves primarily M&I users. The service area is approximately 137,127 acres. The CCWD receives up to 195,000 acre-feet of CVP water and also receives water from other sources; in dry years, however, virtually 100 percent of its water comes from the CVP. CCWD obtains raw (untreated) water primarily from Reclamation's Contra Costa Canal, a CVP facility. The canal was built by Reclamation in 1948 and is operated by CCWD.

In 2003, CCWD served approximately 450,000 people (both untreated and treated water supplies) (CCWD, Annual Report, 2003a). The untreated water is supplied to about 220,000 people through other water retailers, including the cities of Antioch, Martinez, and Pittsburg; the Southern California Water Company (for Bay Point); and Diablo Water District (Oakley). In addition, raw water is served to more than 50 industries and major businesses, agricultural users, and landscape irrigators. The treated water is supplied to about 230,000 people in the communities of Clayton, Clyde, Concord, Pacheco, Port Costa, portions of Pleasant Hill, Martinez, Walnut Creek, and other unincorporated areas of Contra Costa County. Figure 1-1 shows the CCWD federal contract service areas and other non-federal services areas within the CCWD.

Contra Costa Water District Supplies and Facilities

The CCWD operates raw water distribution and pumping facilities, reservoirs, water treatment plants, and treated water distribution facilities (Figure 1-2). CCWD's raw water comes from the San Francisco Bay–Sacramento-San Joaquin Delta (Delta). The backbone of CCWD's raw water conveyance system is the 48-mile long Contra Costa Canal. Four pumping plants, within the first 7 miles of the canal lift water 124 feet to flow the remaining length of the canal by gravity. Additional raw water facilities operated by the CCWD include the Los Vaqueros facilities (100,000 acre-foot reservoir and associated conveyance and pumping facilities) and the Mallard Slough Pump Station and pipeline. CCWD operates four reservoirs, Martinez, Contra Loma, Mallard and Los Vaqueros, and two water treatment plants, the Bollman water treatment plant and the Randall-Bold water treatment plant. The Randall-Bold plant is jointly owned by CCWD and Diablo Water District.

In 1998, CCWD completed construction of the Los Vaqueros Reservoir, which allows for additional water quality control for water supplied by the Contra Costa Canal. In 2003, CCWD completed the 21-mile Multi-Purpose Pipeline project, a non-CVP project.

CCWD is almost entirely dependent on the Delta for its water supply. The Contra Costa Canal and the Los Vaqueros project make up CCWD's principal water supply and delivery system. CCWD diverts unregulated flows and regulated flows from storage releases from Shasta, Folsom, and Clair Engle reservoirs into the Sacramento River as a contractor to Reclamation's CVP. Under the 1994 Amendatory Contract (Water Service Contract 175r-3401 [amended]) with Reclamation, CCWD can divert and re-divert up to 195,000 acre-feet per year of water from Rock Slough and the new Old River intake for M&I and agricultural uses. CCWD also can divert up to 26,780 acre-feet per year of water from Mallard Slough under its own water rights (Water Rights License No. 317 and Permit No. 19856). The city of Antioch and several industrial customers of CCWD have water rights permits to divert water from the Delta.

The Los Vaqueros Reservoir and related facilities provide the CCWD with the ability to store up to 100,000 acre-feet of water. The primary purposes of the Los Vaqueros project are to improve the quality of water supplied to CCWD customers, to minimize seasonal quality changes, and to improve the reliability of the emergency water supply available to CCWD. The Los Vaqueros Reservoir site is located approximately 8 miles south of Brentwood in southeastern Contra Costa County. Water to fill the reservoir comes from the southern Delta by means of a new pump station on Old River near Highway 4. The Old River pump station can be used for direct diversions and to fill the reservoir. The filling of the reservoir began in February 1998.

On June 2, 1994, the State Board issued Decision 1629, giving CCWD additional rights to divert and store water for beneficial uses. The State Board subsequently issued Water Rights Permits No. 20749 and 20750 for filling Los Vaqueros Reservoir from the new intake at Old River and diversion and storage of the water of Kellogg Creek (up to 9,640 acre-feet per year). These rights are in addition to the contractual rights to divert and store water furnished through the CVP. Up to 95,850 acre-feet per year may be diverted for storage between November 1 of each year and June 30 of the succeeding year under Water Rights Permit No. 20749.

CCWD Federal Contract (CVP) Service Area

Under the CVP, CCWD federal contract water is provided to approximately 112,922 acres (CCWD 2004). CCWD's total service area is approximately 137,127 acres (CCWD 2003a). Water is pumped into the canal from Rock Slough east of Oakley and from Old River east of Discovery Bay. Water from Old River may be pumped to either the Los Vaqueros Reservoir or the Contra Costa Canal near Pumping Plant 4. Water can also be released by gravity to the Contra Costa Canal from the Los Vaqueros Reservoir. Water from Rock Slough is pumped for the first 7 miles of the canal and then flows by gravity approximately 40 miles to Martinez Reservoir. Martinez Reservoir, owned by Reclamation, is the terminal reservoir for the Canal.

LAND USE AND PLANNING

Affected Environment

Existing Land Uses

The County General Plan identifies three distinct geographic areas in the County: West County, Central County, and East County. The East County region, encompassing the largest land area, is further divided into the subareas of Pittsburg-Antioch and Other East County. The Contra Costa Canal is located in the Central and East County regions defined in the County General Plan.

Central County and East County are composed of both urban and suburban land uses. The urban areas consist of single-family and multiple-family residential, commercial, and industrial uses. The suburban areas consist of scattered developed and undeveloped properties and open space and recreational uses. Figure 4-1 illustrates general land uses in Contra Costa County.

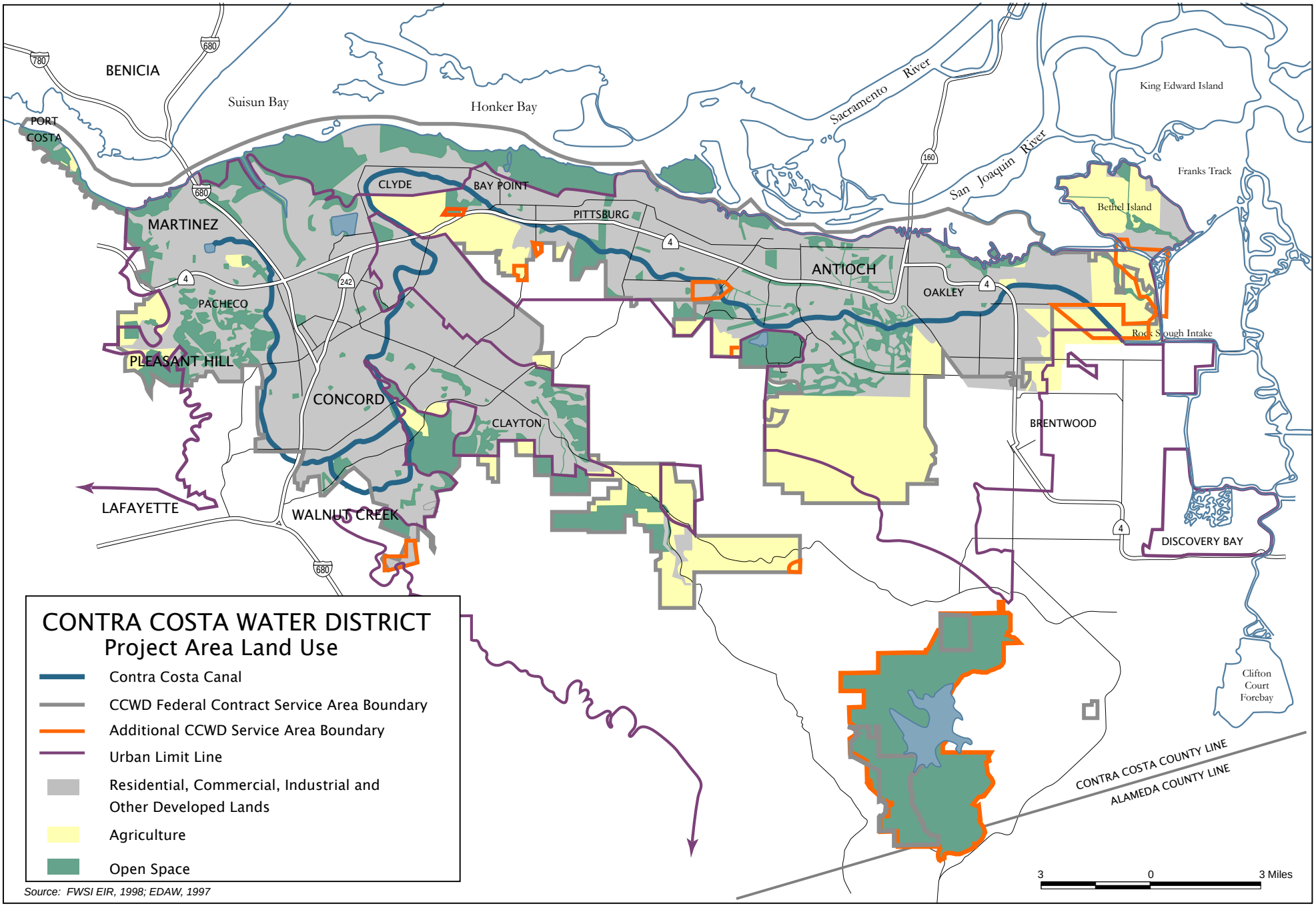
Plans and Agreements

Contra Costa County and the cities served by the CCWD have general plans and other planning vehicles with planning horizons through the year 2000 and beyond. These plans contain goals, policies, and implementation measures that, together with land use designations and zoning codes, are designed to guide land use and resource planning and development to the planning horizon. The County General Plan provides tools to control the pace of growth within the County and policies protecting agricultural land and mineral resources, vegetation and wildlife habitats, natural pathways, and visual, cultural, and wind resources. More specific discussions of these goals and policies can be found in the County General Plan EIR, FWSI EIR, and MPP EIR/EIS, which are incorporated by reference into this EA. Sections 53091 and 53096 of the California Government Code exempt public water supply facilities from regulation under local zoning ordinances. Contra Costa County also provides specific growth-management programs in its General Plan Growth Management Element.

Contra Costa County General Plan Growth Management Element

The Growth Management Element of the County General Plan provides three major tools to control the current pace of growth within the County: the 65/35 Land Preservation Standard; the Urban Limit Line; and the Growth Management Program.

The 65/35 Land Preservation Standard. In 1990, the County Board of Supervisors developed legislation, passed into law through a voter initiative, that established the 65/35 Contra Costa County Land Preservation Standard. This standard limits urban development in the County to not more than 35 percent of the County's total land area and preserves the remaining 65 percent for non-urban uses. These non-urban uses include agriculture, wetlands, open space, and parks. The legislation also developed the Urban Limit Line, described below, as a method for implementing the standard.



Source: FWSI EIR, 1998; EDAW, 1997

Figure 4-1
Project Area Generalized Land Use

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The Urban Limit Line. The County's Urban Limit Line generally defines the boundaries where new development can occur through the life of the County General Plan (see Figure 4-1). The Urban Limit Line is the demarcation of the 65/35 Land Preservation Standard and limits growth beyond those boundaries.

Growth Management Program. The Growth Management Program uses performance standards to verify that services and infrastructure can be provided by developers or are already in place to gain project approvals. Growth management standards include performance standards for traffic levels of service, park land acreage, and drainage and flood management.

Reclamation, CCWD, and East Bay Regional Park District Management Agreement

Reclamation, CCWD, and the East Bay Regional Park District (EBRPD) entered into a management agreement in 1975 concerning the development, administration, operation, and maintenance of recreation uses of the Contra Costa Canal. This agreement (Contract No. 14-06-200-7803A, as amended) states that the primary use of the Contra Costa Canal right-of-way (ROW) is for transporting and distributing the public water supply, transmitting electric power, and accomplishing other purposes of the CVP. All other uses, including recreational uses, are secondary, and the CCWD can temporarily suspend EBRPD's license to use the ROW whenever necessary for public safety, national security, or the operation and maintenance of the Contra Costa Canal system.

The agreement designates responsibility for facility maintenance and operation. Recreational facilities on the Contra Costa Canal are operated and maintained by EBRPD with no cost to CCWD. CCWD maintains the Canal service roads but splits the cost with EBRPD, depending on its share of the wear-and-tear on the service roads. If CCWD finds it necessary to modify EBRPD facilities, the contract requires that CCWD consult with EBRPD and consider means to minimize adverse effects on EBRPD-maintained trails. If, after such consideration, the CCWD still finds it necessary to remove or damage EBRPD facilities, then CCWD will repair, replace, or relocate such facilities to their former condition, function, and use, or will pay EBRPD the depreciated value of the affected facilities.

Contra Costa Water District Code of Regulations Enforcement

Under CCWD's Code of Regulations, Section 5.04.120, proponents of an annexation or applicants for water service to newly annexed lands are required to provide all necessary environmental documentation and approvals by the appropriate regulatory agencies, including the Service, before CVP water can be provided. CCWD will continue to enforce Section 5.04.120 and will keep the Service informed of enforcement actions related to endangered species.

Environmental Consequences

No Action Alternative

Because the proposed long-term water service contract renewal does not include the development of any physical facilities and structures, it would not have a direct effect on land use. Additionally, the

proposed contract renewal would not conflict with any adopted land use or conservation plan. Indirect effects to land use that could occur with growth accommodated by the continued provision of water have been adequately addressed in the FWSI EIR and MPP EIR/EIS, which incorporate the County General Plan EIR by reference. Renewal of the long-term water service contract under the No Action Alternative would aid in the implementation of the FWSI, which was specifically developed to respond to growth projected in the County General Plan and other local planning documents. The FWSI, and thus the long-term water service contract and the No Action Alternative, directly implement Contra Costa County General Plan Policy 7-17, which directs the County to encourage water service agencies to develop supplies and facilities to meet future water needs based on the growth policies contained in the County and cities' general plans.

The majority of future population and housing growth in Contra Costa County is planned for East County, especially within currently existing rural and agricultural land use areas, although some redevelopment is planned for pockets of currently developed cities. Land use development within Contra Costa County is largely governed by the County's Growth Management Element and the Urban Limit Line. Together these programs are responsible for directing, controlling, and monitoring the location and extent of urban development within the County. The FWSI EIR and its adopted findings acknowledged that the intensification of land use and development in the vacant areas of Contra Costa County would reduce open space and alter existing land use patterns. It further noted, however, that development decisions are a function of local and regional planning agencies in the County. CCWD has no land use management authority.

The County General Plan EIR identified significant and unavoidable impacts to natural open spaces as a result of achieving buildout. Since the certification of the County General Plan EIR, however, approximately 40,000 acres of open space have been added to the County inventory. Approximately half of the acres were added as a result of implementing the 1988 voter-approved Bond Measure AA, and the other half were added as a result of CCWD's construction of the Los Vaqueros Reservoir and purchase of the watershed. The County General Plan Growth Management Element also includes performance standards for park land acreage, which would discourage new development from being approved unless provisions for park land are accommodated.

Alternative 1

Alternative 1 is assumed to have effects to land use within Contra Costa County similar to those of the No Action Alternative. These effects to land use are largely governed by the County's Growth Management Element and the Urban Limit Line. CCWD has no land use management authority.

Alternative 2

Alternative 2 is assumed to have effects to land use within Contra Costa County similar to those of the No Action Alternative. These effects to land use are largely governed by the County's Growth Management Element and the Urban Limit Line. CCWD has no land use management authority.

Cumulative Impacts

Implementing the long-term water service contract under each of the alternatives would continue the delivery of CVP water to the CCWD service area at historic levels of up to 195,000 acre-feet,

resulting in no change to existing conditions for water users in the CCWD federal service area. The proposed action would not result in the construction of new facilities or the introduction of additional structures into the CCWD and Reclamation water supply system. Therefore, no physical change to the environment would result from renewal of the long-term water supply contract under any of the alternatives. The differences among the alternatives are contractual features, including water cost, definition of M&I users, and water measurement. None of the alternatives would change the water service amount, increase water system capacity, or introduce new facilities. Therefore, there would be no direct cumulative impacts to land use from the contract renewal action.

Cumulative impacts associated with implementation of the CVPIA, which included long-term CVP water supply contract renewals, were adequately evaluated in the CVPIA PEIS, from which this EA is tiered. Because the differences between the alternatives are essentially contractual features, cumulative impacts associated with implementation of the CVPIA would be the same under the three alternatives evaluated in this EA.

The cumulative impacts related to the planned growth envisioned by the cities' and County land use planning documents in areas that would be served by CVP water through the Contra Costa Canal have been adequately analyzed in the County General Plan EIR, FWSI EIR, and MPP EIR/EIS. These documents found that the cumulative impacts associated with projected countywide growth would be offset by policies and mitigation measures in the general plans and project-level environmental documents. The County's Growth Management Element discourages new development from being approved in unincorporated areas unless there is verification that performance standards can be met, or a funding mechanism has been established to meet the standards at the time of development. The enforcement and implementation of the growth management process is the responsibility of Contra Costa County and is supported through interjurisdictional coordination with the cities, Local Agency Formation Commission (LAFCO), the County Transportation Authority, and various service districts, including CCWD.

SOCIOECONOMICS

This socioeconomic analysis is composed of two technical components. The first component examines the M&I water that the CCWD would receive under proposed the long-term water service contract, focusing specifically on the potential impacts on water-related costs and demographics under Alternatives 1 and 2 compared to the No Action Alternative.[1] The second component evaluates the potential regional economic impacts of the changes to water cost and land use assessed in the first component of the analysis. To the extent possible, the technical areas addressed, methodological approaches employed, and temporal setting of the analysis tier directly from the CVPIA PEIS.

[1] The CVPIA PEIS refers to M&I water as "urban" water. However, for the present analysis, since some of the water designated by Reclamation as M&I is used for agriculture but priced at M&I rates, CVP water is identified based on its designation for rate-setting purposes and end use.

The potential socioeconomic impacts of the long-term water service contract renewal on commercial fishing and recreation were excluded from the analysis because CCWD's CVP water supply and management would not be affected by Alternatives 1 and 2 compared to the No Action Alternative.

The potential socioeconomic impacts of the proposed contract renewal on agriculture were excluded from the analysis because of the proposed conversion of CCWD's CVP agricultural water allocation (1,000 acre-feet) to M&I water and the rapid decline in agricultural activity in Contra Costa County. CCWD agricultural deliveries account for less than 1 percent of all annual deliveries, and these deliveries will be accommodated through non-CVP sources. Apples, wine grapes, peaches, strawberries, pecans, pistachios, and kiwi are the crops grown on the approximately 450 acres served by CCWD. The quantity of water supplied by CCWD for agricultural purposes was approximately 200 acre-feet in 2003, down from over 2,000 acre-feet toward the end of the last decade (CCWD 2004). It is expected that the CCWD will no longer deliver water to agricultural users in the very near term as urbanization displaces the County's agricultural lands.

Affected Environment

This section briefly characterizes the existing socioeconomic and water use conditions in the CCWD service area and Contra Costa County. Additional detail on existing conditions may be found in the County General Plan as well as the FWSI EIR.

Municipal & Industrial Water Use and Cost

In 2003, CCWD served an estimated population of 450,000 (CCWD 2004) and covered an area of 137,127 acres (CCWD 2004). The CCWD depends almost entirely on CVP water, with less than 11 percent of its water coming from other sources (CCWD 1999b). CCWD provides treated water to Clayton, Clyde, Concord, Pacheco, Port Costa, Pleasant Hill, parts of Martinez, Walnut Creek, and unincorporated areas of Contra Costa County. Raw water is provided to Antioch, parts of Martinez, Pittsburg, Southern California Water Company (Bay Point), and Diablo Water District (Oakley) as well as more than 50 industries, agricultural customers, and various landscape irrigators (CCWD 1999b).

According to the County General Plan, the District's service area may be expanded to include Hotchkiss Tract, Veale Tract, Knightsen, Bethel Island, southern Oakley, and other unincorporated areas of East County. This expansion would increase the CCWD service area by 12,280 acres (CCWD 1999b).

In 2003, CCWD recorded 60,036 connections in the treated water service area that used 36,822 acre-feet per year of water. CCWD's M&I raw water sales included approximately 75 metered connections recording 74,900 acre-feet of deliveries. The total water delivered by CCWD, not including a 7 percent estimated raw water loss, was 112,400 acre-feet (CCWD 2004).

Several of CCWD's industrial customers and the City of Antioch hold water rights for water from the San Joaquin River. These supplies are not reliable because of the poor water quality that often exists in the San Joaquin River. In dry years, little or no water is available from this source, and these customers rely on CCWD and the CVP to meet their demands. In 2003, these customers

diverted approximately 9,000 acre-feet of water under their San Joaquin River water rights. CCWD's main industrial water users, Tesoro Golden Eagle (formerly Tosco Oil), USS-Posco, Shell Oil, Gaylord Container, and DuPont, account for one-third of CCWD water use. CCWD deliveries to these customers averaged 38,790 acre-feet per year for the years 1984-1993 (CCWD 1999).

Groundwater resources in the CCWD service area do not supply significant amounts of water. There are an undetermined number of wells throughout the CCWD service area owned by industries, private individuals, and public municipal water utilities. CCWD does not manage groundwater and does not have precise figures concerning how much water is pumped from these wells, but it estimates that the annual groundwater use within the CCWD service area is 3,000 acre-feet.

Table 4-1 summarizes CCWD's 1994 and 2003 cost-of-service and full-cost rates for CVP M&I water. In 2003, the average annual residential water bill for CCWD's service area totaled $590, and household use averaged 370 gallons per day (CCWD 2004).

TABLE 4-1
CCWD 1994 and 2003 PUBLISHED CVP COST-OF-SERVICE WATER RATES

	Cost-of-Service Rate ($ per acre-foot)	*Mid-Point Rate ($ per acre-foot)*[a]	*Full-Cost Rate ($ per acre-foot)*
1994			
M&I Rates	$26.65[b]	$29.92	$33.19[c]
2003			
M&I Rates	$37.14	$39.49	$41.83

Source: Bureau of Reclamation, CH2M Hill, and Dornbusch & Company

a. Calculated as the average of the cost-of-service and full-cost rate.
b. As reported by CH2M Hill in the M&I economic analysis model in the CVPIA PEIS.
c. In 1994, the Bureau did not estimate the full cost rate for CVP M&I water because full cost was not a factor in M&I rate setting at that time. 1997 was the first year that full-cost rates were published for CVP M&I water. Accordingly, the ratio of CCWD's full-cost to cost-of-service rates for CVP M&I water in 1997 was used to estimate the 1994 full-cost rate.

Regional Economy

Contra Costa County is one of the fastest growing counties in the San Francisco Bay Area. The California Department of Finance projects the County's population will increase to more than 1.26 million by the year 2040, compared to 972,100 at the start of 2001. The estimated average annual unemployment rate for Contra Costa County in 2000 was 2.7 percent (EDD 2004). In 1999, the County ranked eighth out of the state's 58 counties with respect to per-capita income (EDD 2004).

Table 4-2 summarizes 1991 industrial output, employment, and income by place-of-work (Income POW) for the County. California's Employment Development Department (EDD) reported that the County's unemployment rate in that year was 5 percent (EDD 2000). The table indicates that the largest sector of the County economy in terms of industrial output is manufacturing. However, the table also shows that the services sector is the County's largest employer. (Data from 1991 rather than more current data are presented for the purposes of establishing an economic baseline that is temporally consistent with the economic baseline conditions presented in the CVPIA PEIS.)

TABLE 4-2
INDUSTRIAL OUTPUT, EMPLOYMENT, AND INCOME BY PLACE OF WORK (1991)

Type of Work	*Output ($M)*	*Employment (Jobs)*	*Income POW ($M)*
Agriculture	$278	5,245	$118
Mining	$3,204	3,100	$1,617
Construction	$3,238	31,958	$1,278
Manufacturing	$15,180	31,629	$4,188
Transportation	$3,398	25,150	$2,057
Trade	$3,327	81,585	$2,064
Finance, Insurance, and Real Estate	$6,498	50,636	$4,328
Services	$5,578	113,006	$3,444
Government	$1,742	51,940	$1,626
Total	**$42,443**	**394,249**	**$20,719**

Source: Minnesota IMPLAN Group 1991

Assessment Methodologies

Municipal and Industrial Water Costs

The assessment of the potential incremental impacts of Alternatives 1 and 2 on the cost of M&I water compared to the No Action Alternative is based on M&I water demand models developed for the CVPIA PEIS. A detailed description of these models is presented in the Municipal Water Costs technical appendix of the PEIS (Reclamation and Service 1997). In summary, the PEIS M&I models are designed to estimate the potential impact on the cost of CVP M&I water resulting from anticipated CVPIA-associated changes in CVP water rates and water deliveries. Thus, the M&I water cost impacts presented in the PEIS derive from (1) the proposed introduction of 80/10/10 tiered pricing, (2) a flat restoration charge applied to each acre-foot of delivered water, and (3) the anticipated cost incurred by individual CVP contractors to acquire alternative water supplies and implement conservation measures to mitigate for water delivery reductions resulting from CVPIA-mandated in-stream and refuge flow set-asides.

Consistent with the PEIS, the primary source of data used to model water demands, local supplies, and costs in evaluating socioeconomic and associated land use impacts from the long-term water service contract renewal were obtained from California Department of Water Resources Bulletin 160-93. Estimates of future CVP deliveries with and without CVPIA were derived using the

PROSIM and SANJASM models. (See the PEIS technical appendices for a description of these hydrologic modeling tools.)

The results of the analysis of the impacts on water cost in the CVPIA PEIS were aggregated into four regions, with the CCWD included in the San Francisco Bay Area Region. An implicit assumption of the PEIS M&I cost impact analysis was that both residential and commercial/industrial water users are extremely price inelastic within a fairly large range of prices for water (i.e., they will effectively not change their use of water in response to even fairly substantial changes in the price of water). Certainly, price does influence the choice of water supply. However, in the case of CCWD, the PEIS analysis concluded that reliable alternative (non-CVP) water supplies would cost an average of $340 per acre-foot, well above the effective CVP M&I water rates for any of the CCWD long-term water service contract renewal proposals under consideration. Accordingly, no incremental change in CCWD's future demand for M&I water from the CVP is anticipated under either Alternatives 1 or 2 when compared to the No Action Alternative.

Consistent with the CVPIA PEIS, the socioeconomic impact analysis for the CCWD long-term water service contract renewal focuses on both the long-run average and short-run drought hydrologic conditions, and associated CVP deliveries. Projected post-CVPIA delivery of CVP water to the CCWD for M&I uses was obtained from the PEIS M&I models prepared by CH2M Hill.

The analysis of M&I cost under the Preferred Alternative in the CVPIA PEIS (the No Action Alternative in this EA) was conducted assuming 80/10/10 tiered pricing and 1994 CVP M&I rates for the CCWD (see Table 4-3). Alternative 1 would not alter the rate-setting scheme stipulated in the No Action Alternative and, therefore, would not have an actual incremental effect on CCWD's CVP M&I water costs relative to the No Action Alternative. Alternative 2, however, would affect CCWD's actual CVP M&I water costs. As Table 4-3 indicates, the M&I cost impact analysis for Alternative 2 was conducted assuming the adoption of 80/10/10 tiered pricing, Category 1/ Category 2 water designation, and the 2003 CCWD CVP M&I rates.

The projected year 2044 M&I water cost impacts under Alternative 2 are presented as the increment above CCWD's estimated cost of CVP M&I water under the No Action Alternative for both the long-run average and short-run dry hydrologic condition. These cost impacts are translated into percentage terms with respect to CCWD's cost of CVP water and the associated approximate effect on average residential water bills within the CCWD.

CVP M&I water rates under Alternatives 1 and 2 are not expected to have any impact on CCWD's demand for CVP M&I water. In addition, the two alternatives do not differ from the No Action Alternative with respect to projected CVP water supply or reliability, although reliability may differ under the alternatives as compared to existing conditions. Therefore, the M&I water provisions in the alternatives are not anticipated to have an impact on demographics or land use. Accordingly, demographic and land use impacts are not addressed in the impact analysis for M&I water. The analysis examines only CCWD CVP water cost-related impacts. As in the CVPIA PEIS, it is assumed that any projected change in CCWD's cost of CVP water would be passed directly on to CCWD's customers.

TABLE 4-3
M&I WATER RATE SETTING
COMPARISON OF THE ALTERNATIVES

	Rate Tiering Method	*Rate Calculation Method*
No Action Alternative	80/10/10	Current
Alternative 1	80/10/10 (same as No Action Alternative)	Current (same as No Action Alternative)
Alternative 2	Category 1/Category 2 80/10/10 on Category 1 Full Cost Rate on Category 2	Revised to adjust capital and deficit repayment period to reflect 5-year rolling average deliveries
Source: Personal communication, Buford Holt, Reclamation		

Regional Economics

The assessment of regional economic impacts under Alternatives 1 and 2 uses the same data sources, models, and model assumptions used for the regional economic impact analysis in the CVPIA PEIS. A detailed description of these data sources, models, and model assumptions was presented in the Regional Economics technical appendix to the PEIS (Reclamation 1997).

In summary, the PEIS regional economic impact model was designed to estimate the impacts on regional employment, output, and income that would result from anticipated changes in M&I, agricultural, and recreational water use and cost resulting from CVPIA implementation. For the assessment in the PEIS, the CVP project area was aggregated into seven sub-regions. CCWD is included in the San Francisco Bay Area Region.

The input-output model Impact Analysis for Planning (IMPLAN) was the primary tool used to quantify the potential regional economic impacts of CVPIA implementation in the PEIS and, accordingly, to assess the regional economic impacts of CCWD's long-term water service contract renewal. A detailed description of the IMPLAN model is provided in the IMPLAN Model technical appendix to the PEIS (Reclamation 1997). Briefly, IMPLAN is used to quantify impacts from changes in policy and resource allocation. The model provides estimates of the total (or multiplied) economic effects that would result from an initial stimulus to an industrial sector (e.g., construction, transportation, utilities). As in the current case, the stimulus might be a reduction in consumer spending in the retail sector resulting from escalation of household water bills.

IMPLAN is extremely useful for characterizing the economic interdependence of different sectors of an economy. Changes in the purchases and sales in one sector of an economy can affect numerous other sectors. Economists call the sum of these changes "multiplier effects." There are many different kinds of economic multipliers. Sales or output multipliers are estimates of the effect on total private sector sales resulting from an initial change in sales. Employment and income multipliers are estimates of a change's effect on jobs and income in an area. Each of these

multipliers provides estimates of the impacts on an economy from a change in output (or jobs or income) in one or more of its sectors.

IMPLAN's multipliers are typically expressed for every $1 million of spending. For example, if the total employment multiplier in the construction sector for an area's economy is estimated at 22, a $1 million drop in spending in that sector would be expected to result in the loss of 22 jobs (both directly in construction and secondarily in other sectors as a result of changes in construction-related spending). IMPLAN multipliers are derived from long-run average relationships between industrial sectors. Accordingly, the regional economic impacts of the anticipated CVP M&I cost effects of Alternative 2 were evaluated only for the long-run average hydrologic condition. Under the short-run drought condition scenario, it is likely that the economic impacts indicated by the IMPLAN model would be overstated since short-run effects tend to be smaller than long-run effects (i.e., there is a delayed response).

Contra Costa County as a whole is the area used for the regional economic impact assessment of Alternatives 1 and 2. While the potential economic effects of the contract renewal alternatives may extend outside of Contra Costa County, it is reasonable to anticipate that the majority of the impacts would be within the County. Furthermore, the localized effects of contract renewal are the most relevant in evaluating local community plans.

Contra Costa County IMPLAN data from 1991 were used for the analysis to be consistent with the CVPIA PEIS. As with the PEIS, the analysis focuses on three economic variables: industrial output, employment, and Income POW. Income POW is defined as the sum of employee compensation, proprietor's income, and other property income. The CCWD contract renewal IMPLAN analysis is also aggregated into the same industrial sector groupings as reported in the PEIS.

The projected impacts of contract renewal on the Contra Costa County economy are presented in terms of the incremental change from the No Action Alternative. The 1991 baseline IMPLAN data are the primary data source used to characterize the affected economic environment (existing conditions) in Contra Costa County. These data are also adjusted to account for the anticipated incremental impact of the CVPIA PEIS preferred alternative on the Contra Costa County economy relative to the "without-CVPIA" condition. These adjusted IMPLAN data define the No Action Alternative for this EA. All of the IMPLAN data are presented in 1991 dollars.[2] Accordingly, while the estimated incremental cost impacts of Alternative 2 are presented in 2003 dollars, those costs are converted to 1991 dollars for the County-level economic impact analysis. In this manner, the magnitude of the potential incremental economic impacts of Alternative 2 is consistently evaluated in 1991 dollars.

If the cost of water for CCWD's residential customers were to increase to pay the government for higher CVP water rates, the increase would have a direct effect on those individuals' disposable income available for other purchases in the local region. Consistent with the PEIS urban water

[2.] The baseline data were used throughout the analysis because the structure of Contra Costa County in 2044 cannot be predicted without substantial speculation. This approach is consistent with the PEIS.

analysis, it is assumed that escalation in residential water costs resulting from renewal of the long-term water service contract would cause disposable income to decrease dollar for dollar. The income change is allocated among all the consumer expenditure categories reported in the IMPLAN model for Contra Costa County to estimate the output, employment, and income effects of that reduction in disposable income. In theory, no such analysis should be conducted for the large-scale industrial customers of the CCWD, since increases to their water bill would simply increase their cost of doing business. Because those industrial water customers are large publicly held companies, it is unlikely that the escalation of their water bills would have any meaningful local impact on the economy. Nonetheless, consistent with the PEIS, all of the anticipated M&I water cost impacts of the contract renewal proposals are assumed to directly affect local consumer spending.

Environmental Consequences

Municipal And Industrial Water Costs

No Action Alternative

Table 4-4 presents the estimated total cost of delivered CVP M&I water in the year 2044 in 1994-dollar terms for the No Action Alternative under both average and dry hydrologic conditions. The table shows that in the year 2044 under the No Action Alternative in a year of average hydrologic conditions, CCWD would have to pay an estimated $8.2 million to acquire (a) the 155.7 thousand-acre-feet of CVP M&I water that would be made available to its customers and (b) an additional approximately 11,000 acre-feet of supplies from alternative water sources it would need to address demand not met by CVP supplies. The table also shows that the projected cost of CCWD M&I water under the No Action Alternative in a dry year increases to over $20 million (assuming the average cost of alternative water supplies for the CCWD is $340 per acre-foot, a 1994 estimate developed by CH2M Hill for the CVPIA PEIS).

TABLE 4-4
CCWD PROJECTED M&I WATER COST (2044)
NO ACTION ALTERNATIVE

Hydrologic Condition	*Long-Run Average Hydrologic Condition*
2044 Average-Year CVP Delivery Only	155.7 taf[1]
2044 Average-Year Other Water Supplies	11.3 taf
Total CCWD Cost (in 1994 dollars)	$8.2 million
	Short-Run Dry Hydrologic Condition
2044 Dry-Year CVP Delivery Only	117.3 taf
2044 Dry-Year Other Water Supplies	49.3 taf
Total CCWD Cost (in 1994 dollars)	$20.2 million

Source: Dornbusch & Company and CH2M Hill

[1] thousand acre feet

Alternative 1

Alternative 1 is assumed to have effects on M&I water costs, water use, and land within the affected region similar to the No Action Alternative. Therefore, this alternative would result in no environmental effects.

Alternative 2

Table 4-5 shows the projected incremental change in CCWD's cost for CVP M&I water in the year 2044 under Alternative 2 compared to the No Action Alternative. The table indicates, for example, that in an average hydrologic year following five dry hydrologic years, CCWD's cost of CVP water would be about $1.5 million more or about 30 percent higher than under the No Action Alternative. While this district-level increase in the cost of water is large, the expected increase in the District's recent average residential water bill of $590 per year would be only about $5.00, or less than 1 percent, because the cost of water is actually a relatively small component of CCWD's cost to treat, store, and deliver water to its customers.

TABLE 4-5
CCWD PROJECTED M&I WATER COST (2044)
ALTERNATIVE 2

		Changes Compared to No-Action		
	No Action Alternative	*Alternative 2*		
Hydrologic Condition	*Long-Run Average Condition*	*Average-Average*	*Dry-Average*	*Wet-Average*
2044 Average-Year CVP Delivery Only	155.7 taf[1]	0	0	0
2044 CVP Cost (in 2003 dollars)	$4.3 million	$1.3 million	$1.5 million	$1.2 million
Incremental Change in CCWD Cost (CVP water only)	N/A	29%	35%	28%
Change in total cost of water (including non-CVP supplies)	N/A	15%	18%	15%
	Short–Run Dry Hydrologic Condition	*Average-Dry*	*Dry-Dry*	*Wet-Dry*
2044 Dry-Year CVP Delivery Only	117.3	0	0	0
2044 CVP Cost (in 2003 dollars)	$3.2	$0.82	$0.95	$0.82
Incremental Change in CCWD Cost (CVP water only)	N/A	25%	29%	25%
Change in total cost of water (including non-CVP supplies)	N/A	4%	5%	4%

Source: Dornbusch & Company and CH2M Hill.

[1] thousand acre feet

Table 4-5 also compares CCWD's projected CVP M&I water costs under Alternative 2 in a year of dry hydrologic conditions compared to No Action Alternative levels in a dry year. The table indicates that in a dry year, the anticipated incremental increase in CCWD's cost for CVP M&I water under Alternative 2 and in CCWD's total cost for M&I water following 5 years of dry, average, or wet hydrologic conditions would be as much as 29 percent and 5 percent, respectively.

Cumulative Impacts

In addition to the potential escalation of CCWD M&I water rates, and thus residential water costs, under Alternative 2, additional escalations in future M&I water cost are anticipated as a result of the addition of new water facilities and the upgrading of existing facilities in the CCWD water system to accommodate planned expansion of the CCWD service area.

Regional Economics

No Action Alternative

Table 4-6 presents in 1991 terms the estimated year 2044 total industrial output, employment, and Income POW in Contra Costa County under the No Action Alternative.

TABLE 4-6
2044 OUTPUT, EMPLOYMENT AND INCOME POW
NO ACTION ALTERNATIVE (1991)

Sector	*Output ($Millions)*	*Employment (FTE[1] Jobs)*	*Income POW ($Millions)*
Agriculture	$278	5,244	$118.
Mining	$3,204	3,100	$1,617.
Construction	$3,238	31,958	$1,278.
Manufacturing	$15,180	31,621	$4,188.
Transportation	$3,398	25,146	$2,057.
Trade	$3,327	81,562	$2,063.
Finance, Insurance, and Real Estate	$6,498	50,625	$4,328.
Services	$5,578	112,977	$3,443.
Government	$1,742	51,936	$1,626.
Total	$42,437	394,169	$20,717.

Source: Dornbusch & Company and Minnesota IMPLAN Group

[1] full-time equivalent

Alternative 1

Alternative 1 is assumed to have impacts on the regional economy similar to the No Action Alternative. Therefore, Alternative 1 would result in no environmental impacts.

Alternative 2

Table 4-7 shows the estimated impacts on total industrial output of the projected cost of M&I water under Alternative 2 by major industrial sector for Contra Costa County. The table indicates that under Alternative 2, the projected incremental decrease in total industrial output in the County in the year 2044 is projected to be from $1.8 million in a year of average hydrologic conditions following 5 years of wet hydrologic conditions to $2.1 million in a year of average hydrologic conditions following 5 years of dry hydrologic conditions (in 1991 dollars). This range represents a decrease of less than 0.01 percent in the County's total projected industrial output.

TABLE 4-7
2044 INDUSTRIAL OUTPUT IMPACTS
ALTERNATIVE 2 (1991 DOLLARS)

	No-Action Average Condition	*Change Compared to No-Action Average Condition*		
		Alternative 2		
Place of Work	*Output ($Millions)*	*Dry-Average*	*Average-Average*	*Wet-Average*
Agriculture	$278	-$0.01	-$0.01	-$0.01
Mining	$3,204	$0.00	$0.00	$0.00
Construction	$3,238	$0.00	$0.00	$0.00
Manufacturing	$15,180	-$0.49	-$0.43	-$0.40
Transportation	$3,398	-$0.16	-$0.14	-$0.13
Trade	$3,327	-$0.40	-$0.34	-$0.32
Finance, Insurance, and Real Estate	$6,498	-$0.38	-$0.33	-$0.31
Services	$5,578	-$0.58	-$0.50	-$0.47
Government	$1,742	-$0.06	-$0.05	-$0.05
Total	$42,437	-$2.09	-$1.80	-$1.68

Source: Dornbusch & Company and Minnesota IMPLAN Group

Table 4-8 presents the total estimated impacts on Contra Costa County employment resulting from contract renewal-related changes in CCWD's M&I and agricultural water costs. The table indicates that the projected year 2044 incremental decrease in total employment in the County under Alternative 2 would be from about 22 full-time-equivalent (FTE) jobs in an average hydrologic year following five wet hydrologic years to 28 jobs in an average hydrologic year following 5 years of dry hydrologic conditions (in 1991 terms). This range of impacts represents a decrease of less than 0.01 percent in the County's employment base compared to the No Action Alternative.

Table 4-9 presents the estimated total impacts on Income POW in Contra Costa County resulting from the CCWD M&I and agricultural water costs anticipated under Alternative 2. The table indicates that in the year 2044, the projected incremental decrease in total Income POW in the County under Alternative 2 ranges from about $940,000 during a year of average hydrologic conditions following 5 years of wet hydrologic conditions to almost $1.2 million in a year of dry hydrologic conditions following 5 years of dry hydrologic conditions (in 1991 dollars). This range of impacts represents a decrease of less than 0.01 percent in the County's total Income POW compared to estimated conditions under the No Action Alternative.

TABLE 4-8
2044 EMPLOYMENT IMPACTS
ALTERNATIVE 2 (1991 DOLLARS)

Place of Work	*No-Action Average Condition*	*Change Compared to No-Action Average Condition*		
		Alternative 2		
	Employment (FTE[1] Jobs)	*Dry-Average (FTE Jobs)*	*Average-Average (FTE Jobs)*	*Wet-Average (FTE Jobs)*
Agriculture	5,244	-0.2	-0.2	-0.2
Mining	3,100	0.0	0.0	0.0
Construction	31,958	0.0	0.0	0.0
Manufacturing	31,621	-2.8	-2.4	-2.3
Transportation	25,146	-1.5	-1.3	-1.2
Trade	81,562	-8.0	-6.9	-6.4
Finance, Insurance, and Real Estate	50,625	-3.7	-3.2	-3.0
Services	112,977	-10.1	-8.6	-8.1
Government	51,936	-1.4	-1.2	-1.1
Total	394,169	-27.8	-23.9	-22.4

Source: Dornbusch & Company and Minnesota IMPLAN Group

[1] full-time equivalent

Cumulative Impacts

It is not anticipated that any currently planned future action, other than planned expansion of the CCWD service area, will have a cumulative impact on the Contra Costa County economy in addition to those impacts projected to result from CVP contract renewal under either Alternatives 1 or 2.

TABLE 4-9
2044 PLACE-OF-WORK INCOME IMPACTS
ALTERNATIVE 2 (1991)

Place of Work	*No-Action Average Condition*	*Change Compared to No-Action Average Condition*		
		Alternative 2		
	Income POW[1] *(1991 $ Millions)*	*Dry-Average (1991 $ Millions)*	*Average-Average (1991 $ Millions)*	*Wet-Average (1991 $ Millions)*
Agriculture	$118	-$0.01	-$0.01	-$0.01
Mining	$1,617	$0.00	$0.00	$0.00
Construction	$1,278	$0.00	$0.00	$0.00
Manufacturing	$4,188	-$0.18	-$0.16	-$0.15
Transportation	$2,057	-$0.10	-$0.08	-$0.08
Trade	$2,063	-$0.24	-$0.21	-$0.19
Finance, Insurance, and Real Estate	$4,328	-$0.24	-$0.21	-$0.20
Services	$3,443	-$0.35	-$0.30	-$0.28
Government	$1,626	-$0.05	-$0.04	-$0.04
Total	$20,717	-$1.16	-$1.00	-$0.94

Source: Dornbusch & Company and Minnesota IMPLAN Group
[1] full-time equivalent

BIOLOGICAL RESOURCES

This section describes the biological resources in the CCWD service areas and the potential indirect effects of the long-term water service contract renewal. This description is provided for informational purposes to summarize project-specific impacts of the contract renewal and to describe on-going consultations among Reclamation, CCWD, the Service, and NOAA-Fisheries regarding biological resources in the CCWD service area.

The information in this section is summarized from the *Biological Assessment on the Contra Costa Canal Long-Term Water Service Contract Renewal* (Reclamation 2004) that Reclamation prepared concurrently with this Revised Draft EA. The submittal of the biological assessment (BA) to the Service and NOAA-Fisheries will serve to initiate formal consultation under Section 7 of the Endangered Species Act (ESA). If the assessment indicates that the federal action will or may affect species listed as threatened or endangered under the ESA (listed species), a draft biological opinion subsequently issued to Reclamation by the Service will determine whether implementing the proposed long-term water service contract with the CCWD is likely to jeopardize the existence of listed species occurring in the CCWD service area.

The discussion of biological resources in the 2000 Draft EA was based on information in the FWSI EIR and MPP EIR/EIS and the biological opinions that resulted from those projects. These and other relevant biological opinions are listed in the BA, which is incorporated by reference.

Affected Environment

Land Use/Land Cover Conditions

The CCWD service area has a diverse range of land cover/community types and unique species. The topographic variety of Contra Costa County, from the summit of Mount Diablo to the San Francisco Bay–Delta estuary complex, combines to form the setting for its range of land cover types and wildlife. Contra Costa County is bounded by San Francisco Bay and San Pablo Bay to the west, by Suisun Bay and the channels of the Sacramento and San Joaquin Rivers to the north, and by Alameda County to the south. The San Francisco Bay–Delta system (including San Pablo Bay) is generally regarded as the most important water body in California. It is used extensively for both recreational and commercial purposes, and it supports diverse wildlife, fish, and plant species.

Historically, the region surrounding the CCWD contained a diverse and productive patchwork of water, wetland, riparian forest, and surrounding terrestrial communities that supported abundant populations of resident and migratory species of wildlife. Huge herds of pronghorn antelope (*Antilocapra americana*), tule elk (*Cervus elaphus nannodes*), and mule deer (*Odocoileus hemionus*) grazed the prairies, and large flocks of waterfowl gathered in the extensive wetlands.

Today, the dominant community types associated with the CCWD service area include water, wetlands, grassland/rangelands, scrub and shrublands, orchards and vineyards, cropland and pastures, forests, urban areas, and barrens. Land uses in the CCWD include agricultural, residential, and M&I uses. Over the years, land has been converted from native land cover types to cultivated fields, pastures, residences, water impoundments, flood control structures, and other developments. Natural communities are now restricted in their distribution and size and are largely fragmented. As a result, these natural communities are increasingly important to resident and migratory wildlife species.

As a result of the conversion of native communities, many species, including listed species, have been displaced or extirpated from the region. Most of the species that occurred historically are now restricted to patches of natural community that are fragmented and isolated, making it difficult for viable populations to exist. Some species have adapted to portions of the new landscape and are able to maintain populations. However, as a result of the largely fragmented natural communities, the potential for expansion or growth of these populations is greatly reduced. Because of the reduction in habitat available to these species, remnants of natural communities such as wetlands and riparian forest/woodlands are increasingly valuable. Substantial natural areas that support federally or state-listed species are protected by public agencies (e.g., Mt. Diablo State Park and the Antioch Dunes National Wildlife Refuge). Wetlands, especially marshes scattered along the County's shoreline, have also been afforded substantial legal and policy protection.

Historical fishery resources within the CCWD service area were different from today's fishery resources. Many native species have declined in abundance and distribution, and several introduced

species have become well established. All CCWD water drains either directly or indirectly into the San Francisco Bay–Delta system. A water quality plan ("basin plan") has been prepared that serves as a blueprint for water pollution control activities for the Bay. The basin plan identifies a number of beneficial uses of the Bay that must be protected, including non-contact recreation, wildlife habitat, preservation of rare and endangered species, estuarine habitat, warm freshwater and cold freshwater fish habitat, fish spawning and migration, industrial service supply, navigation, and commercial and sport fishing.

Land Cover/Community Types

This section describes the land cover/community types in the CCWD service area, as depicted in Figure 4-2. The following electronic data sources were consulted to generate the land cover and community types shown on the figure: Reclamation Federal Water District, the California Natural Diversity Database (CNDDB), the Service's Wetlands Inventory and Conservation Program, and the California-Gap Analysis Project (CA-GAP) (USGS et al. 1998).

Fifteen land cover/community types were identified within the CCWD service area: annual grassland, barren, blue oak/foothill pine, blue oak woodland, coastal oak woodland, chamise redshank chaparral, cropland, estuarine, lacustrine, mixed chaparral, montane hardwood, orchard and vineyard, riverine, saline emergent wetland, and urban.

Because the distribution of land cover/community types on Figure 4-2 is identified at the landscape level, community boundaries are approximate and small areas (areas of less than approximately 10 acres) and linear habitat features (e.g., corridors of riparian vegetation) are not mapped but could be present as inclusions within larger mapped units of land cover. The minimum mapping unit was 250 acres for upland cover and 100 acres for wetlands.

Table 4-10 shows the acreages of land cover/community types in the CCWD service area. The predominant native land cover type is the annual grassland community, which constitutes approximately 23 percent of the CCWD service area. Approximately 41 percent of the CCWD service area remains in native land cover, approximately 2 percent is used for agriculture, and 57 percent is developed or barren. The BA (Reclamation 2004) describes the land cover types in the CCWD service area in more detail.

Table 4-10. Land Cover/Community Types and Acreages in the CCWD Service Area

Land Cover/Community Type	*Acres*
Water	
Estuarine	5,277
Lacustrine	122
Riverine	1
Subtotal	5,400
Wetlands	
Coastal Brackish Marsh	3,145
Northern Coastal Salt Marsh	102
Saline Emergent Wetland	3,128
Subtotal	6,375
Grasslands	
Annual Grassland	25,479
Scrub/Shrub Lands	
Chamise Redshank Chaparral	286
Mixed Chaparral	1,488
Subtotal	1,774
Forests	
Blue Oak – Foothill Pine	436
Blue Oak Woodland	6,102
Coastal Oak Woodland	78
Montane Hardwood	178
Riparian Woodland	107
Subtotal	6,901
Agricultural Lands	
Cropland	2,384
Orchard and Vineyard	328
Subtotal	2,712
Other Land Cover Types	
Urban	64,021
Barren	180
Stabilized Interior Dunes	80
Subtotal	64,281
TOTAL	112,922

Protected Species and Critical Habitats

Protected species are plants and animals that are legally protected under the federal Endangered Species Act (ESA) and species that are considered candidates by the scientific community to qualify for such protection. Critical habitats are habitats that are legally protected under the ESA. Protected plants and animals are defined as follows:

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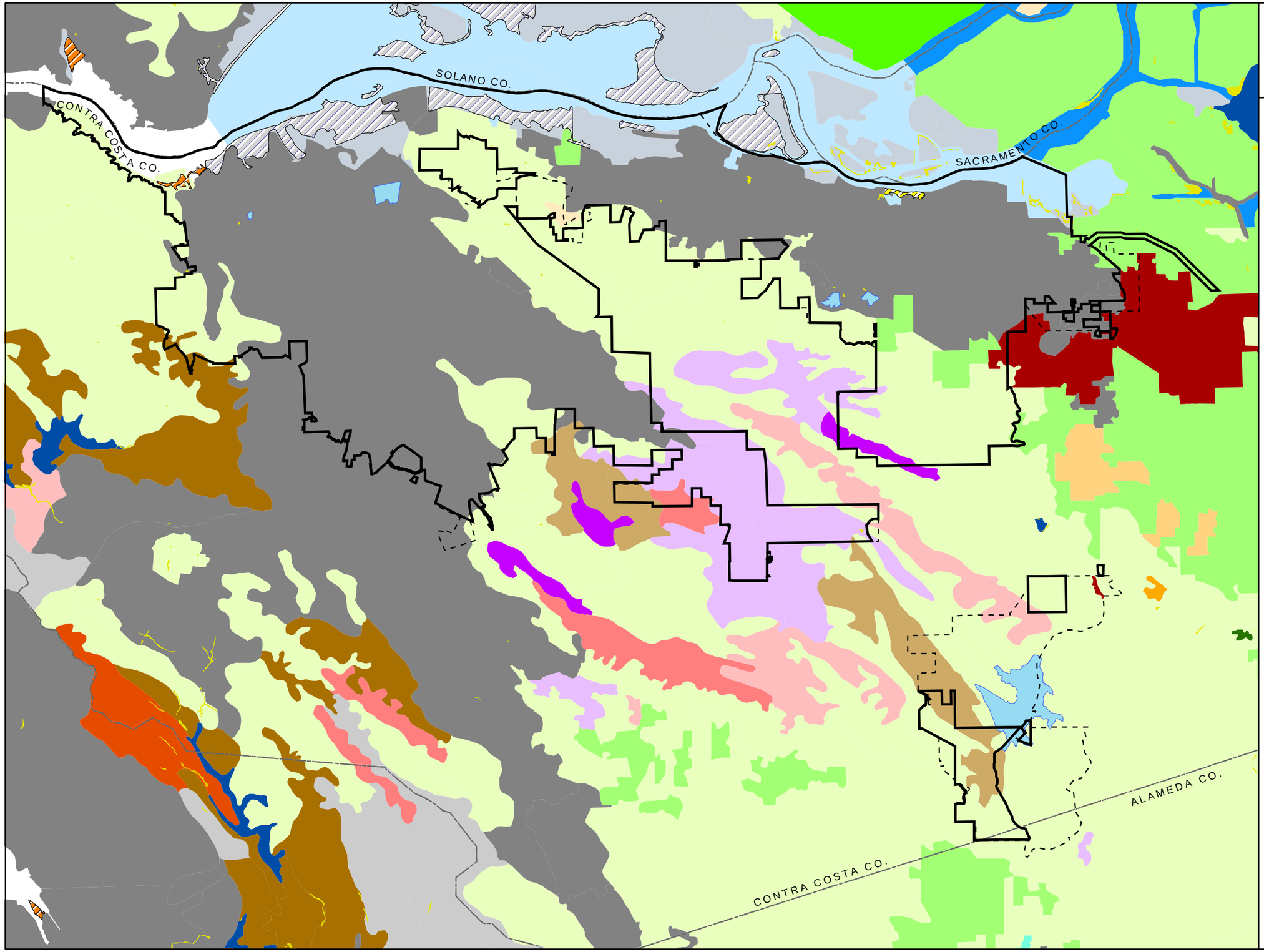
Figure 4-2
Land Cover Types in the Project Area and Vicinity

Contra Costa Water District Long-Term Water Service Contract Replacement



CCWD Federal Contract Service Area

Additional CCWD Service Area

CCWD Reservoirs

County Boundaries

WHR Habitat Types in the CCWD Service Area

- Annual Grassland
- Barren
- Blue Oak - Foothill Pine
- Blue Oak Woodland
- Coastal Oak Woodland
- Chamise Redshank Chaparral
- Cropland
- Estuarine
- Lacustrine
- Mixed Chaparral
- Montane Hardwood
- Orchard and Vineyard
- Riverine
- Saline Emergent Wetland
- Urban

Source: GAP Analysis of Mainland California, 1998

- Riparian Woodland

Source: National Wetlands Inventory, 1997

- Coastal Brackish Marsh
- Northern Coastal Salt Marsh
- Stabilized Interior Dunes

Source: California Natural Diversity Database, 2003

Other WHR Habitat Types in the Project Vicinity

- Coastal Scrub
- Deciduous Orchard
- Eucalyptus
- Freshwater Emergent Wetland
- Pasture
- Redwood
- Valley Foothill Riparian

Source: GAP Analysis of Mainland California, 1998

N

0 2.5 5

Miles

10029 - Contra Costa LTCR BA\GIS\10018_CCWD_EA_Fig-4-2_WHR.mxd

Source: NSR, Inc.; CCWD; U.S. Bureau of Reclamation; GAP Analysis of Mainland California, 1998; U.S. Fish and Wildlife Service; California Dept. of Fish and Game 04-13-04 rescolar

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- Species listed or proposed for listing as threatened or endangered under the federal ESA (50 CFR 17.12 [listed plants], 50 CFR 17.11 [listed wildlife and fish], and various notices in the Federal Register [FR] [proposed species]);

- Species that are candidates for possible future listing as threatened or endangered under the federal ESA (61 FR 7596-7613, February 28, 1996).

Critical habitat is defined as "the specific areas within the geographic area occupied by a species on which are found those physical and biological features essential to the conservation of the species, and that may require special management considerations or protection; and specific areas outside the geographic area occupied by a species at the time it is listed, upon determination that such areas are essential for the conservation of the species."

In 2001, in conjunction with the 2000 Draft EA and BA, Reclamation requested from the Service a list of species and critical habitats that could occur in the CCWD service area, in accordance with requirements of the ESA. The Service provided a species list in June 2001, and Reclamation met with the Service to discuss the scope of analysis and level of detail for a BA. A BA, dated November 2001, was drafted, but not submitted to the Service at the discretion of Reclamation. Reclamation began to revise and update the BA in 2003. A new species list was downloaded from the Service's Sacramento Field Office website (http://sacramento.fws.gov/es/spp_list.htm) on January 29, 2004. A memorandum of Request for Concurrence with this species list was sent to the Service and NOAA-Fisheries on February 25, 2004. The species list, which also shows critical habitats in the CCWD service area, is included as Appendix B.

Plans and Policies

Numerous laws, planning regulations, and previous environmental commitments provide protection for specific biological resources in the CCWD service area.

Some of the potential secondary effects of growth on terrestrial biological resources, including special-status species, will be avoided or minimized through general plan policies and implementation measures; through mitigation measures identified in EIRs on general plans adopted by the County and by city jurisdictions within the CCWD service area; and through compliance with CEQA; NEPA; the federal and state ESAs; and Section 404 of the Clean Water Act. In addition, these laws and regulations may require compensation or mitigation to offset some effects on species and their habitats. Biological opinions also establish protections for sensitive species.

Biological Assessment on Long-Term Water Contract Renewals

As described above, Reclamation has prepared a *Biological Assessment on the Contra Costa Canal Long-Term Water Service Contract Renewal* (Reclamation 2004). Reclamation's determination in the BA is that the proposed long-term water service renewal contract with CCWD:

- *may affect, but is not likely to adversely affect* listed fish species or their critical habitat because the proposed contract renewal would not result in any changes in conditions in the Delta and, therefore, would not affect the habitat or populations of those fish species that

have a moderate potential of occurring in the CCWD service area. The operations of the CVP, including the export of water from the Delta, are governed by separate criteria in biological opinions on CVP operations, by the CVPIA, and by hydrologic conditions.

- *may affect, but is not likely to adversely affect* listed or proposed wildlife species or their critical habitat because the proposed contract renewal would not result in any direct changes to land use and, therefore, would not affect the habitat or populations of those wildlife species with a moderate potential of occurring in the CCWD service area.
- *may affect, but is not likely to adversely affect* listed or proposed plant species or their critical habitat because the proposed contract renewal would not result in any direct changes to land use and, therefore, would not affect the habitat or populations of those plant species with a moderate potential of occurring in the CCWD service area.

This determination was based on the following:

- The proposed long-term water service contract renewal would continue the deliveries of CVP water to the CCWD and would not result in changes to or alterations of habitat used by species listed or proposed for listing as threatened or endangered that are known to occur or have the potential to occur in the CCWD service area
- The contract renewal would not affect the habitat or populations of fish species listed or proposed for listing as threatened or endangered that have a moderate potential of occurring in the CCWD service area. The operations of the CVP, including the export of water from the Delta, are governed by separate criteria in biological opinions on CVP operations, by the CVPIA, and by hydrologic conditions.
- Application of the Reasonable and Prudent Measures, Terms and Conditions, and Conservation Recommendations provided in the *Final Biological Opinion on the Construction of the Multipurpose Pipeline and Future Water Supply Implementation Program, Contra Costa County*, and provided in the CVPIA biological opinion would mitigate for potential site-specific effects to wildlife species listed or proposed for listing as threatened or endangered that have a moderate potential of occurring in the CCWD service area.

Environmental Consequences

No Action Alternative

The No Action Alternative for the long-term service contract for continued provision of water to the CCWD service area would not introduce new structures or result in any physical changes to the environment. Therefore, no direct effects on biological resources are expected to occur as a result of renewing the long-term water service contract for the CCWD service area.

Indirect effects to terrestrial resources related to the secondary effects of growth within CCWD's service area were adequately evaluated in the FWSI EIR. The FWSI EIR found that the continued provision of water would result in indirect effects to native land and agricultural habitats, special-

status communities, and special-status species. These impacts were mitigated through the biological opinion on the MMP and the FWSI.

The biological opinion sets forth the process for addressing the indirect effects on terrestrial species related to the renewal of CCWD's CVP contract, as provided under the consultation on the Implementation of the CVP Improvement Act and Operation of the CVP (1-1-98-F-0124). The Service concluded that five species were not likely to be jeopardized by the effects of construction of the MPP and that 12 plant and wildlife species would not likely be jeopardized by the indirect effects of urban development associated with the FWSI program. The Service's conclusion was predicated on the commitment of CCWD to the conservation measures contained in the biological opinion.

Alternative 1

Alternative 1 is assumed to have effects to biological resources similar to the No Action Alternative. Biological consultations are required by the Consultation and Coordination requirements established by Executive Order for all Reclamation activities. Impacts have been mitigated through the biological opinion for the MPP and FWSI.

Alternative 2

Alternative 2 is assumed to have effects to biological resources similar to the No Action Alternative. These impacts have been mitigated through the biological opinion for the MPP and FWSI.

Cumulative Impacts

Implementing the long-term water service contract under each of the alternatives would continue the provision of CVP water to the CCWD federal service area up to their existing contract amount, resulting in no change to existing conditions for water users in the CCWD service area. The contract renewal does not include construction of new facilities or the introduction of additional structures into the CCWD and Reclamation water supply system. Therefore, no physical change to the environment would result from renewal of the long-term water service contract under any of the alternatives. The differences among the alternatives are contractual features, including water cost, definition of M&I users, and water measurement. None of the alternatives would change the water service amount, increase water system capacity, or introduce new facilities. Therefore, there would be no direct cumulative impacts to biological resources from the replacement of the existing water contract with a long-term water service contract.

Cumulative impacts associated with implementation of the CVPIA, which included a long-term CVP water supply contract with CCWD, were adequately evaluated in the CVPIA PEIS, from which this EA is tiered. Since the differences among the alternatives are essentially contractual features, cumulative impacts associated with implementation of the CVPIA to biological resources would be the same under all alternatives. The ROD developed by Reclamation and the Service for the CVPIA PEIS incorporated strategies for maintaining protected biological resources.

Cumulative impacts to biological resources related to the planned growth envisioned by the cities' and County land use planning documents, including continued water service by Reclamation, were adequately analyzed in the FWSI EIR and the MPP EIR/EIS, which incorporated the discussion from the County General Plan EIR. The biological opinion developed for the FWSI program and MPP project identified specific conservation measures to be undertaken by CCWD to ensure that protected species would not be jeopardized by these actions. Development, however, is planned and managed through the County and cities' general plans and land management processes. Reclamation and CCWD have no jurisdiction over local land use policy or decision-making relative to specific land development proposals.

CULTURAL RESOURCES

This section describes cultural resources in the project area and programs in place to protect these resources. The discussion is summarized from the FWSI EIR and MPP EIR/EIS, which are incorporated by reference into this EA, because cultural resources potentially affected by these projects are the same as those within the CCWD service area. These documents considered cultural resources in the CCWD service area. Cultural resources include prehistoric and historic archaeological sites, districts, and objects; standing historic structures and buildings; and locations of important historic events, or sites of traditional/cultural importance.

Study Methods

To prepare the FWSI EIR and MPP EIR/EIS, prehistoric and historic site record and literature searches were conducted by the California Historical Resources Information System, Northwest Information Center, Sonoma State University, Rohnert Park (CHRFS/NWIC File Nos. 98-150, 97-348, 97-563, 98-25). In addition, focused prehistoric, ethnographic, and general historical research was conducted using reference material from the Bancroft Library, University of California, Berkeley, and Basin Research Associates, San Leandro.

The cultural resources evaluation for the MPP project also involved the following:

- Focused prehistoric, ethnographic, and general historical research, as well as a review of specialized findings;
- Review of 30 cultural resource compliance reports on file with the CHRIS/NWIC which include or are adjacent to the area analyzed for the project alternatives. Twenty-four reports are relevant to the Contra Costa Canal;
- A field survey of selected areas along the Contra Costa Canal was conducted. The Canal was previously surveyed during the archaeological inventory of the Contra Costa Canal for the Bureau of Reclamation in 1996 (West and Welch 1996).
- An Environmental Documentation Study and Cultural Resources Review also was prepared by Basin Research Associates for the MPP project.

Affected Environment

The CCWD service area is within the San Francisco Bay and San Pablo Bay Region, which is part of the Coast Ranges geomorphic province, with San Francisco Bay marking the division between the North and South Coast ranges. This region of central California has a long history of human occupation beginning 12,000 to 10,000 years ago.

Prehistoric Period

Contra Costa County was an area especially favored by prehistoric Native Americans due to favorable environmental conditions and the variety of landforms (e.g., Self et al. 1993). The majority of the CCWD service area has no archaeological sensitivity rating assigned by the County General Plan, since it is located in or adjacent to developed urban areas and publicly owned lands.

In general, Native American occupation sites appear to have been selected for accessibility, protection from seasonal flooding, and the availability of resources. Sea-level changes over the past 6,000-8,000 years have also influenced site location and distribution, especially in the Delta portions of the service area (Bickel 1978a-b; Moratto 1984; West 1977).

Prior to 5,000-4,500 years ago, Native American use of the San Francisco Bay region appears to have been intermittent and sparse. Evidence of early occupation along the bayshore may have been hidden by rising sea levels from about 15,000 to 7,000 years ago or buried under sediments caused by bay marshland infilling along estuary margins from 7,000 years onward (Moratto 1984). Early groups probably focused on hunting and the gathering of various plant foods along with shellfish collection. A three-part development sequence has been used by archaeologists to explain local and regional cultural change in prehistoric central California from 4,500 years ago to European contact (Lillard et al. 1939). This scheme of three major time periods called horizons—Early, Transitional, and Late—is known as the central California Taxonomic System (Beardsley 1948, 1954). Recent chronological placement of the divisions suggests that the Early Horizon dated to ca. 4,500-3500/3000 years ago, the Middle Horizon to ca. 3,500-1,500 years ago, and the Late Horizon to ca. 1500-250 years ago (Moratto 1984). Overviews of regional prehistoric information are presented in Elsasser (1978), C. King (1978a-b), Moratto (1984), Stewart (1981), and West and Welch (1996).

Historic Period

The CCWD service area was explored by the Spanish between 1772 and 1811. After this initial period of Spanish exploration, the Spanish concentrated on the founding of presidios, missions, and secular towns along the California coast (1769-1821). The closest Spanish settlements to the CCWD service area were Mission San Jose in present-day Fremont and San Francisco de Asis in San Francisco.

Control of California passed from Spain to Mexico in 1822. Mexican policy stressed individual ownership of the land, with large ranchos being granted to individuals. Five former ranchos are located in the *Central County Primary Region.* One former rancho was located in the *East County Primary Region,* and no ranchos granted or patented were located in the *Rural East County Primary*

Region. For the most part, the CCWD service area was used for grazing during the Hispanic and early American Periods (Hendry and Bowman 1940; Beck and Haase 1974).

Control of California passed to the United States in 1847. Throughout the late 19th century, ranchos and other lands were subdivided as the result of population growth. Reclamation of the Delta was undertaken to provide land for agriculture, with agricultural activities predominating during the American Period and into the Contemporary Period. Further development of the area was facilitated by the development of regional rail and road networks to service both industry and agriculture with market links, the introduction of the refrigerator railcar in the 1880s allowing the transport of agricultural produce to distant markets, and a coal mining boom from the 1850s-1880s. Towns along Suisun Bay/San Joaquin River were important points for services and the transport of goods shipped to San Francisco and Sacramento by water and later by rail (Goddard 1857, Whitney 1873, Elliot Publishing Company 1893, Smith and Elliot 1897, Slocum 1882, Weber & Co. ca. 1914, Gudde 1974, Emanuels 1986, Fickewirth 1992, and McLeod 1994). The Southern Pacific Railroad constitutes both a major 19th as well as 20th century feature in the CCWD service area along with the San Pablo and Tulare Railroad (owned and controlled by the Central Pacific Railroad) and the San Francisco and San Joaquin Railroad Company (later purchased by the Santa Fe Railroad Company). The town of Clyde is notable, as it was designed by Bernard Maybeck as a residential community for the Pacific Coast Shipbuilding Company to house workers during World War I (Sloan & Robson 1918, Gudde 1974, Kyle 1990).

Identified Cultural Resources

Numerous cultural resources studies have been completed in the CCWD service area over the past 30 years, usually in support of environmental compliance requirements. Approximately 300 reports are on file that include the CCWD service area, although systematic surveys are rare. Two "reported" cultural resources, C-810 and C-811 (near James Donlon Boulevard in Antioch), and an "earthmound" noted on the Stratton and Thompson 1865-1869 Rancho Los Medanos plat at Post Marker #9 (near Serrana Court in Pittsburg) have been identified as being located south of the Contra Costa Canal. These resources were not relocated during the archaeological inventory of the Contra Costa Canal conducted for Reclamation in 1996 (West and Welch 1996) or during the construction of the canal, according to Reclamation records. No indicators of these three potential resources were observed during a field review conducted by Basin Research Associates in 1997.

Industrial and residential development in Contra Costa County has already affected archaeological resources. Development, particularly in the Ygnacio Valley and along the Bay margins, has destroyed an unknown number of both prehistoric sites and historic resources associated with the early development of the area. However, a number of archaeological sites are known to be present in the CCWD service area, both in currently developed areas and in the primarily agricultural areas east of Oakley. There is also the potential for the discovery of unknown sites in both urban and rural contexts, with some potential for deeply buried sites in both the inland and Delta areas of the CCWD service area.

Areas specifically designated for development in the County General Plan within the CCWD service area that are sensitive for cultural resources include the Alhambra Valley Road west of Martinez (Central County Area). Other sensitive areas within the East County area include the

Lone Tree Valley area of Antioch and areas to the south; two areas along Marsh Creek Road, one east of Mt. Diablo State Park and the area east of Clayton; and the eastern areas of the City of Pittsburg south of State Highway 4. Portions of the Veale Tract in the Rural East County are also extremely sensitive for prehistoric archaeological resources. A total of 72 archaeological sites have been recorded in or adjacent to the primary regions within the CCWD service area. These include 52 prehistoric sites, 19 historic sites, and one multi-component site with both a prehistoric and historic component.

Prehistoric Resources

The 52 prehistoric sites include village sites, temporary camps, lithic scatters, milling sites, petroglyph sites, quarry sites, middens, and burial sites. Prehistoric sites occur throughout the service area, although a locational analysis study was not undertaken. Research undertaken by West and Welch (1996) suggests a strong correlation between site location and soils/landform elevation. However, intact prehistoric cultural deposits are more likely to be present in areas relatively unaffected by urbanization and agriculture, although subsurface deposits could exist below the plow zone or underneath pavement or structures.

Historic Resources

The 19 historic sites located within the CCWD service area include railroad grades and associated railroad features, ranches and farmsteads, water conveyance systems and wells, mine sites, industrial sites, refuse deposits, and architectural features. Historic resources are likely to occur throughout the area, although many are likely to have been destroyed by subsequent development or redevelopment. The CCWD service area is situated within a number of former ranchos and includes the City of Martinez in the former *Rancho El Pinole*, which has a number of former adobe dwelling sites as well as several extant adobe structures. Potential historic properties associated with the built environment, rural farms and farm complexes, transportation-related features including roads, bridges, and landings, and historic archaeological sites may be present in both developed and undeveloped areas, although the resources may have been affected by urbanization, agriculture, and industrial development.

Traditional Cultural Properties

Mount Diablo, a dominant natural feature located just outside of the CCWD service area but visible throughout the service area, is a California State Landmark and designated Native American Ethnic Site. It has spiritual significance to the Costanoan as the focal point of their creation myth as well as for its role in several Miwok legends. No reservations or rancherias are present in the CCWD service area. A number of Native American burial sites are known as the result of archaeological discoveries, and there is a potential for others. The locations of these sites are considered sacred by Native American groups. Other traditional cultural properties (e.g., gathering areas, sacred use areas) may be present in rural areas.

In compliance with 36 CFR 800.4(a) (4), Reclamation has sent letters to Indian tribes requesting their input regarding the identification of any properties to which they might attach religious and cultural significance within the area of potential effect. To date, Reclamation has not received any comments or formal responses from the tribes.

National Register of Historic Places and Other Listed Cultural Resources

At least 44 individual properties or districts (buildings, building sites, landings, etc.) listed on the National Register of Historic Places (NHRP) or eligible for listing are located in the three primary regions of the CCWD service area. These historic properties are also included in the California Register of Historical Resources (CRHR).

The Contra Costa Canal facility was evaluated and was determined not to be eligible for the National Register by Reclamation and the State Historic Preservation Officer (SHPO) in 1992 (West and Welch 1996). No National Register and/or California Register historic properties, architecturally significant structures, landmarks, or points of interest are present either within or adjacent to the canal.

Plans and Policies

National Historic Preservation Act

The primary law governing cultural resources is the National Historic Preservation Act (NHPA), 16 USC 470-470mm. This act established the NRHP and the Advisory Council on Historic Preservation (ACHP).

Section 106 of the NHPA requires that federal agencies consult with the ACHP prior to any undertaking that would affect a property either on or eligible for the NRHP. Since compliance with Section 106 of the NHPA is usually in response to a proposed action that has the potential to affect historic properties, consultation with the California SHPO, interested parties, and, when appropriate, the ACHP is required.

According to federal law, significant cultural resources are those that are either listed on the NHRP, nominated to the NHRP, eligible for listing on the NHRP, designated a National Historic Landmark, or valued by modern Native Americans for maintaining their traditional culture.

Environmental Consequences

No Action Alternative

The No Action Alternative would not introduce new structures, construction activities, or result in physical changes to the environment, and would therefore not directly affect cultural resources. Indirect effects to cultural resources would result from the planned growth and development projected in the County General Plan and evaluated in the County General Plan EIR. Any potential indirect impacts would be the responsibility of the decision-making land management agencies. Demographic, economic, political, and other factors, independent of the proposed contract renewal, that result in changes with direct and indirect effects to cultural resources are beyond the range of Reclamation's NHPA Section 106 responsibilities. Reclamation would need to consider the effects to historic properties when Reclamation *approves* new lands being brought into an irrigation district (Inclusions) and when Reclamation *approves* a change in use that could lead to an effect on a historic property.

The County General Plan EIR previously examined impacts to significant historical or archaeological resources associated with projected development from buildout under the General Plan. The EIR found that secondary impacts resulting from development in currently non-urban areas could affect both known and undiscovered archaeological resources, especially in areas of high sensitivity. Areas specifically identified in the County General Plan EIR, which are included in the CCWD service area, include the Alhambra Road west of Martinez. The County General Plan EIR identified potentially significant adverse impacts to significant historic or archaeological resources associated with growth (CCC CDD 1992).

In addition to the Countywide growth impacts evaluated in the County General Plan EIR, the FWSI EIR evaluated impacts of the CCWD water supply plan developed in response to projected increased future demand at buildout under the General Plan. The FWSI EIR concluded that implementation of the water supply plan would not result in impacts to cultural resources in the service area beyond those identified in the County General Plan EIR. The MPP EIR/EIS also concluded that implementation of the MPP project would not result in impacts to cultural resources beyond those identified in the County General Plan EIR.

The following Historic and Cultural Resource Implementation Measures were provided in the County General Plan EIR to reduce the potential impacts of Countywide development on cultural resources:

- Develop an archaeological sensitivity map to be used in the environmental review process for discretionary permits;
- Include a procedure to be followed in the event that archaeological resources are encountered during development or construction as a condition of approval of discretionary permits;
- Develop design guidelines for areas adjacent to or within scenic corridors or historic sites;
- Review existing County ordinances and guidelines and make amendments as necessary;
- Promote the use of the State of California Historic Building Code to protect sites;
- Encourage owners of eligible historic properties to apply for registration of these sites and participate in programs for historic restoration;
- Seek coordination and cooperation with government agencies and organizations to fund preservation, restoration, and enhancement of unique historic sites;
- Identify funding mechanisms to fund preservation, restoration, and enhancement of unique historic sites; and
- For development in areas with medium to high sensitivity, perform, at a minimum, a Phase I, Level I survey.

Alternative 1

Alternative 1 is assumed to have effects to cultural resources similar to the No Action Alternative. Therefore, there are no environmental impacts anticipated for this alternative beyond those identified in the County General Plan EIR. These impacts would be minimized by implementation of Historic and Cultural Resource Implementation Measures.

Alternative 2

Alternative 2 is assumed to have effects to cultural resources similar to the No Action Alternative. Therefore, there are no environmental impacts anticipated for this alternative beyond those identified in the County General Plan EIR. These impacts would be minimized by implementation of Historic and Cultural Resource Implementation Measures.

Cumulative Impacts

Implementing the long-term water service contract under each of the alternatives would continue the provision of CVP water to the CCWD service area at historic levels, resulting in no change to existing conditions for water users in the CCWD service area. The contract renewal action would not result in the construction of new facilities or introduction of additional structures into the CCWD and Reclamation water supply system. Therefore, no physical change to the environment would result from renewal of the long-term water supply contract under any of the alternatives. The differences among the alternatives are contractual features, including water cost, definitions of M&I users, and water measurement. None of the alternatives would change the water service amount, increase water system capacity, or introduce new facilities. Therefore, there would be no direct cumulative impacts to cultural resources from the contract renewal action.

Cumulative impacts associated with implementation of the CVPIA, which included long-term CVP water supply contract renewal, were adequately evaluated in the CVPIA PEIS from which this EA is tiered. The PEIS analysis provides the programmatic cumulative analysis for the No Action Alternative to which Alternatives 1 and 2 are compared. Since the differences among the alternatives are essentially contractual features, cumulative impacts associated with implementation of the CVPIA to cultural resources would be the same under all alternatives.

Cumulative impacts to cultural resources related to planned growth have been adequately analyzed in the FWSI EIR, and MPP EIR/EIS, which incorporated the discussion from the County General Plan EIR. The effects to cultural resources resulting from planned development actions supported by the County and cities' general plans and other land use planning programs are beyond the range of Reclamation's Section 106 responsibilities. For example, Reclamation is not responsible for the development of housing tracts or industrial development in a community. Such actions are approved locally and at the state level. Further, if a farmer changes from one irrigated crop to another because of economic reasons, Reclamation does not control the farmer's decision. For actions undertaken by CCWD or Reclamation within the federal service area that could affect historic resources, Reclamation and CCWD are required to comply with Section 106 of the NHPA.

INDIAN TRUST ASSETS

Affected Environment

Indian trust assets are legal interests in property that are held in trust by the U.S. Government for Indian tribes or individuals. The Secretary of the Interior is the trustee for the United States on behalf of recognized Indian tribes. Examples of trust assets are lands, minerals, hunting and fishing rights, and water rights.

Reclamation shares the responsibility to protect and maintain Indian trust assets reserved by or granted to Indian tribes or Indian individuals by treaty, statute, or Executive Order. Reclamation carries out its activities in a manner that protects trust assets and avoids impacts, where possible. Where not possible, compensation or mitigation is provided in consultation with affected tribes.

There are no known federally recognized Indian trust assets within the contract service area of the CCWD.

Environmental Consequences

No Action Alternative

There would be no environmental effects to Indian trust assets under the No Action Alternative.

Alternative 1

There would be no environmental effects to Indian trust assets under Alternative 1.

Alternative 2

There would be no environmental effects to Indian trust assets under Alternative 2.

Cumulative Effects

Implementation of Alternative 1 or Alternative 2 would not affect Indian trust assets and would therefore not contribute to cumulative effects to those assets.

CHAPTER 5
OTHER ACTIVITIES AND RELATED IMPACTS

GROWTH INDUCEMENT

The National Environmental Policy Act (NEPA) requires consideration of potential growth-inducing impacts as indirect effects of proposed actions (40 CFR 1508.8(b)). To find that there would be a growth-inducing impact as a result of the proposed long-term water service contract renewal action, a determination would need to be made that the proposed action would result in increased growth and that the increased growth would be reasonably certain to occur. The proposed long-term water service contract renewal between Reclamation and CCWD would not result in growth-inducing impacts, for the reasons described below.

Growth Inducement Analysis Completed for Related Projects

Environmental documentation completed for two related projects undertaken by the CCWD, the MPP and the FWSI, analyzed potential growth inducement associated with implementation of these projects. The MPP EIR/EIS studied modifications to the Contra Costa Canal to provide structural upgrading and a water backup supply system, and the FWSI EIR evaluated future water demand and considered increasing the water supply over the current allotment of 195,000 acre-feet per year to 219,400 acre-feet per year. An increased water supply could be accommodated under both of these projects. The environmental documents concluded that while provision of additional water would remove an obstacle to growth, it would not alter the time, magnitude, or location of growth forecasted by the regional planning and land use agencies in Contra Costa County.

The MPP EIR/EIS concluded that the MPP would indirectly support growth in the cities and the County but also concluded that this growth would not exceed planned levels or occur in areas not planned for development by the lead land use agencies. The impacts of this growth have also been evaluated in the environmental documentation of the cities and the County.

The FWSI was developed to respond to growth projected by the County and cities' general plans. The FWSI specifically responded to policies outlined in the County General Plan EIR, including the development of supplies and facilities to meet future water needs (Policy 7-17 of the County General Plan). The FWSI EIR also concluded that the projects included in the FWSI would not directly cause growth, but would accommodate growth already anticipated in the County and cities' general plans.

In contrast to the MPP and FWSI projects, the proposed action would not either directly or indirectly increase the amount of CVP water historically provided to the CCWD. The continued provision of water would, however, accommodate the need for water generated by current development and projected countywide growth forecasts. Development is planned and managed through the County and cities' general plans and land management processes. Reclamation and CCWD have no jurisdiction over local land use policy or decision-making related to land development proposals.

Water System Capacity

A project would be growth inducing if it resulted in increased water system capacity. Since the proposed contract renewal would not increase water system capacity, it would not be growth inducing. The capacity of CCWD's water system was increased by the MPP, resulting in indirect impacts on growth in the County.

Growth Inducement Analysis of the Proposed Action

The purpose and need for a proposed action are key considerations in evaluating its potential to induce future growth. As identified previously in this EA, the purpose of the proposed action is to replace CCWD's Amendatory Contract. Long-term contract renewal is needed to continue the provision of CVP water, incorporate administrative conditions into the renewed contract in compliance with federal reclamation law, and allow the continued reimbursement to the federal government for costs related to CVP operation. These actions would neither increase the amount of water provided to the CCWD nor introduce new structures or facilities that could accommodate increased water volumes.

The proposed action would renew the long-term water service contract to deliver water from the CVP to the CCWD. All alternatives would secure continued CVP water delivery to the CCWD service area at the current level of up to 195,000 acre-feet per year. The differences among the alternatives are contractual features, including water cost, definition of M&I users, and water measurement. None of the alternatives would change the water service amount, increase water system capacity, or introduce new facilities. The provision of a reliable water supply to CCWD would not directly cause growth to occur, but would rather accommodate existing water demands and future growth envisioned in the cities' and County general plans and amendments. Regional growth issues have been adequately addressed in the County General Plan, the general plan for each city within the project service area, and regional plans generated by the Association of Bay Area Governments, the California Department of Transportation, and others. These planning efforts used historical analysis, the formulation of public goals and policies, and various types of forecasting to generate growth management plans addressing the nature, pace, scale, and geographical distribution of future changes in population, economy, and land use with the service area. Each plan was developed with substantial community and public agency input, and each was subject to comprehensive environmental review prior to approval and adoption.

Local and regional plans incorporate consideration of the regional water system as one basis of land use planning. The discretionary approval of land development projects within each local jurisdiction is predicated on conformance with these land use regulations. Thus, limitations to new land development that exist due to capacities in the regional water system are imposed through the land development approval process. Since the proposed action would not alter the regional water delivery and storage system, it would not affect any existing or anticipated limitations to population growth.

UNAVOIDABLE ADVERSE IMPACTS

No unavoidable direct adverse impacts resulting from long-term water service contract renewal have been identified. None of the alternatives would change the water service amount, increase water system capacity, or introduce new facilities. They would therefore not directly cause any physical changes to the environment. Implementation of the alternatives would accommodate planned development and growth in accordance with city and County land use plans.

Contra Costa County has identified some significant unavoidable impacts of planned growth, including loss of farmland, air quality degradation, traffic congestion, and a change in aesthetic character. These issues were adequately evaluated in previous environmental documents, and the County adopted a statement of overriding considerations for these impacts.

CHAPTER 6
CONSULTATION AND COORDINATION

INTRODUCTION

Prior to the preparation of this EA, input was solicited and incorporated from a broad range of cooperating and consulting agencies and the public. This chapter summarizes the public involvement program and key issues raised by the public and interest groups. This chapter also addresses the manner in which federal statutes, implementing regulations, and executive orders potentially applicable to implementation of the CVPIA have been addressed. The conclusions of compliance are based on the Environmental Consequences presented in Chapter 4. The compliance summaries apply only to the alternatives discussed in this EA and not the development of concurrent CVPIA implementation programs.

PUBLIC INVOLVEMENT

Reclamation started the preparation of this EA with scoping meetings. Scoping served as a fact-finding process to identify public concerns and recommendations about the long-term contract renewal issues that would be addressed in this EA and the scope and level of detail for analyses. Scoping activities began in October 1998 after a Notice of Intent to prepare environmental documentation for long-term contract renewals was filed in the Federal Register. The scoping period formally ended in January 1999 and the *Scoping Report* was released in the summer of 1999.

Public input continued during long-term contract negotiations to define the contract language. Discussions also were held with the CCWD during the preparation of this document.

At public scoping meetings, Reclamation provided information about the long-term contract renewal process and solicited public comments, questions, and concerns. At these meetings, participants had numerous comments and questions about how important issues would be considered both in the CVPIA PEIS and during the long-term contract renewal process. The majority of the comments received during the scoping process addressed the needs assessment methodology to be used as part of the long-term contract renewal process. Contract renewal negotiation issues also were addressed. The fewest number of comments addressed environmental issues.

Reclamation received numerous comments about issues to be considered in this EA and methodologies for analyzing impacts. Comments concerning the development of alternatives were considered in the formation of the alternatives analyzed in this EA. It was determined that the description of the alternatives in this EA largely would focus on the contract provisions. Comments on methods used to address impacts were considered in the development of the Environmental Consequences section of this EA. The impact analysis focused on comparing the alternatives with the CVPIA PEIS Preferred Alternative (which is the No Action Alternative in this EA) rather than with existing conditions.

CONSULTATION WITH OTHER AGENCIES

This EA was prepared in accordance with the policies and regulations for the following issues. These issues and how compliance was addressed in this EA are briefly discussed in the remaining sections of this chapter. Work is continuing on each of these requirements. As individual projects are implemented, compliance requirements will be considered.

- National Environmental Policy Act
- California Environmental Quality Act
- Endangered Species Act
- Fish and Wildlife Coordination Act
- National Historic Preservation Act
- Indian Trust Assets
- Indian Sacred Sites on Federal Land
- Environmental Justice
- State, Area-wide, and Local Plan and Program Consistency
- Floodplain Management
- Wetlands Protection
- Wild and Scenic Rivers Act
- Farmland Protection Policy Act and Farmland Preservation
- Safe Drinking Water Act
- Clean Air Act
- Clean Water Act

NATIONAL ENVIRONMENTAL POLICY ACT

This EA was prepared pursuant to regulations implementing the National Environmental Policy Act (NEPA) (42 USC 4321 *et seq.*). NEPA provides a commitment that federal agencies will consider the environmental effects of their actions. This EA provides information regarding the No Action Alternative, the alternatives, and the environmental impacts of the alternatives.

The Revised Draft EA/Draft FONSI was made available to the public on December 14, 2004. The comment period closed on January 12, 2005. No comments were received.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

Implementation, funding, and permitting actions carried out by state and local agencies must comply with the California Environmental Quality Act (CEQA). The CEQA requirements are similar to NEPA requirements. This EA could be used as a basis for preparation of a CEQA document.

ENDANGERED SPECIES ACT

Reclamation has prepared a biological assessment to determine if the alternatives will affect listed threatened and endangered species. The biological assessment addresses all species affected by the CVP operation in the CCWD service area. The biological assessment does not indicate that the

proposed action is likely to adversely affect a listed species. However, if it is determined that the proposed action may affect a listed species, Reclamation will request formal consultation pursuant to the ESA.

Consultation with the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration (NOAA) has been initiated by Reclamation. USFWS and NOAA concurrences with the determinations of the BA would mean that the long-term contract renewal may affect, but is not likely to adversely affect special-status species and designated or proposed critical habitats of those species.

Consultation with the National Oceanic and Atmospheric Administration (NOAA) and USFWS must be completed before Reclamation can approve Findings for a proposed action. Reclamation must sign the Finding (FONSI) before long term renewal contracts can be signed by Reclamation.

FISH AND WILDLIFE COORDINATION ACT

The Fish and Wildlife Coordination Act (FWCA) requires that Reclamation consult with federal and state fish and wildlife agencies on all water development projects that could affect biological resources. The implementation of the CVPIA, of which this action is a part, has been jointly analyzed by Reclamation and the Service, and the CVPIA is being jointly implemented. This continuous consultation with, and consideration of the views of, the Service in addition to its review of this document and consideration of its comments satisfies any applicable requirements of the FWCA.

NATIONAL HISTORIC PRESERVATION ACT

Section 106 of the NHPA requires that federal agencies evaluate the effects of federal undertakings on historical, archeological, and cultural resources and afford the Advisory Council on Historic Preservation opportunities to comment on the proposed undertaking. The first step in the process is to identify cultural resources included on (or eligible for inclusion on) the NRHP that are located in or near the project area. The second step is to identify the possible effects of proposed actions. The lead agency must examine whether feasible alternatives exist that would avoid such effects. If an effect cannot reasonably be avoided, measures must be taken to minimize or mitigate potential adverse effects.

During preparation of this EA, information from the State Clearinghouse was collected. The County and city governments in Contra Costa County have initiated separate consultations with respect to their land use planning activities. It was determined by the SHPO that compliance with Section 106 should be coordinated on a project-specific basis.

INDIAN TRUST ASSETS

The United States Government's trust responsibility for Indian resources requires Reclamation and other agencies to take measures to protect and maintain trust resources. These responsibilities include taking reasonable actions to preserve and restore tribal resources. Indian trust assets are legal interests in property and rights held in trust by the United States for Indian tribes or individuals. Indian reservations, rancherias, and allotments are common Indian trust assets. During

preparation of this EA, it was determined, based upon information provided by Reclamation that no Indian trust assets exist within the CCWD service area.

INDIAN SACRED SITES ON FEDERAL LAND

Executive Order 13007 provides that, in managing federal lands, each federal agency with statutory or administrative responsibility for management of federal lands shall, to the extent practicable and as permitted by law, accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners, and avoid adversely affecting the physical integrity of such sacred sites. No sacred sites were identified during the scoping or planning process, and sacred sites were therefore not included in the impact assessment of this EA.

ENVIRONMENTAL JUSTICE

Executive Order 12898 requires each federal agency to achieve environmental justice as part of its mission by identifying and addressing disproportionately high and adverse human health or environmental effects, including social or economic effects, of programs, policies, and activities on minority populations and low-income populations of the United States. This EA evaluated the environmental, social, and economic impacts on minority and low-income populations in the impact assessment of the alternatives.

STATE, AREA-WIDE, AND LOCAL PLAN AND PROGRAM CONSISTENCY

Agencies must consider the consistency of a proposed action with approved state and local plans and laws. This EA was prepared with extensive information from local planning agencies.

FLOODPLAIN MANAGEMENT

If a federal agency program will affect a floodplain, the agency must consider alternatives to avoid adverse effects in the floodplain or to minimize potential harm. Executive Order 11988 requires federal agencies to evaluate the potential effects of any actions they might take in a floodplain and to ensure that planning, programs, and budget requests reflect consideration of flood hazards and floodplain management. The alternatives would not affect floodplain management as compared to the No Action Alternative.

WETLANDS PROTECTION

Executive Order 11990 authorizes federal agencies to take actions to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands when undertaking federal activities and programs. Any agency considering a proposal that might affect wetlands must evaluate factors affecting wetland quality and survival. These factors should include the proposal's effects on public health, safety, and welfare due to modifications in water supply and water quality; maintenance of natural ecosystems and conservation of flora and fauna; and other recreational, scientific, and cultural uses. The alternatives would not affect wetlands as compared to the No Action Alternative.

WILD AND SCENIC RIVERS ACT

The Wild and Scenic Rivers Act designates qualifying free-flowing river segments as wild, scenic, or recreational. The Act establishes requirements applicable to water resource projects affecting wild, scenic, or recreational rivers within the National Wild and Scenic Rivers System, as well as rivers designated on the National Rivers Inventory. Under the Act, a federal agency may not assist in the construction of a water resources project that would have a direct and adverse effect on the free-flowing, scenic, and natural values of a wild or scenic river. If the project would affect the free-flowing characteristics of a designated river or unreasonably diminish the scenic, recreational, and fish and wildlife values present in the area, such activities should be undertaken in a manner that would minimize adverse impacts and should be developed in consultation with the National Park Service. None of the EA alternatives would affect flows in wild and scenic portions of rivers.

FARMLAND PROTECTION POLICY ACT AND FARMLAND PRESERVATION

Two policies require federal agencies to include assessments of the potential effects of a proposed project on prime and unique farmland. These policies are the Farmland Protection Policy Act of 1981 and the Memoranda on Farmland Preservation, dated August 30, 1976, and August 11, 1980, respectively, from the U.S. Council on Environmental Quality. Under requirements set forth in these policies, federal agencies must determine the effects before taking any action that could result in converting designated prime or unique farmland for nonagricultural purposes. If implementing a project would adversely affect farmland preservation, the agencies must consider alternatives to lessen those effects. Federal agencies also must ensure that their programs, to the extent practicable, are compatible with state, local, and private programs to protect farmland. No specific consultation concerning farmlands was conducted during preparation of this EA because the alternatives would not affect agricultural lands as compared to the No Action Alternative.

CLEAN AIR ACT

The Federal Clean Air Act (CAA) was enacted to protect and enhance the nation's air quality in order to promote public health and welfare and the productive capacity of the nation's population. The CAA requires an evaluation of any federal action to determine its potential impact on air quality in the project region. Coordination is required with the appropriate local air quality management district as well as with the Environmental Protection Agency (EPA). This coordination would determine whether the project conforms to the Federal Implementation Plan and the State Implementation Plan (SIP).

Section 176 of the CAA (42 U.S.C. Section 7506(c)) prohibits federal agencies from engaging in or supporting in any way an action or activity that does not conform to an applicable SIP. Actions and activities must conform to a SIP's purpose of eliminating or reducing the severity and number of violations of the national ambient air quality standards and in attaining those standards expeditiously. EPA promulgated conformity regulations (codified in 40 CFR Section 93.150 et seq.).

The alternatives assume that current practices to control dust and soil erosion on lands that are seasonally fallowed would continue and that the land use agencies would continue to work with the

air quality districts. Therefore, it assumed that no air quality impacts would occur due to the alternatives as compared to the No Action Alternative.

SAFE DRINKING WATER ACT

The Safe Drinking Water Act (SDWA) (PL 99-339) became law in 1974 and was reauthorized in 1986 and again in August 1996. Through the SDWA, Congress gave the EPA the authority to set standards for contaminants in drinking water supplies. Amendments to the SDWA provided more flexibility, more state responsibility, and more problem prevention approaches. The law changed the standard-setting procedure for drinking water and established a State Revolving Loan Fund to help public water systems improve their facilities, to ensure compliance with drinking water regulations, and to support state drinking water program activities.

Under the SDWA provisions, the California Department of Health Services has the primary enforcement responsibility. The California Health and Safety Code establishes this authority and stipulates drinking water quality and monitoring standards. To maintain primacy, a state's drinking water regulations cannot be less stringent than the federal standards. The analysis of the EA alternatives as compared to the SDWA requirements indicated that there would be no changes in compliance as compared to the No Action Alternative.

CLEAN WATER ACT

The Clean Water Act (CWA) gave the EPA the authority to develop a program to make all waters of the United States "fishable and swimmable." This program has included identifying existing and proposed beneficial uses and methods to protect and/or restore those beneficial uses. The CWA contains many provisions, including provisions that regulate the discharge of pollutants into water bodies. The discharges may be direct flows from point sources, such as an effluent from a wastewater treatment plant, or a non-point source, such as eroded soil particles from a construction site. The analysis of the EA alternatives as compared to the CWA requirements indicated that there would be no changes in compliance as compared to the No Action Alternative.

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LIST OF CONTACTS AND CONTRIBUTORS

David Young	South Central California Area Office-U.S. Bureau of Reclamation
Nina Bicknese	Mid-Pacific Regional Office-U.S. Bureau of Reclamation
Joseph Thompson	South Central California Area Office-U.S. Bureau of Reclamation
Paul Aguirre	South Central California Area Office-U.S. Bureau of Reclamation
Frances Garland	Contra Costa Water District
Jeff Quimby	Contra Costa Water District

LIST OF PREPARERS

Laura Kuh	Principal-In-Charge/Project Manager, North State Resources
Jason Bass	Senior Economist, Dornbusch and Company
Kathryn McDonald	Technical Writer and Editor, North State Resources
Kerri Mikkelsen Rose	Environmental Scientist, North State Resources
Robin Jordan	Document Preparation/Graphic Production, North State Resources
Tara Anderson	Graphic Production, North State Resources
Phyllis Potter	Project Manager for the October 2000 Draft EA, SAIC
Marianne Tanzer	Environmental Analyst for the October 2000 Draft EA, SAIC
Agnes Vianzon	Environmental Analyst for the October 2000 Draft EA, SAIC

ACRONYMS AND ABBREVIATIONS

ACHP	Advisory Council on Historic Preservation
CALFED	Consortium of state and federal agencies created through the Bay-Delta Accord
CCCGP	Contra Costa County General Plan
CCWD	Contra Costa Water District
CRHR	California Register of Historical Resources
CNDDB	California Natural Diversity Database
County	Contra Costa County
CVP	Central Valley Project
CVPIA	Central Valley Project Improvement Act
Delta	Sacramento-San Joaquin Delta
DOHS	Department of Health Services
EA	Environmental Assessment
EBRPD	East Bay Regional Parks District
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FTE	Full Time Equivalent
FWSI	Future Water Supply Implementation project
IMPLAN	Impact Analysis for Planning
LAFCO	Local Agency Formation Commission
LVP	Los Vaqueros Project
M&I	Municipal and Industrial
MPP	Multipurpose Pipeline

NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOAA	National Oceanic and Atmospheric Administration
NRHP	National Register of Historic Places
NWIC	Northwest Information Center
PEIS	Programmatic Environmental Impact Statement
POW	Place of Work
PROSIM	A Hydrologic Model Developed by the USBR
Reclamation	U.S. Bureau of Reclamation
ROD	Record of Decision
ROW	Right of Way
RRA	Reclamation Reform Act
Secretary	Secretary of the Interior
State Board	State Water Resources Control Board
USBR	U.S. Bureau of Reclamation
USFWS	U.S. Fish and Wildlife Service
VAMP	Vernalis Adaptive Management Plan