

**FINAL ENVIRONMENTAL ASSESSMENT
FOR THE
LONG-TERM CONTRACT RENEWAL
SHASTA AND TRINITY RIVER DIVISIONS**



U.S. Bureau of Reclamation
Mid-Pacific Region-Shasta Division
Northern California Area Office
16349 Shasta Dam Boulevard
Shasta Lake, California

February 2005



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Lead Agency:

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PREFACE

This document is the Final Environmental Assessment (Final EA) for the Long-Term Contract Renewal, Shasta and Trinity Rivers Divisions which must be considered prior to approving a Finding of No Significant Impact (FONSI). Under the National Environmental Policy Act (NEPA), the U.S. Bureau of Reclamation (Reclamation) must consider this EA before approving or rejecting the contract renewals (project).

The Final EA includes all corrections and additions to the EA text made as a result of comments made on the Draft EA and the Updated Draft EA. Any changes to the text are indicated by revision marks (underline for new text, ~~strike-out~~ for deleted text). The Draft EA was published in October 2000, and the Updated Draft EA was published in July 2004. Appendix F to this document provides a list of commenters, copies of written comments (numerically coded for reference), and Reclamation's responses to those comments.

No significant environmental issues beyond those already covered in the EA were raised during either the 30-day comment period for the Draft EA or the 30-day comment period for the Updated Draft EA. Comments received on the EA did not indicate new significant impacts or significant new information that would require recirculation of the EA pursuant to NEPA, but it was updated and recirculated because of the time lapse between the completion of the EA and the completion of negotiations and Endangered Species Act consultations.

CHAPTER 1

PURPOSE AND NEED

1.1 INTRODUCTION

This environmental assessment (EA) evaluates the potential effects and benefits of long-term renewal of water contracts for 10 water service Contractors (Contractors) that receive water from the Shasta and Trinity River Divisions of the Central Valley Project (CVP). Contract renewals would allow continued CVP water delivery to the Shasta and Trinity River Divisions' service areas.

The CVP is the largest water storage and delivery system in California, covering 35 of the state's 58 counties. Authorized by Congress in 1935, the CVP is divided into nine divisions, including the Shasta and Trinity River Divisions. These divisions catch and channel southward the headwaters of the network of CVP waterways. Shasta Dam, the main feature of the Shasta Division, was authorized in the same legislation that authorized the CVP and was completed in 1945. The Trinity River Division, which was authorized in 1955 and completed in 1964, stores, regulates, and diverts water from the Trinity River basin through a system of dams, reservoirs, tunnels, and power plants into the Sacramento River for use in other areas of the state.

The 10 water service Contractors that receive water from the Shasta and Trinity River Divisions are Bella Vista Water District (BVWD), Clear Creek Community Services District (CCCSD), City of Redding, City of Shasta Lake, Shasta Community Services District (SCSD), Shasta County Water Agency (SCWA), Centerville Community Services District (CCSD), Keswick County Services Area (KCSA), Mountain Gate Community Services District (MGCSD), and the U.S. Forest Service (USFS).

Assignments are expected to change this list before the contracts are renewed, but no physical changes will result. SCWA plans to assign water now subcontracted to MGCSD and BVWD to those districts. SCWA also plans to assign the KCSA (also known as County Service Area #25) water to itself. All three assignments will simply be administrative actions.

Depending on the Contractor, the U.S. Bureau of Reclamation (Reclamation) proposes to renew the water service contracts for agricultural and/or municipal and industrial (M&I) uses. Table 1-1 lists the existing Contractors and summarizes general information concerning the existing contracts. The renewal of these contracts would allow CVP water deliveries to the Shasta and Trinity River Divisions' service areas to continue.

1.2 PURPOSE AND NEED FOR THE FEDERAL ACTION

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

**TABLE 1-1
SUMMARY OF EXISTING LONG-TERM WATER SERVICE CONTRACTORS
IN THE SHASTA AND TRINITY RIVER DIVISIONS**

Contractor Name	Shasta or Trinity River Division	Contract Number	Maximum Water Quantity of CVP Long- Term Contract Water (Acre-Feet)	CVP M&I Rate Assigned?	CVP Agricultural Rate Assigned?²	Post-CVPIA Expiration³
Bella Vista Water District	Trinity	851AIR3	24,000 (Includes 7,000 at Ag rate)	YES	YES	02/28/2001
Centerville Community Services District¹	Trinity	14062003367A-X	2,900	YES	NO	12/31/2004
City of Redding (Buckeye Contract)	Shasta	5272A	6,140	YES	NO	12/31/2009
Spring Creek Conduit	Shasta	5272A	Included	-	--	
Sacramento River	Shasta	5272A	Included	-	--	
Toyon Pipeline	Shasta	5272A	Included	-	---	
City of Shasta Lake	Shasta	W11341R45	2,750 4,400	YES	NO	2/28/2001
Shasta Dam Area P.U.D.			Included	-	-	
Summit City P.U.D.			Included	-	-	
Clear Creek Community Services District	Trinity	489A1R35	15,300 (Includes 5,000 at Ag Rate)	YES	YES	2/28/2001
Shasta Community Services District	Trinity	862A	1,000	YES	NO	12/31/2000
Shasta County Water Agency	Shasta	3367A⁴	2,100⁴	YES	NO	12/31/2004
Others						
Keswick County Service Area	Trinity	1507A	500	YES	NO	12/31/2009
Mountain Gate Community Services District	Shasta	6998	350	YES	NO	12/31/2003
USFS (Centimudi Boat Ramp Marina)	Shasta	3464A	40	YES	NO	Indefinite
	Shasta	3464A	10	YES	NO	Indefinite
Total			55,050 56,700			

NOTES

- Contract water for Centerville Community Services District was split from Shasta County Water Agency contract 3367A in 2001.
- YES= Agricultural Rate has been assigned. NO= Agricultural Rate has not been assigned.
- Only Bella Vista, Clear Creek CSD, and City of Shasta Lake have interim agreements. Other contractors signed binding agreements for early renewal.
- Shasta County WA principally subcontracts water to others; agricultural water not used since 1983. Refer to Note 1.

Figure 1-2 shows the general locations and the approximate service area boundaries of the contractors.

project purpose equal to power generation. Section 3404(c) of the CVPIA directs the Secretary of the Interior (Secretary) to renew existing CVP water service and repayment contracts following completion of a PEIS and other needed environmental documents 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 [the PEIS]....”

Section 3409 of the CVPIA required the Secretary to prepare an environmental impact statement (EIS) to evaluate the direct and indirect impacts and benefits of implementing the CVPIA. The resulting programmatic EIS (PEIS) was prepared pursuant to the National Environmental Policy Act (NEPA) by Reclamation and the U.S. Fish and Wildlife Service (USFWS). USFWS became the co-lead agency in August 1999. Reclamation released the Draft PEIS on November 7, 1997. An extended comment period closed on April 17, 1998. The PEIS provided a programmatic evaluation of the impacts of implementing the CVPIA. Four alternatives, 17 supplemental analyses, a Preferred Alternative, and a No Action Alternative were evaluated in the PEIS. The impact analysis in the PEIS was conducted at a subregional level but presented within the PEIS on a regional basis for the Sacramento Valley, San Joaquin Valley, and Tulare Lake regions. The PEIS No Action Alternative assumed that water service contracts would be renewed under the same terms as expiring contracts.

Reclamation and USFWS released the Final PEIS in October 1999. The Final PEIS included a Preferred Alternative that addressed the regional impacts and benefits of the general method that Reclamation anticipated for implementing the CVPIA, including long-term contract renewals. The Record of Decision (ROD) for the PEIS includes the renewal of long-term CVP water contracts at the programmatic level. However, renewal of the individual contracts requires that Reclamation prepare site-specific environmental documents that “tier” off the CVPIA; this EA constitutes the site-specific document for the Shasta and Trinity River Divisions. The purpose of this document is to evaluate the potential localized environmental impacts that may result from the proposed contract renewals, and, accordingly, provide the basis for a decision on how best to implement the CVPIA-specific objectives of renewed contracts at the individual or multi-district level.

Following completion of the Final PEIS, Reclamation prepared additional environmental documentation for renewal of long-term water service and repayment contracts, including this EA, to address the District-specific impacts and a Draft Biological Assessment/Essential Fish Habitat Assessment (BA/EFHA) (August 2003) to address species impacts (under the Federal Endangered Species Act), both of which relate to contract renewals within the Shasta and Trinity River Divisions.

The purpose of this project is to renew Shasta and Trinity River Divisions’ water service contracts, consistent with section 3404(c) of the CVPIA. The EA considers the potential environmental impacts of implementing long-term contract renewals between Reclamation and the 10 water service districts of the Shasta and Trinity River Divisions. This EA considers the incremental impacts, whether direct or indirect, of changes from the existing/interim contracts. The alternatives differ by terms and conditions of

the contracts, including tiered water pricing. A table that summarizes the major provisions of the existing contracts and the May 2003 proposed long-term contracts, including elements unique to irrigation water, is included as **Appendix A**.

Long-term contract renewals are needed to:

- Allow continued beneficial use of the water developed and managed as part of the CVP, with a reasonable balance among competing demands, including the needs of agricultural and municipal and industrial (M&I) users and the needs of fish, wildlife, recreation, and other water uses consistent with the requirements imposed by the California State Water Resources Control Board (SWRCB) and CVPIA.
- Incorporate certain administrative conditions into the renewed contracts to ensure continued compliance with current Federal Reclamation law and other applicable statutes.
- Allow the continued reimbursement to the Federal government for costs related to the construction and operation of the CVP.

1.3 AUTHORITIES FOR CENTRAL VALLEY PROJECT WATER SERVICE CONTRACT RENEWALS

Reclamation is responsible for operational control of the CVP, including securing payment for capital and for operations and maintenance (O&M). These costs are established in the individual water service contracts 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, as set forth under the following laws:

- Public Law 88-44, 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. 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 thereunder.

Under PL 88-44 the Secretary was required to provide renewal, upon request of the other party, of 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. PL 88-44 also stated 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.

- The Water Service Contracts Act of 1944 provided for delivery of specific quantities of irrigation and 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 Project Act of 1963 provided the right of renewal of long-term repayment or water service contracts for municipal and industrial Contractors.

The CVPIA included a right of renewal of long-term repayment or water service contracts for a term not to exceed 25 years, but the Secretary may or may not renew such contracts for successive periods for terms not exceed 25 years.

1.3.1 NUMBER AND BREADTH OF CONTRACTS

Reclamation proposes to renew 114 CVP water service contracts. These contracts include an annual maximum quantity of approximately 5.6 million acre-feet of CVP water and provide water service to approximately 3.2 million irrigable acres of land and an urban population in excess of 4.3 million.

1.3.2 DISCRETION UNDER CONTRACT AUTHORITIES/ RECLAMATION LAW TO CONTROL USE OF CONTRACT WATER

The statutes cited previously authorize Reclamation to determine the amount of CVP water to be made available to CVP water service Contractors subject to certain conditions, including but not limited to, the terms and conditions included within the applicable state water right permits/licenses; the amounts of water each Contractor can put to reasonable and beneficial use; for irrigation water, the number of acres of irrigable and eligible lands within the Contractor's boundaries that are also within the authorized CVP service area; and the places of use designated in the applicable CVP water right permits/licenses.

1.4 BASIS OF SHASTA AND TRINITY RIVER DIVISIONS WATER SERVICE CONTRACT RENEWALS

The Central Valley Project Authorization Act of 1937 authorized construction of the initial CVP project features for navigation, flood-control, water 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 users; and third for power. This authorization was amended by the American River Division Authorization Act of 1949, Trinity River Act of 1955, San Luis Authorization Act of 1960, River and Harbors Act of 1962, and Auburn-Folsom South Unit Authorization Act of 1967. The Shasta Division was authorized under the ~~original CVP contract dated~~ Authorization Act of August 26, 1937, and the Trinity River Division was authorized separately under the Trinity Division, CVP Act of August 12, 1955.

Key provisions of the existing water contracts are summarized in Table 1-1, Summary of Existing Water Contracts, Shasta and Trinity River Divisions. Presently the Bella Vista Water District, Clear Creek Community Services District, and the City of Shasta Lake are receiving water under interim contracts that

~~expired~~ expire on February 28, ~~2001~~ 2006. The remainder of the Contractors signed binding agreements for early renewal.

The **Bella Vista Water District (BVWD)** is a publicly owned water agency formed in 1957 under California Water Code Division 13, Sections 34000 through 38501. BVWD entered into a contract with the Federal government on April 4, 1964, for the delivery of up to 24,000 acre-feet (total) of CVP water annually for agricultural and M&I uses.

The **Centerville Community Services District (CCSD)** is a community services district formed in 1959 under California Government Code, Division 3, Section 61000, et seq. CCSD entered into a contract with the Federal government in December 2001 for the delivery of up to 2,900 acre-feet (total) of CVP water annually for M&I uses. The water contract was a reassignment previously held by the Shasta County Water Agency.

The **City of Redding** is the largest city in Shasta County with a population of 78,490 (1995). Prior to 1941, water service within the City of Redding was provided by the California Water Service Company, whose water rights dated from 1886. The City of Redding acquired the local facilities and water rights of the company in 1941, and filed for additional appropriative water rights of 5 cubic feet per second (cfs) in 1944. Subsequent annexations to the City's service area included the Buckeye County Water District (1967), the Cascade Community Services District (1976), and the Enterprise Public Utility District (1977).

The City entered into a contract with the Federal government on February 22, 1994, for the delivery of up to 6,140 acre-feet of CVP water annually for M&I uses in the **Buckeye zone**. This agreement is separate and distinct from a 1966 Settlement Contract with Reclamation, under which the City obtains additional CVP water.

The **City of Shasta Lake** was incorporated in July of 1993, and receives ~~2,750~~ 4,400 acre-feet of water under interim contract number 1134, formalized on ~~March 3, 1994~~ February 27, 2004. Prior to incorporation, water was supplied to the area by the Shasta Dam Area Public Utilities District (SDAPUD) and the Summit City Public Utilities District (SCPUD).

The SDAPUD was formed in 1945 to supply water to workers constructing Shasta Dam. The original 276 acre-feet contract with the Federal government was entered into August 12, 1948. On September 15, 1955, the contract was amended to 375 acre-feet. In July of 1957, the contract was further amended to 3,225 acre-feet.

The original SCPUD contract with the Federal government was initiated on October 22, 1948, for 60 acre-feet. The contract was amended in July of 1966 (amount unknown) and again on December 9, 1975 to 1,170 acre-feet.

In 1978, the SDAPUD and SCPUD contracts were merged into one long-term contract. In 1988, when the earlier contracts expired, it was assumed that the long-term contract amount would be 4,400 acre-feet (the total of the two individual contracts). At the time, however, there was no right to renewal available, and the contract amount was set at 2,750 acre-feet, ~~for the term of the interim contract.~~

On September 15, 1993, the City of Shasta Lake assumed the merged contract. The contract subsequently expired and the city entered into ~~the March 1994~~ interim contracts beginning in March, 1994 for 2750 acre-feet. The proposed existing interim renewal contract would restore the original 4,400 acre-feet and the proposed renewal contract provides for the delivery of up to 4,400 acre-feet.

The **Clear Creek Community Services District (CCCSD)** is a publicly owned water agency formed in 1961 under Trinity River Division Act of 1955. CCCSD entered into a contract with the Federal government on May 14, 1963, for the delivery of up to 15,300 acre-feet (total) of CVP water annually for agricultural and M&I uses.

The **Shasta Community Services District (SCSD)** was formed in June 1959, under the Community Services District Laws, Sections 61000 through 61934 of the Governmental Code of the State of California. The SCSD entered into a contract with the Federal government on March 25, 1964, for the delivery of up to 1,000 acre-feet of CVP water annually for M&I use.

The **Shasta County Water Agency (SCWA)** was formed in 1957 through Legislative Act 7580, Shasta County Water Agency Act. On June 30, 1967, the SCWA entered into a contract with the Federal government for the delivery of up to 5,000 acre-feet of CVP water annually (total) for agricultural and M&I uses. SCWA assigned 2,900 acre-feet to the Centerville Community Services District in 2001, and 1,000 acre-feet to Mountain Gate Community Services District on February 22, 2005. An assignment of 578.5 acre-feet to the BVWD is pending. The SCWA now supplies water to ~~Mountain Gate Community Services District (1,000 acre-feet), BVWD (578.7 acre-feet),~~ Jones Valley County Service Area (CSA) #6 (190 acre-feet), Crag View CSA #23 (119 acre-feet), Castella CSA #3 (77 acre-feet), and numerous smaller areas such as the Silverthorn development, French Gulch School, and Shasta Holiday MWC. The 500 acre-feet under the Keswick County Service Area (KCSA) would be merged with the SCWA during contract renewal.

The **Keswick County Service Area (KCSA)**, also known as County Service Area #25) was preceded by the Keswick Community Services District, which was formed in the early 1960s under the Community Services District Laws, Sections 61000 through 61934 of the Governmental Code of the State of California. In October 1990 the Keswick Community Services District was dissolved and reorganized as the KCSA under Sections 25210.1 through 25250 of the Governmental Code of the State of California. The KCSA, through its predecessor agency, entered into a contract with the Federal government on September 16, 1964 for delivery of up to 500 acre-feet of CVP water annually for M&I use.

The **Mountain Gate Community Services District (MGCSD)** was formed in 1956 pursuant to Government Code, Title 6, Division 3, Sections 61000 through 61800. The MGCSD entered into a contract with the Federal government on March 12, 1958, for the delivery of up to 350 acre-feet of CVP water annually for M&I use.

The **U.S. Forest Service (USFS)** (also known as the Centimudi Marina) entered into a contract with Reclamation on November 2, 1967, for delivery of up to 10 acre-feet of CVP water for M&I uses at the Centimudi boat ramp on Shasta Lake.

1.5 RELATION TO THE CENTRAL VALLEY PROJECT IMPROVEMENT ACT PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT (CVPIA PEIS)

The PEIS provided a programmatic evaluation of the impacts of implementing the CVPIA. Four alternatives, 17 supplemental analyses, a Preferred Alternative, and a No Action Alternative were evaluated in the PEIS. The impact analysis in the PEIS was completed at a subregional level but presented within the PEIS on a regional basis for the Sacramento Valley, San Joaquin Valley, and Tulare Lake regions. The PEIS No Action Alternative assumed that existing water service contracts would be renewed under the same terms as expiring contracts. The Final 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 renewal, as described in Chapter 3 of this document.

Following completion of the PEIS, Reclamation prepared additional environmental documentation for renewal of long-term water service and repayment contracts, including this EA to address the site-specific impacts relating to contract renewals within the Shasta and Trinity Divisions.

1.6 STUDY AREA

The general location of the Shasta and Trinity River Divisions is shown in Figure 1-1, Regional Location and Project Vicinity. The study area for this EA is defined by the service area boundaries of the 10 service Contractors. The general service area boundaries of the 10 Contractors within the Shasta and Trinity River Divisions are shown in Figure 1-2. Appendix G provides the service area boundaries for each of the 10 Contractors. ~~The names~~ A Summary of the 10 Contractors ~~are~~ is provided in Table 1-1.

1.7 STUDY PERIOD

The analysis period for this EA is the term of each long-term contract included in this EA. 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.

1.8 ASSUMPTIONS FOR 40-YEAR IMPACT ANALYSIS

As discussed in Chapter 2, water-needs assessments (Needs Analyses) were performed for each long-term CVP contractor. Each needs analysis was predicated on the amount of water that would be beneficially utilized by year 2025, and was used to determine the long-term contract amount. The Needs Analysis showed that each contractor's future water demand equaled or exceeded their full contract amount at year 2025. (No interim time period conditions were considered or evaluated with respect to build-out

conditions or changes in the CVP contract). Thus, all environmental impacts associated with use of the full contract amount would be manifested at the end of the 25-year water-needs analysis period. Therefore, the initial analysis of impacts, prepared in 2000, covered a 25-year period.

Potential impacts that would occur from 2025 to contract year 40 (2044) were also considered. Because full use of contract supply would occur by 2025, all environmental effects within a contract area service related to contract renewals will have occurred by year 2025. Because the full contract amount would already be in use, any contract-renewal environmental effects occurring at year 2025 would not increase in magnitude or change in scope after that date.

If the amount of CVP water delivered changes after full build-out in year 2025, those changes in delivery would not be related to the contract renewal, but would be a result of changes in water allocations due to CVP-wide demands, hydrology, or reductions in the reliability of CVP water supply because existing water rights holders are more fully using their water rights. Any such changes in delivery would be decreases, not increases. Any decrease in the amount of CVP water delivered would not increase development of M&I service areas between 2025 and contract year 40. Any analysis of changes in actual water delivery after 2025 would be highly speculative, difficult to quantify, and minor in scope. Thus, Reclamation believes that an analysis of impacts in year 2025 covers the full range of impacts associated with a 40-year contract term to the M&I-only contractors.

1.9 PUBLIC INVOLVEMENT PROCESS

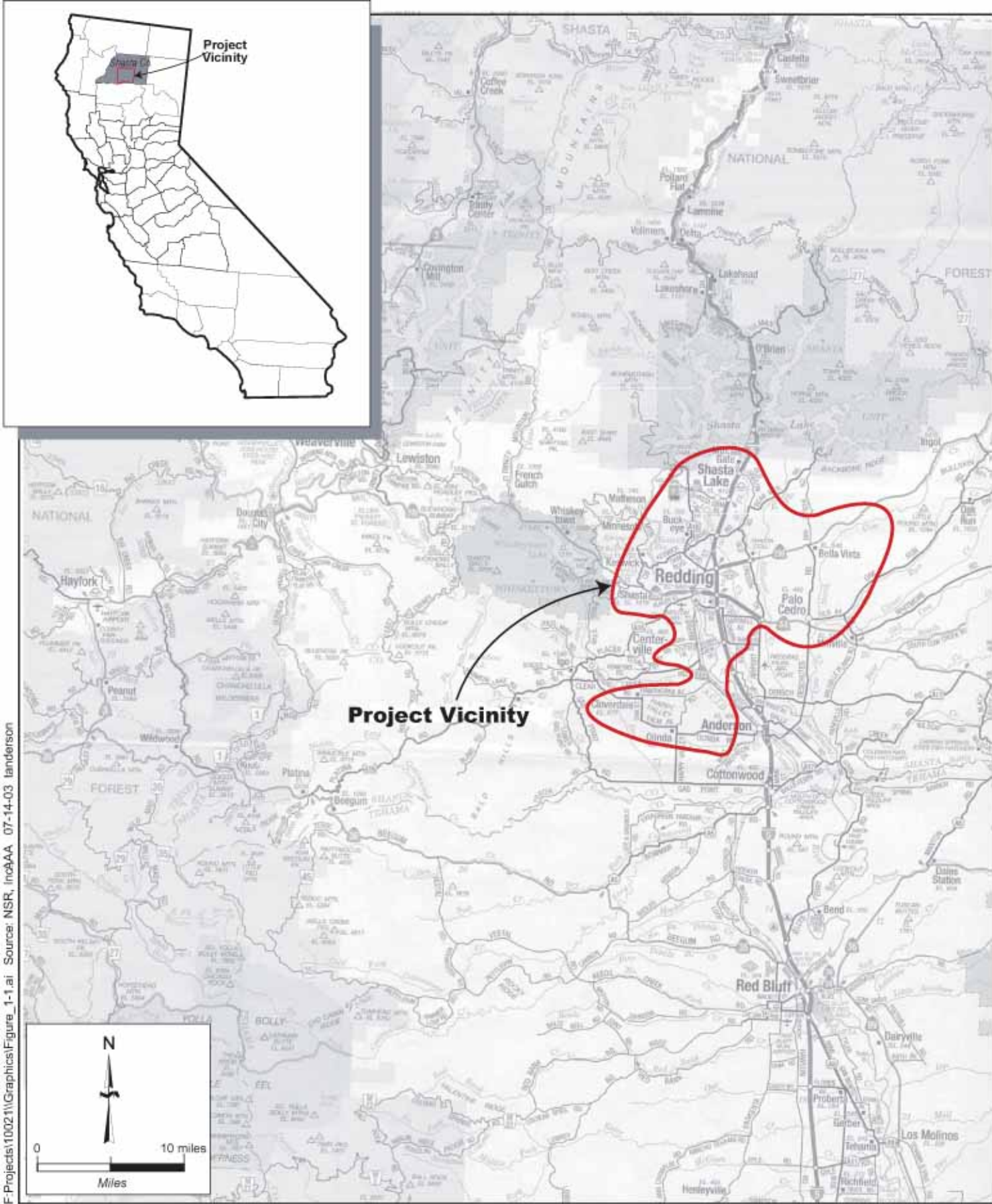
Reclamation started the preparation of this EA during the scoping phase for the CVPIA PEIS. Scoping served as a fact-finding process that helped identify public concerns about, and recommendations for, the NEPA process; issues that would be addressed in this EA; and the scope and level of detail for analyses. Specific scoping activities began in October 1998 after Reclamation published a Notice of Intent to prepare environmental documents on long-term contract renewal of CVP repayment and water service contracts.

The long-term contract renewal process was conducted as a public process. Throughout the contract renewal process, meetings were held with Contractors, other agencies, interest groups, and the public (see Chapter 6). Issues raised during the public involvement process were addressed in the negotiations process and were used in the preparation of this EA.

1.10 RELATED ACTIVITIES

There are several activities being implemented by Reclamation as part of the obligation to manage and operate the CVP. The following table identifies these activities and describes their relation to the renewal of the Shasta and Trinity River Divisions' water service contracts. Related studies and projects that have been conducted recently or are currently being completed are summarized in Table 1-2.

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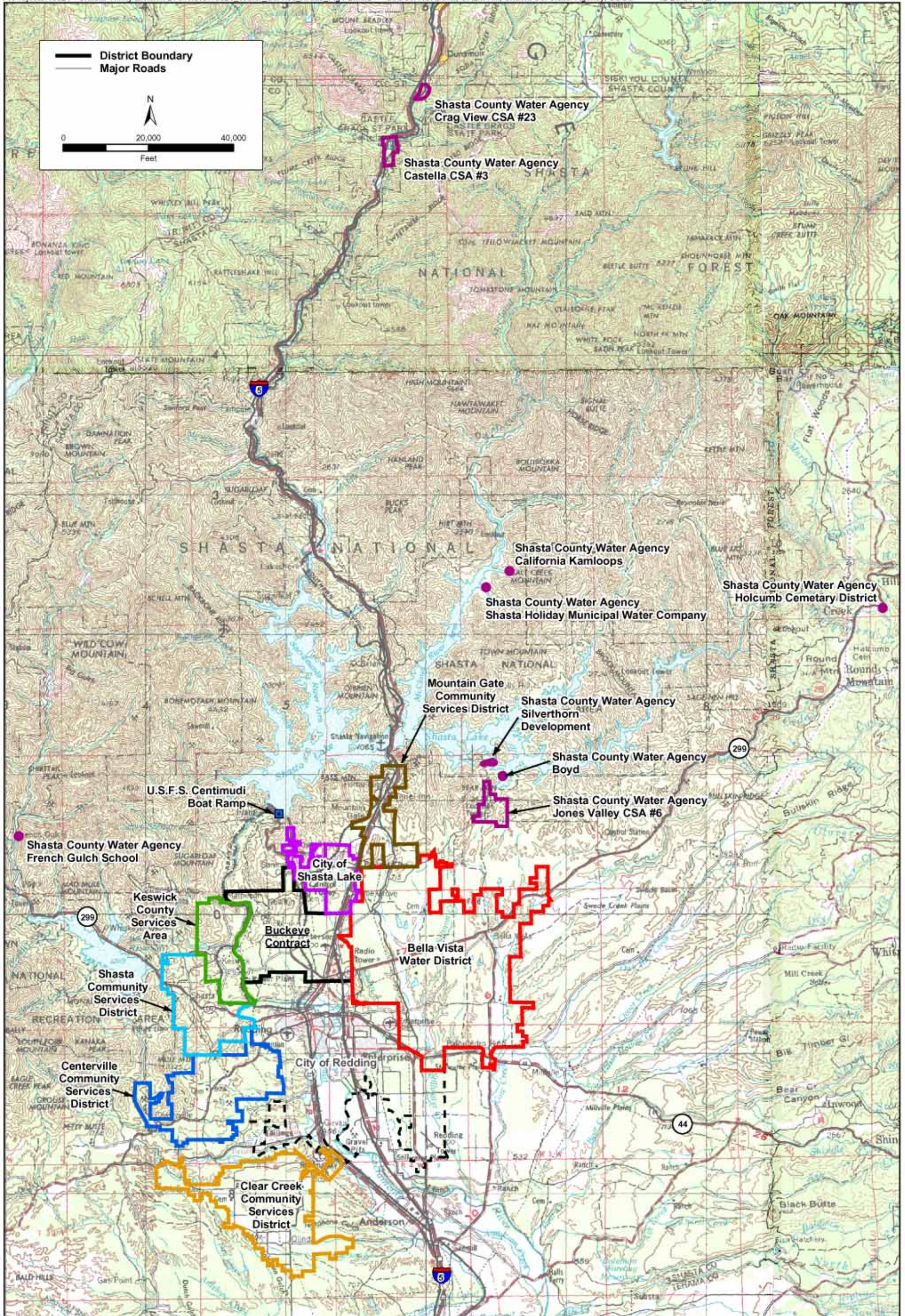


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Shasta and Trinity River Divisions Long-Term Contract Renewal

Figure 1-1
Regional Location & Project Vicinity

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Shasta and Trinity River Divisions Long-Term Contract Renewal

Figure 1-2
Generalized District Service Areas within the
Shasta and Trinity River Divisions

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**TABLE 1-2
RELATED ACTIVITIES**

Project or Study and Lead Agency	Summary
Long-Term Renewal of Other Existing CVP Water Service Contracts – Reclamation	Reclamation is in negotiation with other CVP water Contractors outside the Shasta and Trinity River Divisions for renewal of long-term contracts.
CALFED Bay-Delta Program (CALFED)	Established in May 1995, this consortium of Federal and state agencies is charged with the development of a long-term solution to Delta water concerns. CALFED completed an EIR/EIS (July 2000) as part of this process. Renewal of Long-Term CVP Contracts is assumed in the CALFED EIR/EIS.
Implementation of the CVPIA	The CVPIA mandates changes in management of the CVP, particularly for the protection, restoration, and enhancement of fish and wildlife. Ten major areas of change include: 800,000 acre-feet of water dedicated to fish and wildlife annually; tiered water pricing applicable to new and renewed contracts; water transfers provision, including sale of water to users outside the CVP service area; special efforts to restore anadromous fish population by 2002; restoration fund financed by water and power users for habitat restoration and enhancement and water and land acquisitions; no new water contracts until fish and wildlife goals achieved; no contract renewals until completion of a PEIS; terms of contracts reduced from 40 to 25 years with renewal at the discretion of the Secretary of the Interior; installation of a temperature control device at Shasta Dam; implementation of fish passage measures at Red Bluff Diversion Dam; firm water supplies for Central Valley wildlife refuges; and development of a plan to increase CVP yield.
Trinity River Restoration Program (TRRP)	Fish restoration in the Trinity River sub-basin is funded through a restoration program administered by Reclamation. The TRRP has two distinct program elements; 1) the Rehabilitation and Implementation Group, responsible for project development, engineering, and regulatory compliance; and 2) the Technical Modeling and Analysis Group, responsible for project development, monitoring, and integrating activities in an adaptive management framework. A number of Federal, state, and local participants are involved at both the policy and project level. Active participants include Reclamation, USFWS, NOAA Fisheries, U.S. Forest Service, Bureau of Land Management, California Resources Agency, Trinity County, and the Hoopa Valley and Yurok tribes.
Coordinated Operating Agreement (COA) and Operations Criteria and Plan (OCAP) Update – Reclamation and California Department of Water Resources	Provisions and requirements of the CVPIA, SWRCB 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.

CHAPTER 2

DESCRIPTIONS OF ALTERNATIVES

2.1 INTRODUCTION

This chapter summarizes the long-term water service contract negotiations process and descriptions of the alternatives considered in this EA.

2.2 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, 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, including the PEIS, has been completed. The PEIS provided a programmatic environmental analysis of the effects of the CVPIA and identified the need for site-specific environmental documents for the long-term contract renewal process.

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 due to the Reclamation Reform Act and applicable CVPIA requirements. The initial interim contract renewals were negotiated in 1994, with subsequent renewals for periods of two years or less to provide for continued water service. Many of the provisions included in the interim contracts are based on the provisions described under the Preferred Alternative in the PEIS. The CVPIA PEIS assumes that these provisions would be part of the long-term renewal contracts.

In 1998, the long-term contract renewal process was initiated. ~~After 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 a three-stage negotiating process for the long-term contracts. The first stage would consist of negotiating the provisions that would be included in all the long-term contracts. Those overall provisions of the long-term contract 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 water service with representatives of all CVP water service contractors~~ contracts for all districts except for the Central San Joaquin Irrigation District, Stockton East Water District, and Colusa Drain Mutual Water Company would be renewed using this process. Contract renewals for these ~~three~~ districts would be 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. There were numerous negotiations sessions throughout the next four years. The November 1999 contract would become the set of conditions for “one bookend” representing Alternative 2 of this environmental assessment. The CVP water service Contractors published a counter-proposal in April 2000 that would become the basis of negotiations (the other “bookend”) and, eventually, Alternative 1 of this environmental assessment. The primary differences between the two “bookends” are summarized in Table 2-1. [In May 2003, Reclamation prepared draft revised conditions as a counter offer to the April 2000 proposal. Appendix A summarizes the conditions of the May 2003 proposal.]

2.3 ISSUES CONSIDERED AS PART OF LONG-TERM CONTRACT RENEWALS

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

2.3.1 NEEDS ANALYSIS

The water rights granted to the CVP by the State Water Resources Control Board (SWRCB) require the Federal government to determine that the water is being used in a beneficial manner. The Contractors have asserted that compliance with state laws and permits is the basis of the right to the continued beneficial use of water provided under the contracts. The needs analysis methodology was developed to confirm whether the CVP water is being used beneficially. The needs analysis was computed for each District within the various divisions or units of the CVP using a multiple-step approach. First, the existing water demand was calculated for each district. For agricultural Contractors, crop acreage, cropping patterns, crop water needs, effective precipitation, and conveyance losses were reviewed. For M&I Contractors, residential, commercial, industrial, institutional, recreational, and environmental uses; landscape coefficients; system losses; and landscape acreage were reviewed. Second, future changes in water demands based upon crops, municipal and industrial expansion, and changes in efficiencies were reviewed. Third, existing and future non-CVP water supplies were identified for each district, including groundwater and other surface water supplies. The initial calculation of CVP water needs was limited by the assumption that groundwater pumping would not exceed the safe yield of an aquifer. 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 district. The demands were compared to available non-CVP water supplies to determine the need for CVP water. If the need was less than contract amounts, the CVP water service contract amount could be reduced. Because the CVP was initially established as a supplemental water supply for areas without adequate supplies, the needs for most districts are at least equal to the CVP water service contract and frequently exceeded the previous contract amount. However, this environmental analysis does not include increased total contract amounts. Therefore, the CVP contract amount will be limited by the existing CVP contract quantity.

**TABLE 2-1
COMPARISON OF CONTRACT PROVISIONS CONSIDERED IN ALTERNATIVES**

Provision	No Action Alternative	Alternative 1	Alternative 2
	Based on PEIS and Interim Contracts	Based on April 2000 Proposal	Based on November 1999 Proposal
Explanatory Recitals	Assumes water rights held by CVP from SWRCB for use by water service contractors under CVP policies	Assumes CVP Water Rights as being held in trust for project beneficiaries that may become the owners of the perpetual rights.	Same as No Action Alternative
	Assumes that CVP is a significant part of the urban and agricultural water supply	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
	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 (Assumed to be the same as No Action Alternative)	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

**TABLE 2-1
COMPARISON OF CONTRACT PROVISIONS CONSIDERED IN ALTERNATIVES**

Provision	No Action Alternative	Alternative 1	Alternative 2
	Based on PEIS and Interim Contracts	Based on April 2000 Proposal	Based on November 1999 Proposal
"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
"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 is satisfied use is for 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	States that contract shall be renewed	Same as No Action Alternative
	Assumes convertibility of contract to a 9(d) contract as in existing contracts	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
Water to Be Made Available and Delivered to the Contractor	Assumes water availability in any existing condition	Similar to No-Action Alternative	Actual water availability in year is unaffected by Categories 1 and 2.
	Assumes compliance with Biological Opinions and other environmental documents for contracting	Not included	Same as No Action Alternative
	Assumes that current operating policies strive to minimize impacts to CVP water users	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
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

**TABLE 2-1
COMPARISON OF CONTRACT PROVISIONS CONSIDERED IN ALTERNATIVES**

Provision	No Action Alternative	Alternative 1	Alternative 2
	Based on PEIS and Interim Contracts	Based on April 2000 Proposal	Based on November 1999 Proposal
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 measurement similar to No Action Alternative but applies to all water supplies
Rates and Method of Payment for Water	Assumes Tiered Pricing is for total water quantity. Assumes advanced payment of for rates for 2 months in advance.	Assumes Tiered Pricing is for total water quantity. Assumes advanced payment for rates for 1 month.	Assumes Tiered Pricing is for total water quantity. Assumes advance 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 water supply reliability	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

**TABLE 2-1
COMPARISON OF CONTRACT PROVISIONS CONSIDERED IN ALTERNATIVES**

Provision	No Action Alternative	Alternative 1	Alternative 2
	Based on PEIS and Interim Contracts	Based on April 2000 Proposal	Based on November 1999 Proposal
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
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	Recognizes that CVP will operate 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

**TABLE 2-1
COMPARISON OF CONTRACT PROVISIONS CONSIDERED IN ALTERNATIVES**

Provision	No Action Alternative	Alternative 1	Alternative 2
	Based on PEIS and Interim Contracts	Based on April 2000 Proposal	Based on November 1999 Proposal
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
Operation and Maintenance by Non-federal Entity	Assumes that CVP will operate in accordance with existing rules and no additional changes to operation responsibilities under this alternative	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

**TABLE 2-1
COMPARISON OF CONTRACT PROVISIONS CONSIDERED IN ALTERNATIVES**

Provision	No Action Alternative	Alternative 1	Alternative 2
	Based on PEIS and Interim Contracts	Based on April 2000 Proposal	Based on November 1999 Proposal
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 Court confirmation not required	Same as No Action Alternative

2.3.2 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.

2.3.3 WATER TRANSFERS

Several different types of transfers are considered for long-term contract renewals. Intra-CVP contract transfers have occurred regularly throughout the CVP and are frequently limited to scheduling changes between adjoining districts. Reclamation has historically issued and will continue to address these types of transfers under separate environmental analyses.

It is recognized that water transfers will continue to occur and that the CVP long-term contracts will provide the mechanism. Because CVPIA has allowed these transfers, as evaluated in the PEIS for the Preferred Alternative, the No Action Alternative includes water transfer provisions. These provisions for transfers are also included in both Alternatives 1 and 2. However, it is difficult to identify all of the water transfer programs that could occur with CVP water in the next 25 years. Reclamation would continue with separate environmental documents for proposed transfers in establishing criteria and protocols to allow rapid technical and environmental review of future proposed transfers.

2.4 DEVELOPMENT OF ALTERNATIVES

Three alternatives were identified for analysis of the renewal of long-term contracts between Reclamation and Contractors in the Shasta and Trinity River Divisions. Another alternative, the final contractual language, was not specifically analyzed but any impacts attributable to it were within the analysis performed.

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 renewing existing water service contracts as described by the Preferred Alternative of the 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,” the final negotiated contract thus being between the “book ends”. 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 the renewing long-term water service contracts. Chapter 4 describes environmental consequences in terms of incremental effects that would accrue due to implementing Alternative 1 or Alternative 2 as compared to the No- Action Alternative.

2.4.1 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 CVPIA as described in the PEIS Preferred Alternative. The PEIS Preferred Action assumed that most contract provisions would be similar to many of the provisions in the 1997 CVP Interim Renewal Contracts, which included contract terms and conditions consistent

with applicable CVPIA requirements. In addition, the No Action Alternative assumes tiered pricing provisions and environmental commitments as described in the PEIS Preferred Alternative. The provisions of the No Action Alternative are summarized in Table 2-1. These provisions were described in the Final PEIS.

Several CVPIA provisions are summarized in the following descriptions for the No Action Alternative because these provisions differ from Alternatives 1 and/or 2. The provisions particularly relevant to the No Action Alternative include tiered water pricing, definition of M&I water, water measurement, and water conservation.

Tiered Water Pricing

Tiered water pricing in the No Action Alternative is based upon 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 Full Cost Rate. The terms “Contract Rate” and “Full Cost Rate” are defined by the CVP rate setting policies, and P.L. 99-546 and the Reclamation Reform Act (RRA), respectively. The Contract Rate for M&I water includes the Contractor’s allocated share of CVP main project operations and maintenance (O&M), O&M 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 charge~~ on all deliveries of CVP water. Reclamation law and policy provide full or partial relief to irrigation Contractors on Restoration ~~Payments charges~~ and the capital rate component of the water rate. The relief could be up to 100 percent of the capital cost repayment and Restoration charge and is based upon local farm budgets. 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, as 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 upon 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~~ rates for of CVP water used in the No Action Alternative are based upon 1994 irrigation and M&I CVP water rates.

Definition of Municipal and Industrial Users

The definition of municipal and industrial (M&I) users was established in portions of a 1982 Reclamation policy memorandum. In many instances, municipal users are 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 for a commercial farm operation. The memorandum (United States Department of the Interior, 2000) indicates that this criterion can generally be met by parcels larger

than 2 acres. Based on this analysis, the CVP has generally applied a definition of 5 acres or less for M&I uses in the CVP for many years. The CVP Contractors can request a modification for a demonstrated need for agricultural use on parcels ~~between 2 and~~ less than 5 acres from the Contracting Officer.

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. Additional calculations would be required to determine the exact quantity of CVP water. However, if groundwater or other surface waters are delivered by other means to the users, 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 the Department of Water Resources (DWR) Bulletin 160-93, and conservation plans completed under the 1982 RRA consistent with the criteria and requirements of the CVPIA. Such criteria address cost-effective Best Management Practices that are economical and appropriate, including measurement devices, pricing structures, demand management, public information, and financial incentives.

2.4.2 ALTERNATIVE 1

Alternative 1 is based upon the proposal presented by CVP water service 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 proposed alternative 1 includes 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 these issues would require additional Federal actions with separate environmental documentation and 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 proposed alternative 1 includes language to require renewal of contracts after 25 years upon request of the Contractor. *The study period for this EA is 25 years, which coincides with the contract period applicable to irrigation contracts and required by CVPIA. Renewal after 25 years would be a new Federal action and would require new environmental documentation.*

- The proposed alternative 1 does 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. These are binding on Reclamation and provisions are needed to address this requirement.*
- The proposed alternative 1 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 25 years. Reclamation would ~~continue with~~ require separate environmental documents for transfers, and will establish criteria for rapid technical and environmental review of proposed transfers.*
- The proposed alternative 1 includes 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 25 years. Reclamation would require separate environmental documents for such transfers.*
- The proposed alternative 1 includes provisions for resolution of disputes. *Assumptions for resolution of disputes were not included in Alternative 1 and at this time would not appear to affect environmental conditions.*
- The proposed alternative 1 includes 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.*

Alternative 1 includes several provisions that were different than the assumptions for 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 specific operations of a Contractor, as described in Table 2-1.

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

2.4.3 ALTERNATIVE 2

Alternative 2 is based upon 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; they essentially constitute a separate Federal action and 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 require separate environmental documentation.*

The November 1999 proposal included several provisions that were different than the assumptions for No Action Alternative and that 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 users.

Tiered Water Pricing

Tiered water pricing under Alternative 2 is based upon 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. For the purposes of this Alternative, the “Category 1” water supply is defined as the “contract total” of CVP water. 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 the 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 Full Cost Rate. It should be noted that Category 1 and Category 2 volumes will change every year based upon the average deliveries for the “most recent 5 years,” with limited exceptions based upon 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 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 in the No Action Alternative.

The prices of CVP water used in Alternative 2 are based upon irrigation and municipal/industrial 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 includes water for all 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.”

2.5 ALTERNATIVES CONSIDERED BUT ELIMINATED

2.5.1 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 to not renew the contracts.

2.5.2 REDUCTION IN CONTRACT AMOUNTS

A reduction in contract amounts was considered in certain cases but rejected from analysis. The reason for this is two-fold. Water needs analyses have been completed for all contracts, and, in almost all cases the needs exceed or equal the current total contract amount. Secondly, in order to implement good water management, the Contractors 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 these purposes.

2.6 SELECTION OF THE PROPOSED ACTION/PREFERRED ALTERNATIVE

~~It is anticipated that the~~The final contract language represents a negotiated position between Alternatives 1 and 2. Therefore, ~~it is anticipated that the~~ any impacts will be ~~are~~ either equal to or less than those identified for Alternative 1, Alternative 2, or the No Action Alternative. Reclamation's proposed action is to renew to the long-term contracts representing the final negotiated position. This form of contract is provided as Appendix A.

2.7 SUMMARY OF THE IMPACT ASSESSMENT

Table 2-2 is a Summary of Impacts by Alternatives. The alternatives considered in this EA were analyzed to determine the potential for beneficial and adverse impacts associated with their implementation when compared to the continuation of the No Action Alternative conditions. (Recall that the No Action Alternative—which is the same as the CVPIA PEIS Preferred Action—assumes 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 applicable CVPIA requirements.)

**TABLE 2-2
SUMMARY OF IMPACTS OF ALTERNATIVES**

Resource	Description of Impact
NO ACTION ALTERNATIVE	
SOCIOECONOMICS (SECTION 4.3)	
Demographics	By 2030, Shasta County population would increase by more than 50 percent from 1999 levels. County population is expected to change from 163,256 (2000) to 267,749 (2030), an increase of 64%.
M & I Water Costs, Land Use and Economics	Based on 1994 dollars, Contractors would pay approximately \$1.1 million in contract year 25 (2029) for untreated CVP M&I water during average year hydrologic conditions following five dry years.
Agricultural Water Costs, Land Use and Economics	<p>Unlike the assessment of M&I water cost impacts, the agricultural water cost assessment is based on 1999 rates since the PEIS agricultural economic analysis was updated to 1999. Agricultural water for the Divisions is used by BVWD and CCCWSD. BVWD irrigators are projected to use over two times more CVP water on 25% more land as CCCWSD irrigators. This disparity is explained by the fact that a greater portion of BVWD's cropping pattern is projected to be in pasture, a water intensive crop.</p> <p>For BVWD, during average conditions, the gross value of production in contract year 25 (2029) would be \$1.95 million. Crop water use would be 13,500 acre-feet per year, and 5,960 acres would be irrigated based on 1999 dollars.</p> <p>For CCCWSD, during average conditions, the gross value of production in contract year 25 (2029) would be \$4.58 million. Crop water use would be 5,800 acre-feet per year, and 4,690 acres would be irrigated based on 1999 dollars.</p>
Regional Economy	For the contract year 25 (2029) in Shasta County, the estimated output for standard industrial sectors would be \$4,742 million. Full-time equivalent employment would be 71,579 jobs, and total income would be \$2,695 million.
LAND USE (SECTION 4.4)	Indirect effects could occur to agricultural uses due to rewording that would provide M&I water service to irrigated land less than or equal to 5 acres unless the Contracting Officer is satisfied the use is for irrigation. For BVWD, irrigated acreage would increase to 5,960 acres during average hydrologic year conditions and to 5,890 acres for dry hydrologic conditions. For CCCWSD, the irrigated acreage would increase to 4,690 acres and 4,640 acres for the average and dry hydrologic conditions, respectively.
BIOLOGICAL RESOURCES (SECTION 4.5)	Indirect effects to biological resources could occur as a result of changes to land use under the No Action Alternative.
ENVIRONMENTAL JUSTICE (SECTION 4.6)	No disproportionate effect on minority populations or low-income populations is anticipated.
INDIAN TRUST ASSETS (SECTION 4.7)	No Indian Trust Assets are known to occur within water service areas. Therefore, no Indian Trust assets would be adversely affected by the No Action Alternative
CULTURAL RESOURCES (SECTION 4.8)	Indirect effects to cultural resources could occur due to planned growth and development, or changes in land use from agricultural uses to suburban/urban uses, or suburban uses to agricultural uses. Changes in land use could affect known and undiscovered cultural resources. However, both federal and state jurisdictions provide programs to protect cultural resources and are responsible for implementing these programs.

**TABLE 2-2
SUMMARY OF IMPACTS OF ALTERNATIVES**

Resource	Description of Impact
ALTERNATIVE 1	
SOCIOECONOMICS (SECTION 4.3)	
Demographics	Same as the No Action Alternative
M & I Water Costs, Land Use and Economics	Same as the No Action Alternative
Agricultural Water Costs, Land Use and Economics	Alternative 1 is expected to have effects on agricultural water costs and associated land and water use, gross value of production, and farm net revenues for the affected water districts similar to the No Action Alternative. Therefore, there are no environmental impacts from this alternative.
Regional Economy	Same as the No Action Alternative
LAND USE (SECTION 4.4)	
	Same as the No Action Alternative
BIOLOGICAL RESOURCES (SECTION 4.5)	
	Similar direct and indirect effects as the No Action Alternative.
ENVIRONMENTAL JUSTICE (SECTION 4.6)	
	No incremental adverse effects
INDIAN TRUST ASSETS (SECTION 4.7)	
	No adverse impacts. Same as the No Action Alternative.
CULTURAL RESOURCES (SECTION 4.8)	
	No incremental environmental effects
ALTERNATIVE 2	
SOCIOECONOMICS (SECTION 4.3)	
Demographics	Same as the No Action Alternative.
M & I Water Costs, Land Use and Economics	The incremental effect would be that the Contractors would pay approximately \$1.8 million more than under the No Action Alternative in contract year 25 (2029) for untreated CVP M&I water during the average year hydrologic conditions.
Agricultural Water Costs, Land Use and Economics	Alternative 2 would cause BVWD agricultural water cost-of-service rate to increase by about 45% from the No-Action level. Implementation of Alternative 2 could cause as many as 800 acres of irrigated pastureland to be fallowed in the BWVD during projected year 2029 during average hydrologic conditions (and even more, 1160

**TABLE 2-2
SUMMARY OF IMPACTS OF ALTERNATIVES**

Resource	Description of Impact
	<p>acres, under dry hydrologic conditions). The analyses indicate that in contract year 25 (2029) under average hydrologic conditions, BVWD farmers may reduce their use of CVP agricultural water by as much as 7,550 acre-feet, or more than half their 13,500 acre-feet of projected use under the No-Action Alternative. The fallowing of land and reduction of applied water on lands that remain under irrigation due to Alternative 2 could reduce the annual gross value of agricultural production within the BVWD by approximately 6% (or \$120,000 in 1999 dollars) and the net income realized by farmers by as much as \$130,000 in 1999 dollars under average hydrologic conditions. In a dry year, the decline in gross production value and net revenue impacts could be \$180,000 and \$260,000, respectively (in 1999 dollars).</p> <p>Under Alternative 2, CCCSD agricultural cost-of-service water rates would increase by about 20% and would be much lower than the impact on its CVP M&I cost-of-service water rates previously discussed. Under Alternative 2, as many as 510 acres of CCCSD projected contract year 25 (2029) irrigated pastureland would be fallowed during a year of average hydrologic conditions (and 740 acres even under dry hydrologic conditions). In the year 2029, assuming average hydrologic conditions, CCCSD farmers may reduce their use of CVP agricultural water by as much as 3,250 acre-feet. The fallowing of land and reduction of applied water on lands that remain under irrigation due to Alternative 2 could reduce the annual gross value of agricultural production within CCCSD by approximately 2% (or \$80,000 in 1999 dollars). In a dry year, the decline in gross production value and net revenue impacts could be \$120,000 and \$140,000, respectively (in 1999 dollars).</p>
Regional Economics	The County's industrial output could decrease by as much as \$3.3 million (0.07%) when compared to the No Action Alternative. The County economy could decline from the No Action Alternative by as many as 46 jobs (less than 1%), and the regional income by place of work could decrease by almost \$1.9 million dollars (0.07%) from the No Action Alternative.
LAND USE (SECTION 4.4)	Indirect effects would occur. The incremental effect for BVWD would be the increased fallowing of about 800 acres in contract year 25 (2029) under average conditions and 1,160 acres under dry conditions. The incremental effect for CCCSD would be the increased fallowing of about 510 acres in contract year 25 (2029) under average conditions and 740 acres under dry conditions.
BIOLOGICAL RESOURCES (SECTION 4.5)	Variable indirect effects would occur that could be beneficial or adverse, depending on the specific parcels, habitats, and species affected.
ENVIRONMENTAL JUSTICE (SECTION 4.6)	No incremental adverse effects.
INDIAN TRUST ASSETS (SECTION 4.7)	No incremental adverse effects. Same as the No Action Alternative.
CULTURAL RESOURCES (SECTION 4.8)	No incremental environmental effects.
IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES (SECTION 4.9)	There is no commitment of nonrenewable resources, and the proposed action does not commit future generations to permanent use of natural resources.
RELATIONSHIP BETWEEN SHORT-TERM USE AND LONG TERM PRODUCTIVITY (SECTION 4.10)	Long-term productivity would be enhanced through the water supply that sustains agricultural economics, social benefits, and the long-term productivity of urban and rural populations by providing CVP water.

CHAPTER 3

SUMMARY OF PREVIOUS ENVIRONMENTAL DOCUMENTATION

3.1 INTRODUCTION

The purpose of this chapter is to summarize the findings of documents completed pursuant to NEPA and the California Environmental Quality Act (CEQA) that address environmental issues related to providing CVP water to the Shasta and Trinity River Divisions and using the CVP water within the Shasta and Trinity River Divisions. These documents include the CVPIA PEIS, the associated Draft Biological Opinion, and the Environmental Impact Report (EIR) for the Shasta County General Plan.

Following completion of the PEIS, Reclamation prepared additional environmental documentation for renewal of long-term water service and repayment contracts, including this EA to address the site-specific impacts relating to contract renewals within the Shasta and Trinity River Divisions.

It should be recognized that under each of the descriptions presented in this chapter, references to “No Action Alternative” and other alternatives are specific to the referenced documents, not to the alternatives described in this EA.

3.2 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) that included Title XXXIV, the 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. Through the CVPIA, The U.S. Department of the Interior 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-Delta system. The PEIS addressed the potential impacts and benefits of implementing provisions of the CVPIA. The PEIS was prepared by Reclamation and the USFWS.

The analysis in the PEIS was intended to disclose the probable region-wide and cumulative effects of implementing the CVPIA and to provide a basis for selecting a decision among the alternatives. The PEIS was developed to allow subsequent environmental documents to incorporate by reference the analysis in the PEIS and limit 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 within the scope of the impacts analyzed in the PEIS.

As the 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 previously evaluated 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 part of the overall program approved in

the ROD for the CVPIA PEIS. In such a case, an administrative decision could be made that no further environmental documentation would be required. If a tiered document is appropriate, the tiered document may be an EIS or an EA. The tiered documents can use the PEIS by reference to avoid duplication and focus on new alternatives or more detailed site-specific effects. Therefore, only changes from the alternatives considered in the PEIS, and impacts not previously addressed, would be addressed in detail in the tiered documents.

3.3 LOCALIZED IMPACTS OF PEIS ON PREFERRED ALTERNATIVE

The primary impact to CVP water service contractors, as described in the PEIS, is not due to the contract provisions, but rather to the implementation of the CVPIA. The re-allocation of CVP water to fish and wildlife purposes under CVPIA reduced average annual CVP water deliveries to water service contractors from 2,270,000 acre-feet/year under the PEIS No Action Alternative to 1,933,000 acre-feet/year under all of 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 Shasta and Trinity River Divisions decreased 12 percent from pre-CVPIA Affected Environment conditions.
- Average annual CVP water deliveries for municipal and industrial water service contractors located in the Shasta and Trinity River Divisions decreased 4 percent from pre-CVPIA Affected Environment conditions.

3.4 SHASTA COUNTY WATER RESOURCES MASTER PLAN PHASE I REPORT – CURRENT AND FUTURE WATER NEEDS

The Shasta County Water Resources Master Plan (October 1997) was prepared for the Redding Area Water Council and other Shasta County water users. As an initial step in regional water supply planning to meet future needs in the Redding Basin, a diverse assemblage of entities, including water purveyors, industries, and private interests, formed a group to identify current and long-term water supply needs throughout Shasta County. Through this effort, the study sponsors developed a program for regional planning to meet the current and future needs of water users within and outside the Redding Basin. The Phase 1 study provides the basic factual information upon which subsequent work can be premised. Phase 2 will include preparing a Groundwater Management Plan (Assembly Bill [AB] 3030 Plan), a groundwater model, and an Integrated Resource Plan. Phase 3 will involve developing implementation and financial plans for the recommended alternative. The implementation plan will also include compliance under CEQA.

The document provides a description of the hydrographic basin, specific background information for each of the water purveyors and service areas, land use, water supplies and needs, and an annual water budget. This information was used extensively to describe and quantify conditions within the Affected Environment section of this EA.

3.5 OTHER PLANNING DOCUMENTS

Under state planning law, each city or county must adopt a comprehensive, long-term general plan for future planning and development. A General Plan is not a detailed, parcel-specific, policy statement. Instead, it establishes a generalized pattern of future land use which provides the basis for more detailed, site-specific plans.

Existing general plans and their supporting documents were used in the preparation of this EA, providing background information for resource-specific discussions of the Affected Environment. The City of Redding (Draft March 2000) and the City of Shasta Lake (March 1999) have each adopted a General Plan. The two cities represent the minority of the Shasta and Trinity River Divisions' service area. The majority of the service area falls within unincorporated portions of Shasta County. In these areas, land use planning is subject to guidelines identified in the Shasta County General Plan (October 1998). Other documents used in the preparation of this EA include Water Conservation Plans for BVWD (January 1995), CCCSD (November 1994), City of Redding (undated, assume 1994), and City of Shasta Lake (March 1994).

3.6 FOCUS OF THE ENVIRONMENTAL ASSESSMENT

The scope of the analysis in this EA is limited to existing available sources, including the Final CVPIA Programmatic EIS (1999). This EA specifically evaluates the incremental effects of Alternative 1 and Alternative 2 on socioeconomic resources. Socioeconomic resources are evaluated to describe potential incremental impacts resulting from the proposed revised pricing structure that is part of the proposed action. Potential secondary effects to other resources due to direct effects on socioeconomic resources are described in the EA sections on land use, biological resources, trust assets, environmental justice, and cultural resources.

CHAPTER 4

AFFECTED ENVIRONMENT, ENVIRONMENTAL CONSEQUENCES, AND ENVIRONMENTAL COMMITMENTS

4.1 INTRODUCTION

This section describes the affected environment and the environmental consequences, including cumulative effects, associated with renewing the long-term water service contracts for the Shasta and Trinity River Divisions under Alternatives 1 and 2 compared to the No Action Alternative.

This document organizes required information by environmental resources. Each resource section describes the affected environment and the environmental consequences associated with renewing the long-term water service contracts under Alternatives 1 and 2 as compared to renewing the long-term water service contracts under the No Action Alternative.

CONTRACT SERVICE AREA DESCRIPTION

The Shasta and Trinity River Divisions consist of the BVWD, CCCSD, City of Redding (Buckeye Area), City of Shasta Lake, SCSD, SCWA, CCSD, and three other smaller contractor service areas, KCSA, MGCSD, and USFS Centimudi Boat Ramp. Table 4.1-1 describes features of each long-term water service contractor within the Shasta and Trinity River Divisions, and Figure 1-2 shows the approximate service boundaries of the long term water service contractors.

The Shasta and Trinity River Divisions are located entirely within Shasta County and fall primarily within the Redding Basin, Drainage Area Units (DAUs) 141 and 143, with minor areas in outlying DAUs 136 and 145. Water is supplied for irrigation, domestic, industrial, commercial, or recreational uses, or a combination of these uses. The location, history, service area, and water supply sources of each major long-term water service contractor are described in this section. As shown on Table 4.1-1, the major long-term water service contractors are BVWD and CCCSD. BVWD and CCCSD account for 72 percent of all CVP water delivered to long-term water service contractors in the Shasta and Trinity River Divisions. The discussions in the following sections address the major water service contractors in the Shasta and Trinity River Divisions.

RESOURCES CONSIDERED

The resources and issues analyzed in this EIS were identified through a review of NEPA guidance documents, and through the scoping process. The resources and issues described in this chapter are as follows.

- Water Supplies and Facilities Operations
- Socioeconomics
- Land Use

- Biological Resources
- Environmental Justice
- Indian Trust Assets
- Cultural Resources

This EA does not analyze resources for which it would be reasonable to assume that substantial or significant impacts could not occur. Specifically, potential effects to water quality, recreation, air quality, soils, visual resources, transportation, noise, hazards and hazardous material, public services, non-water utilities, and service systems and secondary growth impacts are not analyzed because they were not identified as significant issues during scoping and it would not be reasonable to assume that renewing the long-term water service contracts could result in substantial impact to these resources or services.

**TABLE 4.1-1
FEATURES OF SHASTA AND TRINITY RIVER DIVISIONS LONG-TERM SERVICE CONTRACTORS (1999)**

Contractor Name	Shasta or Trinity River Division	Contract Number	Maximum Water Quantity of CVP Long Term Contract Water (Acre-Feet)	Note	% of the Division's Maximum Water Quantity	Reclamation M&I Rate Assigned	Reclamation Ag Rate Assigned	Service Boundary Area (Acres)	Total Connections (3)		Pre-CVPIA Expiration
									M&I	Ag	
Bella Vista Water District	T	851A1R39	24,000		42.33%	x	x	<u>3,39533.932</u>	4538	615	2/29/2000
Centerville Community Services District	T	14062003367AX	2,900	(1)	5.11%	x	o	nav	1155	0	12/31/2004
City of Redding	S	5272A	6,140	(2)	10.83%	x	o				
Spring Creek Conduit (Buckeye)	S	5272A	Included			-	-	17,220	4,179	0	12/31/2009
Sacramento River (Buckeye)	S	5272A	Included			-	-	Included	-	0	12/31/2009
Toyon Pipeline (Buckeye)	S	5272A	Included			-	-	640	58	0	12/31/2009
City of Shasta Lake	S	W11341R410	2750 4,400		7.76%	x	o	7,785	3,773	0	2/29/2000
Shasta Dam Area PUD		nav	Included			-	-	-	-	-	
Summit City PUD		nav	Included			-	-	-	-	-	
Clear Creek Community Services District	T	489A1R39	15,300		26.98%	x	x	14,314	1,707	784	2/29/2000
Shasta Community Services District	T	862A	1,000		1.76%	x	o	6,400	717	0	12/31/2003
Shasta County Water Agency	S	3367A	2,100	(3)	3.70%	x	o	nav	nav	0	12/31/2004
Others			860								
Keswick County Service Area	T	1307A	500		0.88%	x	o	5,500	191	0	12/31/2009
Mountain Gate Community Services District	S	6998	350		0.62%	x	o	4,160	650	0	12/31/2003
USFS (Centimudi Boat Ramp)	S	3464A	10	(4)	0.02%	x	o	nav	nav	0	Indefinite
Total			55,050		99.99%			56,019			

NOTES

- (1) New interim contract in 2001 for 2,900 acre-feet.
 - (2) City has 6,140 acre-feet under CVP Buckeye Contract.
 - (3) SCWA principally subcontracts CVP water to others; agricultural water not used since 1983.
 - (4) Information provided by contractor on September 20, 2000
- nav = information not available

4.2 WATER SUPPLIES AND FACILITIES OPERATIONS

4.2.1 DESCRIPTION OF EXISTING SHASTA AND TRINITY RIVER DIVISIONS AND FACILITIES

Bella Vista Water District

The BVWD is located generally east of the City of Redding and south of Shasta Lake. BVWD is bounded on the south generally by State Highway 44 and extends east to slightly beyond Little Cow Creek. This area also includes an overlapping eastern part of the City of Redding and the rural communities of Bella Vista and Palo Cedro. The district currently has 4,538 residential connections and 615 agricultural connections.

BVWD is a publicly owned water agency formed in ~~1964~~1957 under California Water Code Division 13, Sections 34000 through 38501. The district was formed to serve agricultural irrigation demands, which still represent 70 to 80 percent of the district's water demand. However, most of the service connections are now either domestic or rural residential.

Urban uses predominate within the southeast corner of the district where sewage disposal facilities are available. Residential uses, with lot sizes between 1 and 5 acres, are dispersed across the rest of the district. Agricultural uses are almost exclusively confined to the fertile soil along Stillwater Creek and Cow Creek. Pasture represents the bulk of the agricultural uses, but there is a broad array of other crops as well. The most significant industrial use is a large catfish farm.

BVWD's primary water source is the Sacramento River. Diversion of the ~~appropriated~~ water is authorized from the Cow Creek Unit of the Trinity River ~~Project~~ Division, which is part of the CVP. This source allows for up to 24,000 acre-feet per year from BVWD's original contract and 578.7 acre-feet per year of CVP water purchased through the Shasta County Water Agency. (That 578.7 acre-feet is being assigned to BVWD by the SCWA). Both of these allotments are subject to reduction during dry years. In the very severe drought years of 1991 and 1992, the reduction was 25 percent of the water used for M&I uses and 75 percent of the water for agricultural uses. Available surface water was supplemented with groundwater from wells located near the southern boundary of the district. These reductions in supply caused severe drought restrictions to be imposed, which have had a continuing impact on district water sales. The supplementary water provided by the wells constitutes about 10 percent of the supply normally available from the river and about 15 to 20 percent of the reduced supply during a severe drought year. The aquifers within the district have limited yield, so it is not practical to greatly increase production of wells within the district.

The BVWD supply system consists of the Wintu Pump Station on the Sacramento River and five wells. Water pumped from the river is treated at the district's treatment plant, which provides in-line filtration. Distribution facilities include a network of transmission and distribution pipelines, three storage tanks, nine booster pump stations, and pressure-reducing facilities. The major distribution piping was installed by Reclamation, but has been extended considerably to serve many subareas. Funding for initial system construction was through an extension of the CVP for the main supply facilities and through a loan from Reclamation for the distribution system. The main supply system is still owned by the U.S. Government, but was constructed solely for use by BVWD. Both domestic and agricultural users are served through

the same distribution system, so all water is treated to meet the higher water quality standards for domestic use. The CVP water that BVWD formerly purchased from Shasta County Water Agency (proposed for assignment to Bella Vista in the contract renewal) is described below under “Shasta County Water Agency.”

Centerville Community Services District

The CCSD was originally formed in September 1959 under California Government Code, Division 3, Community Services Districts, Section 61000, et seq. The purpose for creating the district was to (a) supply the inhabitants of the district with water for domestic use, irrigation, sanitation, industrial use, fire protection, and recreation and (b) to provide fire protection services. The service boundary currently encompasses 11,278 acres in the unincorporated area of the Shasta County immediately west of the City of Redding. CCSD provides municipal and industrial water to 1,125 metered connections that serve a population of approximately 2,850 according to the latest census survey. CCSD's water supply comes from surface water from the Whiskeytown Reservoir and is treated at a plant located at the base of Whiskeytown Dam. The treatment plant has an approximate capacity of 30 million gallons per day (mgd). The treated water is transmitted via the 45-inch Muletown Conduit to the headworks of the distribution facility located in the vicinity of Muletown Road and Clear Creek Knolls Road. The district shares the inline treatment facility with the CCCSD.

CCSD has a contract with CCCSD that allocates CCSD a 25 percent share of the capacity. CCSD currently holds two contracts with Reclamation for a total allocation of 3,800 acre-feet per year. The first contract (No. 14-06-200-3367X) is an Assignment Contract which was entered into on April 11, 2001. This contract permanently assigned 2,900 acre-feet per year of CVP water from Shasta County's 5,000-acre-foot per year contract with Reclamation. This contract carries with it those terms and conditions defined in the County's contract (No.14-06-200-3367A), which also includes a Binding Agreement for Early Renewal. The second contract (No. 00-WC-20-1708) is an Exchange Contract and was entered into on August 11, 2000. This contract for 900 acre-feet per year with Reclamation was to provide CCSD with substitute project water for its pre-1914 water rights on Clear Creek. The CCWD does not have access to a ground water supply source (10/03 personal communication).

City of Redding (Sacramento River, Spring Creek, Toyon) (Buckeye Zone)

The City of Redding is the largest city in Shasta County, with a population of approximately 84,600 (2002). Prior to 1941, water service within the City of Redding was provided by non-CVP contracts with Reclamation via the California Water Service Company, whose water rights dated from 1886. The city acquired the local facilities and water rights of the company in 1941 and filed for additional appropriative water rights of 5 cubic feet per second (cfs) in 1944. Subsequent annexations to the city's service area include the Buckeye County Water District, the Cascade Community Services District, and the Enterprise Public Utility District in 1967, 1976, and 1977, respectively. The city provides CVP and non-CVP water service to about 24,709 (09/00 personal communication) service connections. All connections are for municipal and industrial uses with only incidental agricultural uses.

The city currently administers the Buckeye zone under a long-term CVP contract. The Buckeye zone service area includes two City of Redding pressure zones: Buckeye and Summit City. Approximately half of the Buckeye zone is located within the Redding city limits, and the other half is in an unincorporated area of Shasta County. ~~The~~ Approximately one-quarter of the Summit City zone falls entirely within an unincorporated area of Shasta County, and three-quarters fall within the city limits of the City of Shasta Lake. There are 4,179 connections in the Buckeye zone. The Buckeye zone receives water from Whiskeytown Lake via the Spring Creek conduit. During peak demand periods, supplemental water is pumped from the Sacramento River, then treated, and delivered into the Buckeye zone service area ~~at the CVP price.~~ The 58 M&I connections in the Summit City zone are supplied exclusively by water diverted from Shasta Lake via the Toyon pipeline. The water is treated by the City of Shasta Lake and delivered to the Summit City zone at the CVP price. There are no known groundwater resources within the Buckeye zone service area.

The city has ~~two~~ one additional water contracts with Reclamation. ~~One additional contract which is Redding's 1996 1966 Settlement Contract with Reclamation, which specifies a "Base Supply" and a "Project Water Supply." The Base Supply was 15,385 acre-feet in 1995 and increased by 255 acre-feet per year to a maximum of 17,850 acre-feet per year in 2003. The Project Water Supply was 2,715 acre-feet in 1995 and increased by 45 acre-feet per year to 3,150 acre-feet per year in 2003. The total 1996 entitlement was 18,400 acre-feet per year, and the total 2003 entitlement was 21,000 acre-feet per year. The city's other contract with Reclamation is a CVP long-term water service contract that provides 9,290 acre-feet (according to PEIS data sources).~~

The city's surface-water supply comes from the Sacramento River and Whiskeytown Lake. Sacramento River water is treated at the 24 mgd Foothill Water Treatment Plant, and the Whiskeytown Lake water is treated at the 7 mgd Buckeye Water Treatment Plant.

Redding supplements its surface-water supply with well production capacity from the Redding Groundwater Basin. Currently, 14 wells are operational, providing a total capacity of up to 12 mgd. The well systems are used to supplement the city's surface-water supplies, primarily during peak demand periods. The return flow of groundwater to the river from the City's wastewater treatment facilities contributes to water supplies for downstream users.

City of Shasta Lake

The City of Shasta Lake was incorporated in 1993, and has a population of nearly 10,000 (2003). Prior to incorporation, utility services, including water supply, were provided by the Shasta Dam Area Public Utilities District (PUD). The PUD was formed in 1945 to provide a reliable water supply for an area of 3.5 square miles. Prior to formation of the PUD, water was supplied by a series of wells with low and unreliable yields. Originally, the PUD's service area was a residential area established to house workers constructing Shasta Dam. Reclamation constructed a water transmission pipeline from Shasta Lake to the PUD in 1948 and concurrently the PUD constructed water storage and distribution systems. The Summit City PUD was annexed in 1978.

Today, the City of Shasta Lake provides water service to 3,800 (2003) service connections. Urban and residential land uses predominate.

Water is obtained exclusively from Shasta Lake via a pump station at Shasta Dam, with a maximum diversion of 5.0 mgd. An interim contract with Reclamation (Contract No. 4-7-20-~~W~~W1134-IR210) provides an allocation of ~~2,750~~ 4,400 acre-feet per year from this source. Reclaimed water is also available for industrial and landscaping use. Groundwater use is limited because of low aquifer yields.

Clear Creek Community Services District

In 1891, the Happy Valley Irrigation District was formed. The source of water was Rainbow Lake. Through the district, the water users attempted to buy Dry Creek Flume and Tunnel Company's canal system, but negotiations were unsuccessful. In 1902, the Happy Valley Land and Water Company was formed and sold stock to the farmers and non-resident land owners with the understanding that each share of stock carried water for one acre of land, causing the land value to increase dramatically. However, Happy Valley Land and Water Company's revenues were not sufficient to do necessary maintenance, and the Happy Valley Irrigation District was eventually formed (using the same name as the District formed in 1891). The Legislature passed an Act in 1917 validating the organization of the District. This Act assured the stability of Irrigation District Bonds. The Happy Valley Irrigation District eventually went bankrupt, and residents were left only with private wells. CCCSD was formed in 1961. The facilities were designed and constructed by Reclamation, and the District began operating in 1967.

CCCSD presently encompasses about 14,314 acres, ~~including several large annexations~~. At the present time, of the 14,314 acres within the district's service area, there are approximately 5,817 acres of irrigated agricultural land, approximately 4,000 acres of rural residences receiving M&I water, and approximately 4,497 acres that are undeveloped.

The district developed the first of three proposed wells and installed 13,800 feet of 18-inch pipeline to connect the groundwater supply to the distribution system. The system and single well went online in October 1992. Well #1 and two proposed wells are intended for use only when surface supplies are inadequate to meet demand or for emergencies.

The majority of the developed agricultural property in the district is ditch- or flood-irrigated. The balance of irrigation is done by overhead and drip systems.

The population served by the CCCSD is scattered throughout a rural environment, and no urban centers exist. The district's population has, in recent years, been increasing at about a 2 to 3 percent annual rate due to its attractive small farm atmosphere where residents can have a few head of cattle on several acres of irrigated pasture.

CCCSD is located approximately ~~10~~ ten air miles southwest of Redding and six air miles west of Anderson in southern Shasta County. The area served by the district is situated on a plateau, which rises from the floor of the Sacramento Valley. The plateau ranges in elevation from 450 to 900 feet and is dissected by deep washes that provide seasonal drainage. The district's service area includes the rural areas known as Olinda and Cloverdale. The overall general area served by the District is commonly referred to as Happy Valley.

The source of the district's water supply is Whiskeytown Lake, a reservoir formed by Clear Creek waters impounded by Whiskeytown Dam. The reservoir covers about 3,250 acres at maximum capacity, providing water storage of about 241,000 acre feet. The reservoir provides the capacity to regulate the flows of the Clear Creek watershed and the imported flows from the Trinity River, which discharge through the Carr Powerhouse into the reservoir. Releases are made from the reservoir to the Sacramento River through the Spring Creek Tunnel and downstream through Clear Creek. Water is diverted to the district through two intakes in the earthen-fill dam structure, one at an elevation of 1,110 feet and the other at an elevation of 965 feet. The ability to select the depth of the diverted water gives the District the capacity to draw less turbid water.

The district is served by an aqueduct that begins at outlets in Whiskeytown Dam and terminates at a 250,000-gallon control tank about eight and one half miles south of the Dam. This aqueduct, commonly called the Muletown Aqueduct (also Muletown Conduit), consists of about 27,500 feet of 45-inch pipe and 17,400 feet of 42-inch pipe buried ~~along a rather tortuous route~~ along Muletown Road, paralleling Clear Creek. The coal tar enamel-lined and coated steel pipe was installed in 1965. The district's water system, designed and constructed by Reclamation, was completed and the District began operation in 1967. The distribution system within the district's boundaries consists of approximately 75 miles of pipe ranging in size from 2 inches to 45 inches. Title to the distribution system was transferred to the District on May 29, 2001.

The district has one storage tank along the conduit with a 1 million gallon capacity. There is also one control tank for pressure regulation at the upper elevation of the district with a 250,000 gallon capacity. The storage tank at the booster station facility, outside district boundaries, is 32,000 gallons.

Shasta Community Services District

SCSD is located west of the City of Redding. SCSD was formed in June 1959 under the Community Services District Laws, Sections 61000 through 61934 of the Governmental Code of the State of California. The district was formed for the primary purpose of supplying water for domestic use and fire protection to the town of Shasta and adjacent developed areas of the district. The district currently serves 630 connections. Virtually all of the active land use is municipal, consisting primarily of ranchettes.

Congress authorized a water system for the area as part of the Trinity River Project. Bonds were issued by SCSD to finance construction of the transmission and distribution systems. These bonds have since been repaid.

CVP long-term service contract water ~~is provided~~ is provided for up to 1,000 acre-feet annually. Water is supplied by gravity from Whiskeytown Lake via a turnout on the Spring Creek Conduit. The Spring Creek Conduit is the only source of supply, and there is only 0.30 million gallons of storage located near the source. Downstream of the turnout, a single transmission main serves as the backbone of the distribution system and most mains are not looped.

SCSD has historically been vulnerable to disruptions in supply from its Reclamation contract. During the 1991 drought, Reclamation reduced SCSD's allotment by ~~75~~ 25 percent to ~~250~~ 750 acre-feet per year. Groundwater wells are not feasible because the district does not overlay an aquifer.

Shasta County Water Agency

The Shasta County Department of Water Resources was created in 1954 to organize Shasta County's efforts in conjunction with the Trinity River Project. This led to the formation of the SCWA in 1957 through the Shasta County Water Agency Act, Legislative Act 7580. The SCWA was created to control and conserve surface water for the beneficial use and protection of life and property of the people of Shasta County. Funding for the SCWA comes from Shasta County property taxes.

The SCWA actively promotes the creation of public water and sewer systems. The agency was instrumental in the creation of BVWD, Centerville Community Services District, CCCSD, and SCSD, as well as six county service areas for water and two for sewer service.

In 1967, the SCWA negotiated a 37-year contract with Reclamation for 5,000 acre-feet of "Project Water" or replacement water. This water was is wholesaled to 14 subcontractors throughout the county, but portions have been or are being assigned to Centerville (2900 acre-feet), Mountain Gate (1,000 acre-feet), and Bella Vista (578.7 acre-feet). The 500 acre-feet the County has under the KCSA contract would be combined with the SCWA contract during a contract renewal for administrative simplicity. "Project Water" may be used for municipal, industrial, and domestic use, and replacement water may be used for agricultural purposes and/or municipal, industrial, and domestic uses.

Other Shasta and Trinity River Divisions CVP Contractors

Three smaller water districts are included in the Shasta and Trinity River Divisions. The three districts constitute about 1 percent of the CVP long-term contract water supply to the divisions.

Keswick County Service Area

The KCSA is located west of the City of Redding. KCSA was preceded by the Keswick Community Services District, which was formed in the early 1960s under the Community Services District Laws, Sections 61000 through 61934 of the Governmental Code of the State of California. The district was formed for the primary purpose of supplying water for domestic use and fire protection to the town of Keswick and adjacent developed areas. Congress authorized a water system for the area as part of the Trinity Project Act (69 Stat. 719) and the facilities were constructed in 1965. A repayment schedule was established whereby the Federal government is reimbursed by KCSA for transmission and distribution system construction costs. However, upon completion of repayment, ownership of all project facilities will still remain with the Federal government. On October 23, 1990, the Keswick Community Services District was dissolved and reorganized as the Keswick County Service Area under Sections 25210.1 through 25250 of the Governmental Code of the State of California. KCSA serves about 195 connections (2000), which are concentrated in the town of Keswick. The district boundaries encompass facilities not served by the district, including Keswick Dam and the Spring Creek Diversion Dam. The land uses served by KCSA are exclusively ranchettes.

Federal CVP water is provided under the terms of a contract with Reclamation. The contract (to be combined with the SCWA contract) provides for deliveries of up to 500 acre-feet annually. Water is supplied by gravity flow from Whiskeytown Lake via a turnout on the Spring Creek Conduit, which feeds the Spring Creek powerhouse. Two storage tanks provide total storage of 0.2 million gallons.

Mountain Gate Community Services District

MGCSO is located north of the City of Shasta Lake. MGCSO was formed pursuant to Government Code, Title 6, Division 3, Sections 61000 through 61800. MGCSO was initially formed in 1956 to provide water service within a ~~two~~-square-mile area. MGCSO provides water service to 593 connections (2000). In addition, the district provides fire protection services in its service area. The primary land use is ranchettes. Other significant uses are urban and industrial.

MGCSO obtains CVP water from Shasta Lake under the terms of a contract with Reclamation for 350 acre-feet per year. This contract allotment was ~~is~~ supplemented by an additional 1,000 acre-feet via a contract with the SCWA., that was assigned to MGCSO February 22, 2005. The district also operates three wells within a small usable aquifer. These wells supply nearly half of MGCSO's total needs annually. The distribution system consists of 29 miles of pipelines serving 3,750 acres within the MGCSO, in addition to Bridge Bay Resort, which is located on the USFS land adjacent to Shasta Lake. There is no storage within the district.

USFS Centimudi Boat Ramp

The Centimudi boat ramp is part of the original Centimudi Marina Project located east/southeast of Shasta Dam. The Memorandum of Agreement signed November 8, 1967, between the USFS and Reclamation (Contract No. 14-06-200-3464A) stipulated that the USFS could divert up to ~~10~~ ten acre-feet of municipal, industrial, and domestic water from the Toyon Pipeline to supply the Centimudi Marina Project. The Toyon Pipeline, a Reclamation facility, originated from the left abutment of Shasta Dam and diverted water to a point near the Government Camp at Toyon (west of the City of Shasta Lake). The USFS agreed to construct, operate, and maintain the pipelines, pumps, and meters to facilitate the water diversion. Further, the USFS agreed to assume responsibility for controlling and distributing the water. ~~Currently the Marina is serviced by the Shasta Community Services District.~~

4.2.2 ENVIRONMENTAL CONSEQUENCES

The effects of Alternatives 1 and 2 on surface water supplies and operations are compared to conditions under the No Action Alternative.

No Action Alternative

Under the No Action Alternative, it is assumed that historic annual surface water supplies under CVP operations plans would be similar to existing conditions to Contractors in the Shasta and Trinity River Divisions. Under the No Action Alternative, ~~the water supply would be affected by climate conditions. During the driest years, tiered water pricing would become a requirement of each Contractor's long-term contract renewal. Under tiered water pricing under for the No Action Alternative, 80 percent of the Contractor's M&I water supply would be supplied prior to meeting the agricultural water demand. (Also, water conservation planning is a requirement of interim contracts and future long-term contract renewals.)~~

Alternative 1

Under Alternative 1, the water supply available for delivery to the Contractors is assumed to be similar to the No Action Alternative. Alternative 1 assumes that future long-term renewal contracts would be equal

to the ~~base~~ maximum quantity in existing long-term contracts or interim contracts. Therefore, the water supply would be the same as it would be under the No Action Alternative. Consequently, there would be no direct environmental consequences associated with water supply when compared to the No Action Alternative.

Alternative 2

Under Alternative 2, the water supply delivered is assumed to be the same as for the No Action Alternative. Alternative 2 assumes that the sum of Category 1 and 2 water is equal to the maximum quantity provided in the Contractors' existing water service contracts. Future long-term contracts are expected to be renewed for the same quantity of water as under the No Action Alternative. Therefore, there would be no direct adverse environmental consequences associated with water supply compared to the No Action Alternative.

4.2.3 CUMULATIVE EFFECTS

No environmental consequences to water supply are expected under Alternative 1 or 2 when compared to the No Action Alternative. Therefore, no cumulative effects are anticipated when compared to the No Action Alternative.

4.3 SOCIOECONOMICS

4.3.1 AFFECTED ENVIRONMENT

All of the water Contractors and service areas within the Shasta and Trinity River Divisions of the CVP potentially affected by CVP long-term water contract renewals are located in Shasta County. Accordingly, Shasta County was selected as the regional area of influence for the demographic, land use, and economic impact evaluation for Alternatives 1 and 2 and the No Action Alternative. To be consistent with the time frame of the affected environment and environmental consequences components of the CVPIA PEIS, 1994/95 data are included in the affected environment characterization for the evaluation of the CVP contract renewal alternatives under consideration (to the extent such data are available).

Demographics

Table 4.3-1 presents recent population estimates for Shasta County broken down by major ethnic group. The table indicates that the County’s estimated population in the year 2000 was 172,000 (California Department of Finance [CDOF], 2003b).

**TABLE 4.3-1
 SHASTA COUNTY POPULATION**

Year	Total	White	Hispanic	Asian and Pacific	Black	American Indian
1995	159,700	141,767	7,592	3,465	1,447	6,773
1998	161,900	141,672	8,468	3,844	1,631	6,285
2000	163,256	141,721	8,975	4,058	1,729	5,429

Sources: State of California, Department of Finance, Race/Ethnic Population Estimates: Components of Change for California Counties, April 1990 to April 2000. Sacramento, California, March 2003; State of California, Department of Finance, E-1 City/County Population Estimates, with Annual Percent Change, January 1, 2002 and 2003. Sacramento, California, May 2003.

In 2003, approximately half of Shasta County’s 172,000 residents lived in the County’s largest city, Redding. In January 2003, Redding’s population was approximately 85,700, 8 percent more than in 1998 (CDOF, 2002). The County’s second most populated city, Shasta Lake, had a reported 2003 population of about 9,725 people. Approximately 40 percent, or 67,100, of Shasta County’s residents live in the County’s unincorporated areas (CDOF, 2003b).

Table 4.3-2 characterizes the overall housing situation within Shasta County. The table indicates that the County’s housing vacancy rate was approximately 7.8 percent of existing housing units in 2003 (CDOF, 2003c).

**TABLE 4.3-2
 SHASTA COUNTY HOUSING (2003)**

Housing Stock	71,683
Single Units	50,064
Multiple Units	10,806
Mobile Homes, Trailers, etc.	10,813
Vacancy Rate	7.8%
Occupants per household	~2.5

Source: State of California, Department of Finance, E-5 City/County Population and Housing Estimates, 2003, Revised 2002 and Revised 2001, with 2000 DRU Benchmark. Sacramento, California, May 2003.

There are a total of 40 ten separate water districts/agencies (districts) within the Shasta and Trinity River Divisions of the CVP that currently receive CVP water designated for M&I uses through contracts undergoing the contract renewal process (referred to as contract water).

Table 4.3-3 presents 1994 estimates of the population served by the four largest of these districts, BVWD, CCCSD, City of Shasta Lake, and City of Redding (California Department of Water Resources 1994). In 1994, these districts together received almost 85 percent of the total CVP M&I contract water that was delivered to the Shasta and Trinity River Divisions.

**TABLE 4.3-3
 POPULATION SERVED WITHIN SELECTED WATER DISTRICTS (1994)**

	BVWD	CCCSD	City of Shasta Lake	City of Redding
Population Served	15,700	8,000	9,820	78,266

Source: California Department of Water Resources 1994

Municipal and Industrial Water Costs, Land Use, and Economics

The water Contractors, identified in Table 4.3-3, treat and deliver CVP and other water to residential, commercial, and industrial customers within their service areas. Table 4.3-4 itemizes the number of M&I service connections reported by each district in 1994, by service connection category.

**TABLE 4.3-4
 M&I SERVICE CONNECTIONS WITHIN LARGEST WATER DISTRICTS* BY M&I CATEGORY (1994)**

Service Connection Category	BVWD	CCCSD	City of Shasta Lake	City of Redding	Total Connections *
Single-Family Residential	233	1,441	2,997	18,643	23,314
Multi-family Residential			289	456	745
Commercial/Institutional	158		189	3,837	4,026
Industrial		1	5	464	470
Other (government)				195	195
Landscape Irrigation				3	3
Other (rural)	864				864
Total Connections *	3,855	1,442	3,480	23,598 **	32,375 **

Source: California Department of Water Resources 1994

*Some of the districts do not report separately for single- and multi-family residential connections. These connections represent approximately 85% of the Shasta and Trinity River Divisions.

**Includes ~4,179 connections for CVP water under Buckeye Contract.

Table 4.3-5 presents estimated water deliveries by service connection category for each of the water districts presented in Table 4.3-4. All of these water deliveries were metered, except the City of Redding's deliveries to its landscape irrigation users. The table indicates that about half of the City of Redding's 1994 M&I water deliveries were for landscape irrigation purposes. (A review of reported customer water deliveries in 1999 indicates that deliveries categorized under landscape irrigation were greatly reduced in that year from the 1994 levels. At the same time, the City's reported single-family residential deliveries increased substantially, despite little change in the Redding service area population.)

**TABLE 4.3-5
 1994 DELIVERIES OF TREATED WATER TO M&I CUSTOMERS BY M&I CATEGORY
 (ACRE-FEET PER YEAR)**

Service Connection Category	BVWD	CCCSD	City of Shasta Lake	City of Redding
Single-Family Residential	2,030	471	1,573	12,520
Multi-family Residential			110	258
Commercial/Institutional	1,401	2	333	7,524
Industrial			74	476
Other (government)				566
Landscape Irrigation				21,354
Other (rural)	1,891			
Total Per District in Acre-Feet Per Year	5,321	474	2,090	42,699 *
1994 Average (acre-feet per year per connection) (Connection data from Table 4.3-4)	1.38	0.33	0.6	1.81

Source: California Department of Water Resources, 1994
 Includes the Buckeye Contract for CVP water as well as other agreements and contracts.

Table 4.3-6 presents the estimated M&I deliveries of CVP water in 1994 to each of the CVP Shasta and Trinity River Contractors that receive CVP water designated for M&I uses (Reclamation 2000). (In 2001, 2,900 acre-feet of water previously assigned to under contract with the Shasta County Water Agency was reassigned to Centerville Community Services District. The tables in this section currently include the CCCSD assignment from the Shasta County Water Agency. See footnote in tables.)

**TABLE 4.3-6
 CVP CONTRACT MAXIMUM, M&I DELIVERIES AND ESTIMATED COST (1994)**

Factor	MGCSO	City of Shasta Lake	USFS	KCSA	SCSD	SCWA (Including CCCSD)*	BVWD	CCCSD	City of Redding (1)
CVP Contract Maximum (acre-feet)	350	2,750	10	500	1,000	5,000*	22,000 24,000	15,300	9,250(4) 6,140(1)
Estimated M&I Deliveries (acre-feet)	350	2,410	10	158	593	1,267*	5,567	1,928	2,822
1994 Cost-of-Service Rate (per acre-foot)	\$9.00	\$13.82	\$20.00	\$13.17	\$10.77	\$19.44*	\$39.00	\$26.09	\$11.40
Total Estimated Cost	\$3,150	\$33,306	\$200	\$2,081	\$6,387	\$24,630*	\$217,113	\$50,302	\$32,171

Source: Bureau of Reclamation 2000a, Bureau of Reclamation 1994a, Dornbusch & Company
 (1) **Also receives** includes 3,150 acre-feet of settlement water, and ~~6,100-6,140~~ acre-feet of CVP under Buckeye Contract water
 * Includes 2,900 acre-feet per year which was assigned by contract to CCCSD by Reclamation in April 2001

A comparison of Tables 4.3-5 and 4.3-6 indicates that BVWD, CCCSD, and the City of Shasta Lake receive the majority of their M&I water through CVP long-term renewal contracts. The disparity between CCCSD's 1994 CVP deliveries (1,928 acre-feet) and the district's treated deliveries to its M&I customers (474 acre-feet) may be explained by the fact that CCCSD sells some of its M&I water to other districts, including BVWD. A comparison of the two tables also reveals that only a relatively small portion of the

City of Redding’s M&I water comes from its contract water. However, the entire Buckeye contract (City of Redding) receives 100% of its M&I water from the CVP.

Table 4.3-6 also presents the 1994 M&I contract cost-of-service rates published by Reclamation applicable to each district’s contract water. The table shows the estimated total cost-of-service incurred by each district in that year based on their recorded CVP M&I contract water deliveries. In 1999, the City of Shasta Lake’s average household water bill per 1,000 cubic feet of water was approximately \$15.40 per month (City of Shasta Lake 2000). This translates to about \$670 per acre-foot. (One acre-foot of water equals 43,560 cubic feet of water or the amount of water a family of five uses a year.) In 1999, the City of Shasta Lake paid a cost-of-service rate for untreated CVP water of \$15 per acre-foot (compared to \$13.82 in 1994, as shown in Table 4.3-6). Accordingly, the actual average cost of CVP water treated and delivered to residential customers within the City of Shasta Lake in 1999 was almost 45 times the cost-of-service rate that they paid for that water. This is to be expected since an M&I district’s cost of untreated water is usually a relatively small component of its cost to treat, store, and deliver water to its customers (and thus the rates charged to its customers). Similar findings would be expected for the other Shasta and Trinity River Divisions ~~water districts~~ contractors.

Agriculture Water Costs, Land Use, and Economics

Both BVWD and CCCSD supply treated contract water designated for agricultural purposes to irrigators within their service areas. In 1996, a total of 7,319 acres of land within the two districts that were designated for CVP agricultural water use were irrigated with CVP water: 3,388 acres in BVWD and 3,931 acres in CCCSD (Reclamation 1996). The districts together received approximately 10,000 acre-feet of CVP agricultural contract water in 1994 (purchases from other CVP Contractors aside).

While field, vegetable, and fruit crops are grown in the County and the districts, pasture is by far the predominant crop, representing about 50 percent of irrigated agriculture in the county. Table 4.3-7 summarizes the cropping pattern for each district, as reported to Reclamation for 1996. The table indicates that like Shasta County as a whole, a large portion of the both districts’ irrigated lands is in pasture, particularly BVWD.

**TABLE 4.3-7
 CROPPING PATTERNS (1996)**

Crop / Crop Group	BVWD (acres)	Percentage of BVWD Total	CCCSD (acres)	Percentage of CCCSD Total
Pasture	2,813	84.7%	1,785	48.5%
Alfalfa	217	6.5%	25	0.7%
Sugar Beets		0.0%		0.0%
Other Field Crops	176	5.3%	738	20.0%
Rice		0.0%		0.0%
Truck Crops	1	0.0%	86	2.3%
Tomatoes	1	0.0%	30	0.8%
Deciduous Orchards	52	1.6%	993	27.0%
Small Grain	63	1.9%		0.0%
Subtropical Orchard		0.0%	24	0.7%
Total	3,323		3,681	

Source: Bureau of Reclamation 1996 and Dornbusch & Company 2000

The Census of Agriculture reports that in 1997, there were 850 farms in Shasta County, of which 605 had some or all of their land under irrigation. Total irrigated acreage within the County reported in 1997 was approximately 38,863 acres (NASS 1999). Accordingly, lands receiving CVP water designated for irrigation with CVP agricultural water within the BVWD and CCCSD represent about 20 percent of the county’s total irrigated land base.

Much of the irrigated lands in Shasta County and, in particular, in the BVWD and CCCSD, consists of relatively small parcels. The 1997 Census of Agricultural indicates that over half of the irrigated farms within Shasta County are less than ~~9~~ nine acres in size. Table 4.3-8 shows the agricultural service connections and customer water deliveries reported by BVWD and CCCSD in 1994. The table also shows the estimated average amount of land per agricultural service connection in each district, 6.5 acres in BVWD and 5.5 acres in CCCSD. (These amounts are calculated by dividing the estimated amount of irrigated acres in each district in 1996 by the number of agricultural connections in 1994. Acreage in 1996 was used because Reclamation was unable to provide accurate irrigated acreage information from 1994. Discussions with local extension agents and others familiar with irrigated farming in Shasta County suggested that the irrigated land base in the BVWD and CCCSD service areas changed little between 1994 and 1996. Therefore, the calculation of irrigated land per connection is deemed reasonable.)

CCCSD reports that in 1999, there were 350 and 338 parcels between 2 and 5 acres in size within the CCCSD and BVWD service areas, respectively, receiving CVP agricultural water (McNeill 2000). Based on the values presented in Table 4.3-8, 2- to 5-acre parcels account for about 50 percent of the CCCSD and 65 percent of the BVWD agricultural service connections.

**TABLE 4.3-8
 AGRICULTURAL CONNECTIONS AND WATER DELIVERIES (1994)**

Factor	BVWD	CCCSD
Irrigated Land (acres) – 1996	3,388	3,931
Agricultural Connections – 1994	524	715
Irrigated Land/Connection (acres)	6.5	5.5
Agricultural Deliveries (acre-feet)	7,247	1,129

Source: California Department of Water Resources 1994, Dornbusch & Company 2000

Table 4.3-9 presents the 1994 cost-of-service rates published by Reclamation for Shasta and Trinity River Divisions agricultural contract water. Cost-of-service (COS) is a term used by Reclamation that refers to the annual rate to be paid by water Contractors to recover federal costs for agricultural and M&I water supply functions for an established repayment period, ~~and according to specific provisions in their respective contracts.~~ This rate includes the recovery cost from each Contractor for capital (construction) investment of CVP; accumulated annual O&M, O&M deficit, and interest (M&I only). The table also shows the total cost-of-service incurred by each district in that year based on their recorded CVP agricultural contract water deliveries. Both BVWD and CCCSD receive ability-to-pay relief on their CVP agricultural water. However, no downward adjustment was made to reflect the associated cost savings because no actual records of either district’s payments to Reclamation were available.

**TABLE 4.3-9
 CONTRACT MAXIMUM, AGRICULTURAL DELIVERIES AND ESTIMATED COST BASED ON
 COST-OF-SERVICE RATES (1994)**

Factor	BVWD	CCCSD
CVP Contract Maximum (acre-feet)	24,000	15,300
1994 CVP Agricultural Deliveries (acre-feet)	6,826	3,289
1994 Cost-of-Service Rate (\$ per acre-feet))	\$11.78	\$15.79
Total Estimated Cost (\$)	\$80,410	\$51,933

Source: Bureau of Reclamation 2000a, Bureau of Reclamation 1994b, Dornbusch & Company 2000

Regional Economy

Shasta County’s largest industrial sector is services. In 1991, the services sector accounted for about 25 percent of the county’s employment base, climbing to almost 32 percent by 1995. Services continue to represent the fastest growing segment of the economy, followed by trade. Agriculture accounts for less than 2 percent of the county’s employment (EDD 2001).

The estimated average annual unemployment rate for Shasta County in 2002 was 7.4 percent (EDD 2002). The unemployment rate has declined from double-digit levels in the early part of the 1990s, and it exceeds the California state-wide average by less than 1 percentage point (the average annual unemployment rate for California in 2002 was 6.7 percent, [EDD 2002]). However, Shasta County ranked 32nd out of California’s 58 counties with respect to per-capita income in 2001 (BEA 2003).

Table 4.3-10 summarizes 1991 industrial output, employment, and income by place-of-work for the county. Data from 1991 were used rather than more current information to be consistent with the temporal setting of the regional economic analysis presented in the PEIS for the CVPIA. California’s

Employment Development Department (EDD) reported that the county’s unemployment rate in 1991 was almost 11 percent (EDD 1999).

**TABLE 4.3-10
 ESTIMATED OUTPUT, EMPLOYMENT, AND INCOME BY PLACE-OF-WORK SHASTA
 COUNTY (1991)**

<i>Industrial Sector</i>	Industrial Output	Employment	Income POW
	(Million\$)	(Full-Time Jobs)	(Million\$)
Agriculture	\$130.53	2,332	\$60.98
Mining	\$497.41	272	\$419.96
Construction	\$604.27	6,746	\$200.61
Manufacturing	\$684.34	5,270	\$258.52
Transportation	\$478.03	4,115	\$246.68
Trade	\$583.20	16,581	\$334.48
Fire	\$594.88	6,100	\$373.84
Services	\$808.69	18,751	\$469.00
Government	\$360.44	11,404	\$331.23
	\$4,741.79	71,571	\$2,695.30

Source: Minnesota Implan Group 1994, Dornbusch & Company 2000

4.3.2 METHODOLOGY OF SOCIOECONOMIC AND LAND USE IMPACT ANALYSIS

The estimated socioeconomic and land use impacts of the contract renewal alternatives are presented in ranges. These ranges extend from the baseline socioeconomic and land use conditions under the No Action Alternative to the potential maximum socioeconomic and land use impacts anticipated under Alternative 2 when compared to the No Action Alternative. In this manner, the evaluation provides “bookends” with which to consider the potential implications of alternative contract renewal options. Alternative 1 is ostensibly identical to the No Action Alternative framework with respect to those elements, particularly water rate setting, that may affect socioeconomics and land use within Shasta County. All of the impacts of Alternative 2 are presented in terms of the incremental change relative to projected No Action conditions. The analysis is conducted for the 25 year contract ~~year 25~~ (2029); however, dollars are reported in 1999, 1994, and 1991 terms, depending on the availability of information and the time frame of the analysis, as well as to maintain consistency with the CVPIA PEIS. It also should be noted that to maintain consistency with the CVPIA PEIS, BVWD and CCCSD projected future CVP M&I and agricultural water use is based on agricultural and M&I land use and development projections reported in the Shasta County General Plan. As such, the M&I and agricultural water and land use projections presented in this EA may differ from projections indicated by other planning documents, including the future water needs assessments submitted to Reclamation by the districts as part of the contract renewal process. However, the projections all call for full use of the contract amounts by ~~contract year 25~~ (2029).

Methodology

The analysis of potential impacts on M&I and agricultural land use, M&I and agricultural water cost, and agricultural economics of Shasta and Trinity River Divisions long-term contract renewals is conducted at the level of the specific CVP Contractors that would be affected. However, the analysis of potential regional economic and demographic impacts of contract renewal is conducted at a broader regional level.

For the analysis, the affected region is defined as Shasta County. While the secondary economic and demographic effects of the alternatives may extend outside of Shasta County, it is reasonable to anticipate that the majority of those impacts will occur within the county. Ultimately, it is the localized effects of contract renewal that are most relevant to the evaluation of the effects of the alternatives on local communities.

Demographic Impacts

The evaluation of the potential demographic impacts of long-term CVP contract renewal for CVP Contractors in the Shasta and Trinity River Divisions focuses on population. The analysis starts with an assessment of contract renewal-associated regional effects on employment (discussed below), since employment is a primary determinant of population dynamics. However, anticipated regional change in job availability is not the only factor that must be examined in assessing population effects of an action such as CVP contract renewal. The projected population impact of employment changes must be evaluated in the context of general labor market conditions and family size within the relevant area of study. Accordingly, both of these variables are considered in the evaluation of the potential population impacts of contract renewal. California Department of Finance population projections for Shasta County were used as the basis for estimating population conditions under the No Action Alternative.

Municipal and Industrial Water

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

The primary source of data used to model water demands, local supplies, and costs in evaluating contract renewal socioeconomic and land use impacts was the California Department of Water Resources Bulletin 160-93. While the information in Bulletin 160-93 was updated in Bulletin 160-98, Bulletin 160-93 was used to be consistent with the CVPIA PEIS analysis assumptions (CDWR 1993). Estimates of future CVP deliveries with and without CVPIA were derived using the PROSIM and SANJASM models (see PEIS, technical appendices for a description of these hydrologic modeling tools).

The results of the analysis of impacts on water cost in the CVPIA PEIS were aggregated into four regions. The Shasta and Trinity River Divisions were included in the Sacramento Valley 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 Shasta and Trinity River Divisions long-term contract renewals, the PEIS analysis concluded that reliable non-CVP water supplies would cost well in excess of the effective CVP M&I water rates for any of the contract renewal proposals under consideration. Accordingly, no incremental change in future M&I demand for CVP water is anticipated under either Alternatives 1 or 2 when compared to the No Action Alternative.

Consistent with the CVPIA PEIS, the analysis of the socioeconomic impacts of contract renewals focuses on both the long-run average and short-run dry hydrologic conditions, and associated CVP deliveries. Projected post-CVPIA CVP M&I deliveries were obtained from the PEIS M&I models prepared by Reclamation.

The M&I cost analysis of the Preferred Alternative in the CVPIA PEIS (No Action Alternative in this EA) was conducted assuming 80-10-10 tiered pricing and 1994 CVP M&I rates. Alternative 1 does not alter the rate-setting scheme stipulated in the No Action Alternative and, therefore, would not have an incremental impact on Shasta and Trinity River Divisions CVP M&I water costs relative to the No Action Alternative. Alternative 2, however, would have an impact on Shasta and Trinity River Division Contractors' costs for CVP M&I water.

The M&I cost impact analysis for Alternative 2 assumed the adoption of 80-10-10 tiered pricing, Category 1/ Category 2 water designation, and the 1999 Shasta and Trinity Contractors' CVP M&I rates adjusted to reflect the Alternative 2 proposed revision to the CVP rate-setting methodology. More current estimates of CVP M&I rates consistent with the revision methodology (PEIS 1997) are not available because the methodology has since been dropped from consideration.

The projected impacts of Alternative 2 in contract year 25 (2029) M&I water costs are presented in 1999 dollar terms as the increment above each potentially affected long-term renewal Contractor'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.

CVP M&I water rates under Alternatives 1 and 2 are not expected to have any impact on Shasta and Trinity River Divisions' CVP M&I water demand. In addition, the two alternatives do not differ from the No Action Alternative with respect to projected CVP water supply/reliability. Therefore, it is not anticipated there will be any M&I water-related demographic or land use impacts of the contract renewal alternatives. Accordingly, demographic and land use impacts are not addressed in the contract renewal M&I impact analysis. The analysis examines only Shasta and Trinity River Divisions' water-cost-related impacts. As in the CVPIA PEIS, it is assumed that any projected change in the cost of CVP water would be passed directly on to each district's customers, dollar for dollar.

Agricultural Water Cost, Land Use, and Economic Impacts

The assessment of the demographic and agricultural water cost, land use, and economic impacts under Alternatives 1 and 2 were based on the agricultural economic impact assessment models developed for the CVPIA PEIS (PEIS 1997). A detailed description of those models is presented in the Agricultural Economics and Land Use Technical Appendix to the PEIS. In summary, the PEIS agricultural economic and land use models were designed to estimate the potential direct impact of CVPIA-associated changes on agricultural water rates and supply/reliability on agricultural users, including land use, water use, gross value of crop production, and farmer net revenue from irrigation.

Agricultural economic and land use impacts identified in the PEIS resulted from the introduction of 80-10-10 tiered pricing, the addition of a restoration charge on each acre-foot of delivered water, and the projected cost to individual CVP Contractors of acquiring alternative water supplies to mitigate water delivery reductions due to CVPIA-mandated in-stream and refuge flows not offset through conservation. The PEIS agricultural economic impacts were derived by applying the Central Valley Production Model (CVPM). The CVPM is a highly sophisticated tool that predicts farmer response to changes in the price and availability of resource inputs, particularly water. The types of response mechanisms built into the model include land fallowing, crop switching, changes in ground water pumping, etc. These responses ultimately have implications for the total value of crop production, land and water use, and the net revenues to farmers subsequent to an event such as CVPIA implementation or contract renewal.

The CVPM model, as formatted for the PEIS, produces output for each of 22 separate sub regions within California's Central Valley (for reporting purposes in the PEIS, these sub regions were aggregated into four larger regions). The two CVP water Contractors in the Shasta and Trinity River Divisions that

receive CVP agricultural water and would potentially be affected by long-term contract renewals, BVWD and CCCSD, are located in CVPM Region 1. Accordingly, the output of the CVPM model runs for Region 1 were used to estimate the implications of the No Action Alternative and Alternatives 1 and 2 for the agricultural lands and economy within BVWD and CCCSD. Estimates of gross value of farm production derived from CVPM were combined with recent cropping-pattern information for BVWD and CCCSD to calculate district-specific estimates of the gross value of production and farmer net revenue under the contract renewal alternatives.

The No Action Alternative and Alternative 2 would increase the CVP agricultural acreage limitation from 2 to 5 acres. If implemented, this contract stipulation would not necessarily affect the delivery and cost of CVP water for agricultural irrigators on parcels smaller than 5 acres. According to Reclamation, it would simply place a greater burden of proof on those irrigators and their districts to demonstrate that the agricultural water they are receiving (at agricultural water rates) is being put to legitimate agricultural uses. Reclamation representatives believe that the change in acreage limitation would ultimately have little or no effect on the cost of water for farmers with parcels between 2 and 5 acres within the Shasta and Trinity River Divisions. It could, however, place an additional administrative burden on farmers and their districts in managing CVP deliveries (Holt 2000), although the burden would not be great since the applicable guidelines for determining agricultural use will remain unchanged.

4.3.3 ENVIRONMENTAL CONSEQUENCES

Demographics

No Action Alternative

Table 4.3-11 presents the projected year 2030 population for Shasta County. Under the No Action Alternative, population is forecast to increase by more than 50 percent from estimated levels in 2000.

**TABLE 4.3-11
YEAR 2030 PROJECTED SHASTA COUNTY POPULATION**

Year	Total	White	Hispanic	Asian and Pacific	Black	American Indian
2030	267,749	225,353	20,500	12,111	2,457	7,330

Source: CDOF 1998, Dornbusch & Company 2003

Alternative 1

The effects of Alternative 1 on demographics within the affected region are assumed to be similar to those of the No Action Alternative. Therefore, Alternative 1 would have no impact on demographics.

Alternative 2

Implementation of Alternative 2 could result in a loss of, or failure to create, as many as 46 jobs within Shasta County in contract year 25 (2029). Given historically high unemployment within the County and adjacent region, it is not anticipated that the workers who would be displaced could readily find alternative employment. Accordingly, the loss of employment under Alternative 2 could result in a long-run decrease in the Shasta County population of at most about 100 people, or approximately 0.04 percent, when compared to projected population levels under the No Action Alternative. Alternative 2 would therefore have a minor effect on demographics in Shasta County.

Municipal and Industrial Water Costs, Land Use, and Economics

No Action Alternative

Table 4.3-12 presents the 1994 actual cost of service and estimated mid-tier and full-cost CVP M&I water rates for the Shasta and Trinity CVP Contractors that would be affected by contract renewal. The 1994 rates are presented because these are the rates applied in the most current evaluation of M&I water cost impacts available.

ESTIMATED 1994 M&I WATER RATES UNDER 80-10-10 TIERED PRICING, SHASTA AND TRINITY RIVER CONTRACTORS

CVP Contractor	Cost-of-Service Rate ¹	Midpoint ^{1,2}	Full-Cost Rate ¹
	1 st Tier (80%)	2 nd Tier (10%)	3 rd Tier (10%)
BVWD	\$39.00	\$44.99	\$50.00
CCCS	\$26.09	\$32.81	\$39.53
City of Redding ³	\$9.00-\$11.40	\$9.00-\$13.24	\$9.00-\$15.08
SCWA ⁴	\$19.44	\$23.02	\$26.60
MGCSD	\$9.00	\$9.45	\$9.90
KCSA	\$13.17	\$15.73	\$18.28
SCSD	\$10.77	\$12.62	\$14.47
City of Shasta Lake	\$13.82	\$13.82	\$13.82
USFS	\$20.00	\$20.00	\$20.00

Source: Bureau of Reclamation 1994a, Dornbusch & Company 2000

- 1 In 1994 the Bureau did not publish the full-cost rate for M&I water. Accordingly, these rates were estimated based on the ratio of the cost-of-service and full-cost rates for each CVP long-term renewal Contractor in 1997, the first year full-cost M&I rates were published.
- 2 Midpoint estimated as the simple average of the cost-of-service and full-cost rates.
- 3 City of Redding pays a range of prices for its CVP M&I water, since the water is delivered through different facilities.
- 4 Includes Centerville Community Services District.

Table 4.3-13 presents the projected contract year 25 (2029) No Action Alternative deliveries and cost of ~~Division~~ CVP M&I water under both average and dry hydrologic conditions for each Shasta and Trinity CVP Contractor that would be affected by contract renewal. The table indicates that the Contractors would pay a total of approximately \$1.1 million in contract year 25 (2029) for the untreated CVP M&I water they are projected to take delivery of in a year of average hydrologic conditions ~~per~~ under the CVP contracts ~~undergoing~~ in the renewal process (1999 dollar terms).

Alternative 1

Alternative 1 is assumed to have effects on M&I water costs for the affected water districts similar to the No Action Alternative. Therefore, there would be no environmental effects as a result of implementing this alternative.

**TABLE 4.3-13
 YEAR 2029 PROJECTED CVP M&I DELIVERIES AND WATER COST, NO ACTION ALTERNATIVE
 (1994 DOLLAR TERMS)**

CVP Contractor	CVP Contract Maximum (acre-feet)	Projected CVP M&I Deliveries, Average Condition (acre-feet)	Projected Cost of CVP M&I Water, Average Condition (\$000s)¹	Projected CVP M&I Deliveries, Dry Condition (acre-feet)	Projected Cost of CVP M&I Water, Dry Condition (\$000s)¹
BVWD	24,000	6,400	\$337.94	4,450	\$234.82
CCCSD	15,300	9,420	\$377.72	6,540	\$262.46
City of Redding	6,140	5,610	\$130.84	3,900	\$90.91
SCWA ²	5,000	4,570	\$148.65	3,180	\$103.29
MGCSD	350	320	\$6.76	220	\$4.70
KCSA	500	460	\$11.86	320	\$8.24
SCSD	1,000	910	\$21.33	640	\$14.82
City of Shasta Lake	2,750 4,400	2,510	\$64.92	1,750	\$45.11
USFS	10	10	\$0.29	10	\$0.20
Total	55,050 56,700	30,210	\$1,100.30	21,000	\$764.56

Source: CH2M Hill 1999, Dornbusch & Company 2000

¹ Consistent with CVPIA PEIS analysis, figures are based on 1994 M&I rates and include restoration charge of \$12.00 per acre-foot.

² Includes CCSD.

Alternative 2

Table 4.3-14 presents the 1999 “theoretical” tiered rates for CVP M&I water that Shasta and Trinity River Division Contractors would have paid had the 1999 published rates been revised based on the rate-setting methodology proposed under Alternative 2. For comparison, the table also shows the actual published 1999 M&I cost-of-service rate for each district. The table reveals a potentially large escalation of CVP M&I rates under Alternative 2. For example, the table shows that CCCSD cost-of-service rate in 1999 would have been over three times higher than under the No Action Alternative (\$137.59 per acre-foot compared to \$42.01 per acre foot). The differences are not as large for the other districts, ranging from no difference in the case of some of the City of Redding’s CVP supply to almost 50 percent for KCSA. It should be noted that these rate comparisons account for the potential additional impacts on rates of the Category 1/Category 2 rate-setting measure also stipulated under Alternative 2, which would not be implemented under the No Action Alternative.

Table 4.3-15 presents the maximum incremental impact of Alternative 2 (at contract year 25) on the cost of M&I contract water for each of the potentially affected M&I Contractors under average and dry hydrologic conditions. The table indicates that the total annual cost of untreated CVP M&I water for the Shasta and Trinity River Divisions under average hydrologic conditions could increase by as much as \$1.8 million dollars over the baseline cost of that water under the No Action Alternative (in 1999 dollars). The table also reveals that CCCSD would experience the greatest M&I water cost impact, a three-fold increase in its cost of CVP M&I contract water under average conditions when compared to the No Action Alternative.

**TABLE 4.3-14
1999 PUBLISHED AND “THEORETICAL” COST-OF-SERVICE M&I RATES
ASSUMING 80-10-10 TIERED PRICING**

	No Action Alternative 1999 CVP M&I Rates	Alternative 2 “Theoretical” 1999 CVP M&I Rates		
	Cost-of-Service Rate (\$/acre-foot)	Cost-of-Service Rate (\$/acre-foot)	Midpoint ¹ (\$/acre-foot)	Full-Cost Rate (\$/acre-foot)
CVP Contractor	1 st Tier (80%)	1 st Tier (80%)	2 nd Tier (10%)	3 rd Tier (10%)
BVWD	\$57.62	\$74.37	\$85.13	\$95.89
CCCSD	\$42.01	\$137.59	\$165.41	\$193.22
City of Redding ²	\$15.00-\$21.77	\$15.00-\$23.41	\$15.00-\$27.25	\$15.00-\$31.08
SCWA ³	\$29.77	\$37.78	\$43.22	\$48.66
MGCSD	\$17.38	\$17.72	\$19.88	\$22.03
KCSA	\$23.60	\$35.09	\$41.90	\$48.71
SCSD	\$20.37	\$24.57	\$28.90	\$33.23
City of Shasta Lake	\$15.00	\$15.00	\$15.00	\$15.00
USFS	\$15.00	\$16.30	\$17.84	\$19.37

Source: Bureau of Reclamation 1999a, Dornbusch & Company 2000

1 Midpoint estimated as the simple average of the cost-of-service and full-cost rates.

2 City of Redding pays a range of prices on its CVP M&I water since the water is delivered through different facilities.

3 Includes CCSD

**TABLE 4.3-15
YEAR 2029 IMPACTS ON CVP UNTREATED M&I WATER COST UNDER
AVERAGE AND DRY HYDROLOGIC CONDITIONS**

Contractor	No Action Alternative	Alternative 2 Incremental Change from No Action Alternative	No Action Alternative	Alternative 2 Incremental Change from No Action Alternative
	Average Condition (\$000s) ¹	Maximum Impact - Average Condition (\$000s) ²	Dry Condition (\$000s) ¹	Maximum Impact - Dry Condition (\$000s) ²
BVWD	\$337.94	\$280.87	\$234.82	\$170.34
CCCSD	\$377.72	\$1,259.72	\$262.46	\$780.91
City of Redding	\$130.84	\$88.14	\$90.91	\$53.85
SCWA ³	\$148.65	\$106.16	\$103.29	\$64.80
MGCSD	\$6.76	\$3.79	\$4.70	\$2.39
KCSA	\$11.86	\$12.91	\$8.24	\$7.85
SCSD	\$21.33	\$16.72	\$14.82	\$10.19
City of Shasta Lake	\$64.92	\$6.74	\$45.11	\$4.68
USFS	\$0.29	\$(0.01)	\$0.20	\$(0.01)
Total	\$1,100.30	\$1,769.17	\$764.56	\$1,095.00

Source: CH2M Hill 1999, Bureau of Reclamation 1999a, and Dornbusch & Company 2000

1 Based on 1994 published rates and \$12 dollar restoration charge, since the most currently available analysis of M&I water cost impacts is based on 1994 rates.

2 Based on 1999 revised rates and a \$13.50 dollar restoration charge.

3 Includes CCSD.

4.3 Socioeconomics

The anticipated water cost increases presented in the table would be passed directly onto individual customers of the affected districts. However, the percentage increases in residential water bills would be much smaller than the percentage increase in the Contractors’ cost of untreated CVP water, since the cost of the untreated water is only a small part of an individual’s total residential M&I water bill. Nonetheless, any increase in residential water rates could have a noticeable impact on individuals and families with limited income and ability to pay more for their water, given the small changes over the preceding 40 years.

Agricultural Water Costs, Land Use, and Economics

No Action Alternative

Table 4.3-16 presents the 1999 published cost of service and full-cost agricultural water rates for BVWD and CCCSD. The table reveals a greater disparity in the BVWD cost-of-service rate and full-cost rate than for CCCSD. Unlike the assessment of the impacts of contract renewal on CVP M&I water cost, the assessment of the impacts on the cost of CVP agricultural water under the No Action Alternative is based on 1999 rates because the PEIS agricultural economic analysis was updated to 1999.

**TABLE 4.3-16
ESTIMATED 1999 AGRICULTURAL WATER RATES UNDER 80-10-10 TIERED PRICING,
TWO SHASTA AND TRINITY TRIVER CONTRACTORS**

CVP Contractor	Cost-of-Service Rate	Midpoint	Full-Cost Rate
	1 st Tier (80%)	2 nd Tier (10%)	3 rd Tier (10%)
BVWD	\$22.89	\$38.105	\$53.32
CCCSD	\$18.21	\$25.21	\$32.20

Source: Bureau of Reclamation 1999b, Dornbusch & Company 2000

Table 4.3-17 presents the anticipated contract year 25 (2029) Gross Value of Production, CVP agricultural water use, and amount of irrigated land in the BVWD and CCCSD service areas under the No Action Alternative. The table reveals that BVWD irrigators are projected to use two times more CVP water than CCCSD irrigators on only about 25 percent more land. This disparity in water use can be explained by the fact that a greater proportion of the BVWD cropping pattern is projected to be pasture, a water intensive crop.

**TABLE 4.3-17
YEAR 2029-GROSS VALUE OF PRODUCTION-CVP AGRICULTURAL WATER USE AND IRRIGATED LANDS
NO ACTION ALTERNATIVE-BVWD AND CCCSD**

Factor (Based on 1999 Dollars)	BVWD		CCCSD	
	No Action Alternative (Average Condition)	No Action Alternative (Dry Condition)	No Action Alternative (Average Condition)	No Action Alternative (Dry Condition)
Gross Value of Production (Million\$)	\$1.95	\$1.95	\$4.58	\$4.58
CVP Water Use (in acre-feet)	13,500	14,690 ¹	5,800	6,310 ¹
Irrigated Lands (in acres)	5,960	5,890	4,690	4,640

Source: CH2M Hill 2000, Dornbusch & Company 2000

¹ CVP water use increases in a dry year relative to an average year to offset anticipated reduction in ground-water pumping in dry years.

Alternative 1

Alternative 1 is assumed to have effects on agricultural water costs and associated land and water use, gross value of production, and farm net revenues for the affected water districts similar to the No Action Alternative. Therefore, there would be no incremental effects on these elements compared to the No-Action Alternative as a result of this alternative.

Alternative 2

Table 4.3-18 presents the “theoretical” 1999 tiered rates for CVP agricultural water for BVWD and CCCSD had the 1999 published rates been revised based on the rate-setting methodology proposed under Alternative 2. For comparison, the table also shows the actual published 1999 agricultural cost-of-service rate for each district (No Action). The table shows that the impact of Alternative 2 on CCCSD CVP agricultural cost-of-service water rates (about 20 percent) would be much lower than the impact on its CVP M&I cost-of-service water rates. At the same time, Alternative 2 would cause BVWD CVP agricultural water cost-of-service rate to increase by about 45 percent from the cost under the No Action Alternative. It should be noted that these rate comparisons account for the potential additional impacts on rates of the Category 1/Category 2 rate-setting measure also stipulated under Alternative 2, and that would not be implemented under the No Action Alternative.

**TABLE 4.3-18
 1999 PUBLISHED AND “THEORETICAL” COST-OF-SERVICE AGRICULTURAL RATES
 ASSUMING 80-10-10 TIERED PRICING**

Water District	No Action Alternative 1999 CVP Agricultural Water Rates	Alternative 2 “Theoretical”1999 CVP Agricultural Water Rates		
	Cost-of-Service (\$/acre-foot)	Cost-of-Service Rate (\$/acre-foot)	Midpoint ¹ (\$/acre-foot)	Full-Cost Rate (\$/acre-foot)
CVP Contractor	1 st Tier (80 percent)	1 st Tier (80 percent)	2 nd Tier (10 percent)	3 rd Tier (10 percent)
BVWD	\$22.89	\$32.02	\$53.85	\$75.67
CCCSD	\$18.21	\$21.68	\$30.17	\$38.66

Source: Bureau of Reclamation 1999b, Dornbusch & Company 2000

¹ Midpoint estimated as the simple average of the cost-of-service and full-cost rates.

Tables 4.3-19 and 4.3-20 present the estimated potential maximum incremental water cost and land use impacts under Alternative 2 for BVWD and CCCSD, respectively. Table 4.3-19 indicates that implementation of Alternative 2 could cause as much as 800 acres of BVWD irrigated pastureland in the projected contract year 25 to be fallowed during a year of average hydrologic conditions (and even more under dry hydrologic conditions). The table also shows that in contract year 25 (2029), assuming average hydrologic conditions, BVWD farmers may reduce their use of CVP agricultural water by as much as 7,550 acre-feet, or more than half their 13,500 acre-feet of projected use under the No Action Alternative. The fallowing of land and the reduction in the amount of water applied to lands that would remain under irrigation under Alternative 2 could reduce the annual gross value of agricultural production within the BVWD by approximately 6 percent (or \$120,000 in 1999 dollars) and the net income realized by farmers by as much as \$130,000 in 1999 dollars under average hydrologic conditions. In a dry year, the decline in gross production value and net revenue impacts could climb to \$180,000 and \$260,000 (in 1999 dollars)

respectively. The projected maximum agricultural land and water use, gross value of production, and net revenue impacts for CCCSD under Alternative 2 are presented in Table 4.3-20.

**TABLE 4.3-19
PROJECTED YEAR 2029 AGRICULTURAL ECONOMIC AND LAND USE IMPACTS,
BELLA VISTA WATER DISTRICT**

Factor (Based on 1999 Dollars)	No Action Alternative	Alternative 2 Maximum Incremental Change from No Action Alternative	No Action Alternative	Alternative 2 Maximum Incremental Change from No Action Alternative
	Average Hydrologic Condition	Average Hydrologic Condition	Dry Hydrologic Condition	Dry Hydrologic Condition
Gross Value of Production (Million\$)	\$1.95	(\$0.12)	\$1.95	(\$0.18)
Fallowed Land	(\$0.06)			(\$0.06)
Groundwater Pumping	0.00			(0.06)
Irrigation Cost	0.14			0.14
CVP Untreated Water Cost	(0.21)			(0.28)
Crop Prices	0.00			0.00
Net Revenue Impact	(\$0.13)			(\$0.26)
Projected Year 2020				
CVP Water Use (acre-feet)	13.50	(7.55)	14.69	(9.44)
Irrigated Land (acres)	5,960	(800) ¹	5,890	(1,160) ¹

Source: CH2M Hill 2000, Bureau of Reclamation 1996, Dornbusch & Company 2000

¹ Projected to be almost entirely pasture.

**TABLE 4.3-20
PROJECTED YEAR 2029 AGRICULTURAL ECONOMIC AND LAND USE IMPACTS,
CLEAR CREEK COMMUNITY SERVICES DISTRICT**

Factor (Based on 1999 Dollars)	No Action Alternative	Alternative 2 Maximum Incremental Change from No Action Alternative	No Action Alternative	Alternative 2 Maximum Incremental Change from No Action Alternative
	Average Hydrologic Condition	Average Hydrologic Condition	Dry Hydrologic Condition	Dry Hydrologic Condition
Gross Value of Production (Million\$)	\$4.58	(\$0.08)	\$4.58	(\$0.12)
Fallowed Land	(\$0.04)			(\$0.04)
Groundwater Pumping	0.00			(0.04)
Irrigation Cost	0.06			0.06
CVP Untreated Water Cost	(0.09)			(0.19)
Crop Prices	0.00			0.00
Net Revenue Impact	(\$0.07)			(\$0.14)
Projected Year 2020				
CVP Water Use (Acre-feet)	5.80	(3.25)	6.31	(4.06)
Irrigated Land (acres)	4,690	(510) ¹	4,640	(740) ¹

Source: CH2M Hill 2000, Bureau of Reclamation 1996, Dornbusch & Company 2000

¹ Projected to be almost entirely pasture.

4.3.4 CUMULATIVE EFFECTS ON THE REGIONAL ECONOMY

No Action Alternative

Table 4.3-21 summarizes projected year 2029 industrial output, employment in terms of full-time equivalent jobs (FTE), and income by place of work (POW) for Shasta County under the No Action Alternative. Consistent with the PEIS, the figures are presented in 1991 dollar terms.

**TABLE 4.3-21
 ESTIMATED YEAR 2029 OUTPUT, EMPLOYMENT, AND INCOME BY PLACE-OF-WORK, SHASTA COUNTY
 (1991 DOLLARS)**

Industrial Sector	Output (Million\$)	Employment (FTE Jobs)	Income POW (Million\$)
Agriculture	\$131.01	2,341	\$61.21
Mining	\$497.41	272	\$419.96
Construction	\$604.27	6,746	\$200.61
Manufacturing	\$684.30	5,270	\$258.51
Transportation	\$478.04	4,115	\$246.69
Trade	\$583.29	16,584	\$334.53
Fire	\$594.89	6,100	\$373.84
Services	\$808.69	18,751	\$469.00
Government	\$360.44	11,404	\$331.23
Total	\$4,742.35	71,579	\$2,695.62

Source: Minnesota Implan Group 1994; Dornbusch & Company 2000.

Alternative 1

Alternative 1 is assumed to have effects on output, employment, and income in Shasta County similar to the No Action Alternative. Therefore, there would be no incremental effects on these elements under Alternative 1.

Alternative 2

Table 4.3-22 summarizes the contract year 25 (2029) sector-specific and total anticipated maximum incremental impacts on industrial output within Shasta County under Alternative 2. These impacts would result from the escalation of CVP M&I water rates as well as increased CVP agricultural water rates and acreage limitations and the associated changes in land use, farmer net income, and gross value of agricultural production. The table indicates that if Alternative 2 were implemented, the county's total industrial output could decrease by as much as \$3.3 million in 1991 dollars when compared to baseline No Action levels (less than 0.1 percent). The table also shows that the impacts on the county's agricultural sector would be larger, at approximately negative 0.2 percent.

**TABLE 4.3-22
 YEAR 2029 SHASTA COUNTY OUTPUT IMPACTS UNDER ALTERNATIVE 2
 (1991 COMPARATIVE BASIS)**

Industrial Sector	No Action Alternative	Alternative 2	
	Average Condition (Millions\$)	Incremental Change from No Action Maximum (Millions\$)	Incremental Change from No Action Maximum (%)
Agriculture	\$131.01	-0.28	-0.21%
Mining	497.41	-0.04	-0.01%
Construction	604.27	-0.04	-0.01%
Manufacturing	684.30	-0.59	-0.09%
Transportation	478.04	-0.30	-0.06%
Trade	583.29	-0.53	-0.09%
Finance, Insurance & Real Estate	594.89	-0.62	-0.10%
Services	808.69	-0.81	-0.10%
Government	360.44	-0.10	-0.03%
Total	\$4,742.35	-3.31	-0.07%

Sources: Minnesota Implan Group 1994, Dornbusch & Company 2000.

Table 4.3-23 summarizes the contract year 25 (2029) sector-specific and total anticipated maximum incremental impacts on employment Shasta County under Alternative 2. The table indicates that the county’s agricultural employment could decrease by about 5 jobs, or 0.2 percent from baseline No Action levels under Alternative 2. Overall, the county economy could see a decrease of as many as 46 jobs if Alternative 2 is implemented.

**TABLE 4.3-23
 YEAR 2029 SHASTA COUNTY EMPLOYMENT IMPACTS UNDER ALTERNATIVE 2
 (1991 COMPARATIVE BASIS)**

Industrial Sector	No Action Alternative	Alternative 2	
	Average Condition (FTE Jobs)	Incremental Change from No Action Maximum (FTE Jobs)	Incremental Change from No Action Maximum (%)
Agriculture	2,341	-5.3	-0.23%
Mining	272	0.0	0.00%
Construction	6,746	-0.6	-0.01%
Manufacturing	5,270	-2.4	-0.05%
Transportation	4,115	-2.1	-0.05%
Trade	16,584	-11.9	-0.07%
Finance, Insurance & Real Estate	6,100	-5.4	-0.09%
Services	18,751	-17.9	-0.10%
Government	11,404	-0.7	-0.01%
Total	71,579	-46.3	-0.06%

Source: Minnesota Implan Group 1994, Dornbusch & Company 2000.

Table 4.3-24 summarizes the contract year 25 (2029) sector-specific and total anticipated maximum incremental impacts on income by POW within Shasta County under Alternative 2. The table indicates

that the region's income by POW could decrease by almost \$1.9 million or 0.7 percent from baseline No Action levels under Alternative 2 (in 1991 dollar terms).

**TABLE 4.3-24
 YEAR 2029 IMPACTS ON SHASTA COUNTY INCOME BY PLACE OF WORK UNDER ALTERNATIVE 2
 (1991 COMPARATIVE BASIS)**

Industrial Sector	No Action Alternative	Alternative 2	
	Average Condition (Million\$)	Incremental Change from No Action Maximum (Million\$)	Incremental Change from No Action Maximum (%)
Agriculture	\$61.21	-\$0.19	-0.31%
Mining	419.96	-0.03	-0.01%
Construction	200.61	-0.01	0.00%
Manufacturing	258.51	-0.22	-0.09%
Transportation	246.69	-0.15	-0.06%
Trade	334.53	-0.30	-0.09%
Finance, Insurance, and Real Estate	373.84	-0.39	-0.10%
Services	469.00	-0.47	-0.10%
Government	331.23	-0.09	-0.03%
Total	\$2,695.62	-\$1.87	-0.07%

Sources: Minnesota Implan Group 1994; Dornbusch & Company 2000.

Table 4.3-25 summarizes the anticipated land use, water cost, and economic impacts of Alternative 1 for the Shasta and Trinity River Division Contractors. These impacts would have subsequent regional economic impacts within Shasta County, as presented in Tables 4.3-21 through 4.3-24 above.

**TABLE 4.3-25
 LAND USE, WATER COST, AND
 AGRICULTURAL ECONOMIC IMPACTS SUMMARY
 AVERAGE HYDROLOGIC CONDITION**

Factor	No Action Alternative	Incremental Change From No-Action Conditions	
		Alternative 1	Alternative 2 Maximum Impact
CVP M&I Water Cost (\$000s)	\$1,100	No Change	\$1,769
Irrigated Land Use (000s acres)	10.65	No Change	(1.3)
Gross Value of Production (Millions \$)	\$6.53	No Change	(\$0.2)
Net Value of Production (Millions \$)	N/A	No Change	(\$0.2)
Annual CVP M&I Water Use Affected by Contract Renewal (acre-feet)	30.22	No Change	No Change
Annual CVP M&I Water Use Affected by Contract Renewal (acre-feet)	19.1	No Change	(10.8)

Source: Dornbusch & Company 2000

4.4 LAND USE

4.4.1 AFFECTED ENVIRONMENT

This characterization of the affected environment for land use is based on information provided in Shasta County Water Resources Master Plan Phase 1 Report – Current and Future Water Needs (October 1997). This analysis was prepared by SCWA in partnership with CH2M Hill. The California Department of Water Resources (DWR) provided land use information (collected in 1995) that is the basis for the acreages presented in this report. More than 90 percent of the Contractor service areas (i.e., boundaries of the Shasta and Trinity River Divisions) are included within the 260,000-acre Redding Groundwater Basin. Land use data are presented for the Redding Groundwater Basin as a whole (these data are not segregated by individual Contractors). Acreages reported for the Redding Groundwater Basin include areas that are outside the Contractor service areas and that have a higher percentage of farmland than the Contractor service areas, but are otherwise similar.

- City of Redding Draft Background Report (July 1998). This analysis was prepared by the City of Redding and various consultants, and contains land use information for the sphere of influence considered by the City of Redding in updating its General Plan.
- City of Redding Public Hearing Draft General Plan (March 2000), prepared by the City of Redding.
- Shasta County General Plan, as amended through October 1998, prepared by the Shasta County Department of Resource Management.
- City of Shasta Lake Existing Conditions Report (February 1999), prepared by the City of Shasta Lake.
- Bella Vista Water District Water Conservation Plan (January 1995), prepared by the BVWD. Supplemental information provided by the district in informal correspondence (November 1999 “Draft”) also was incorporated.
- Clear Creek Community Services District Water Conservation Plan (November 1994), prepared by the CCCSD. Supplemental information provided by the district in informal correspondence (Water Conservation Plan Demand Analysis, Attachments 2 and B, dated March 19, 1999) also was incorporated.
- City of Shasta Lake Water Conservation Plan (March 1994), prepared by the City of Shasta Lake.
- City of Redding Water Conservation Plan (undated, assume 1994), prepared by the City of Redding.

Existing Land Uses

Existing land uses in Shasta County and the Redding Groundwater Basin are shown in Table 4.4-1. As shown, Shasta County encompasses approximately 2.5 million acres. Approximately 6 percent of the

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county land base consists of water-using land. Approximately 2 two percent of the total land base is urban/rural urban (water-and non-water using combined). In the Redding Groundwater Basin, where development is more concentrated, approximately 21 percent is water-using land, and 18 percent is urban/rural urban (water- and non-water using combined). The remaining lands are non-water use lands that are in native vegetation or “idle” status. The predominant agricultural water use in both Shasta County and in the Redding Groundwater Basin is pasture irrigation. Non-water use areas are divided into three subcategories: native, idle, and rural urban non-irrigated (1 to 5 acres).

**TABLE 4.4-1
SHASTA COUNTY AND REDDING GROUNDWATER BASIN LAND USES (ACRES)**

Category	Shasta County	Redding Basin
Water-Using Lands – Irrigated Agriculture		
Permanent Crops	2,960	2,487
Grain Field Crops	5,308	1,572
Pasture	48,998	16,187
Truck	989	337
Rice	2,941	0
Rural Urban (1 to 5 acres)	2,672	2,672
Total	63,868	23,255
Urban		
Urban	26,945	18,224
Rural Urban Domestic (1 to 5 acres)	5,375	4,632
Total	32,320	22,856
Commercial and Industrial		
Commercial	2,066	1,326
Industrial	3,556	2,844
Total	5,622	4,170
Recreation and Environmental		
Water Bodies	43,051	1,696
Parks and Golf Courses	714	490
Riparian Vegetation	5,467	2,799
Total	49,232	4,985
Total Water Use Areas	151,042	55,266
Non-Water Use Lands		
Native	2,277,486	178,836
Idle	11,031	1,886
Rural Urban Non-Irrigated (1 to 5 acres)	27,777	23,571
Total Non-Water Use Areas	2,316,294	204,293
Gross Land Use Area	2,467,336	259,559

Countywide, approximately 0.2 percent of the land base is used for commercial and industrial purposes, 0.2 percent is used for recreation and environmental purposes, and 3 percent is irrigated agriculture. The predominant water-using land use in Shasta County is agriculture. Ninety-three percent of the land base in Shasta County is classified as non-water use land.

The Redding Groundwater Basin accounts for approximately 11 percent of the total Shasta County land base. About 2 percent of the Redding Groundwater Basin is commercial and industrial, approximately 0.2 percent is used for recreation and environmental purposes, and nearly 3 percent is irrigated agriculture. Urban/rural urban development is proportionately the most significant land use in the Redding Groundwater Basin. Nearly 70 percent of the land base in the Redding Groundwater Basin is non-water using land.

Urban development is concentrated in the south central portion of the county in the cities of Redding, Anderson, and Shasta Lake. Approximately 84 percent of the populous of Shasta County resides in these communities (Shasta County General Plan 1998). All of these areas receive Shasta and Trinity River Project water supplies except Anderson. The City of Anderson is not affected by the scope of this document and is therefore not specifically addressed.

**TABLE 4.4-2
 EXISTING LAND USE DESIGNATIONS
 CITY OF REDDING AND CITY OF SHASTA LAKE (Acres)**

Land Use Designation	City of Redding*	City of Shasta Lake
Residential	35,559	5,151
Retail	1,414	71
Service Commercial	1,143	NA
Highway Commercial	239	NA
Office	607	NA
Office Residential	168	NA
Commercial**	NA	340
Industrial	4,484	848
Airport Service	1,215	NA
Mineral Resources	NA	26
Park	1,342	128
Public Facility/Institution	1,895	178
Greenway	15,156	NA
Agriculture	631	NA
Federal Government	NA	201
TOTAL	63,490	6,943

Source: City of Redding Draft Background Report (1998); City of Shasta Lake General Plan Existing Conditions Report (1999)

* Redding General Plan Area (not city limits)

** City of Shasta Lake does not differentiate commercial acreage use.

The BVWD encompasses 34,016 acres (53.2 square miles), with service provided to 4,776 connections. Of these connections, 534 receive water for agricultural use. Also of these 4,776 total connections, 4,608 are serviced by meters that are suited to typical residential lots (i.e., 3/4-inch) or mid-sized acreage (i.e., 1-5 acres). There were 30 full time farms operating in 1997. Water for agricultural use is delivered to 6,151 acres of land. Of this total, 3,550 acres are irrigated (includes aquaculture). Most of the irrigated land is cropped to pasture (2,813 acres, 79 percent of total irrigated land). Grains, alfalfa and fruits account for 880 irrigated acres (25 percent of total irrigated land) (data inconsistency noted).

During the last 10 to 12 years, there has been a general trend toward lower crop production and an increase in the acreage of irrigated pasture in the BVWD. The acreage planted in fruits and nuts has steadily declined, while oat, alfalfa, and nut production has been variable. The cumulative total water consumption by residential, commercial, and rural users (defined by the BVWD to be users that irrigate in larger than residential quantities of water, with the irrigated area typically being less than 2 acres, that

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do not meet Federal requirements for agricultural water use) has increased from 16 percent of the total 1988 consumption to 40 percent of the total 1997 consumption.

During the period from 1988 to 1993, M&I water consumption in the BVWD increased by approximately 130 percent, from 2,261 acre-feet per year to 5,219 acre-feet per year. Agricultural water consumption during the same time period decreased by almost 60 percent, from 11,628 acre-feet per year to 6,652 acre-feet per year. In 1989, the number of M&I connections was 2,493, and in 1993 there were 3,684 connections. This represents a 43 percent increase between 1989 and 1993. This shift in cropping pattern and water consumption away from agricultural uses and toward residential, commercial, and rural uses is attributable to urbanization of the westerly portion of the BVWD, which is within the sphere of influence of the city of Redding.

The CCCSD encompasses 14,314 acres (22.4 square miles) with service provided to 2,498 connections. Of these connections, 788 receive water for agricultural use, and 1,551 are connections that provide water for M&I use. Water for agricultural irrigation (including aquaculture) is delivered to approximately 4,470 acres (data for 1989, provided March 19, 1999). Most of the irrigated land is cropped to pasture (2,161 acres, 48 percent of total agricultural irrigated land). Other irrigated crops (e.g., deciduous orchards, alfalfa, firewood/Christmas trees, miscellaneous field crops, etc.) account for 2,309 irrigated acres (52 percent of total agricultural irrigated land). About 2,640 acres of land that is capable of receiving water for agricultural use was not under a crop rotation (i.e., was fallow) in 1989.

The City of Shasta Lake encompasses 7,024 acres (11 square miles) with service provided to 3,773 connections. All of the service connections are for M&I uses, and there are no agricultural land uses within the Contractor service area.

The City of Redding encompasses 59,044 acres, with service provided to 24,889 connections. The City delivers water obtained under the CVP contract throughout the “Buckeye zone” service area, which includes about 4,237 connections. Most of these connections are within the city limits (included within the above-referenced 22,704 connections city-wide), but a few of the connections that receive water under the CVP contract are outside the city limits. All of the City of Redding deliveries of CVP water are for M&I uses, although the City’s General Plan designates 631 acres as agriculture.

Additional historical land and water usage data specific to other Contractors were not available, except as previously described.

Projected Future Land Use

The cities of Redding and Shasta Lake, and Shasta County have each adopted General Plans to guide future development and land uses within their respective spheres of influence. As indicated in each of the plans, projected population growth trends are expected to continue at approximately 1.5 percent to 2.2 percent per year, based on historic and predicted conditions.

The City of Redding projects a 21 percent increase in single- and multiple-family dwellings between the years 2000 and 2010, or 2.1 percent per year. The number of acres required to support housing development during these years is projected to increase by 21 percent, from 902 acres per year at present to 1,092 acres per year in 2010.

The acreage of agricultural land use the CCCSD is projected to increase by 45 percent (from 7,110 acres to 10,325 acres) during the period 1989 through 2026 (Water Conservation Plan Demand Analysis, Attachments 2 and B, dated March 19, 1999). Acreages for all crops except miscellaneous field crops and nursery/lettuce are anticipated to increase. Anticipated increases range from 10 percent (alfalfa) to 300 percent (subtropical orchards). The acreage of irrigated pasture is anticipated to increase by 120 percent, from 2,161 acres (1989) to 4,500 acres (2025). During this period, the acreage of fallow land is projected to increase by 12 percent, from 2,640 acres to 2,950 acres.

Additional projections of future land and water usage specific to other Contractors were not available, except as previously described.

4.4.2 ENVIRONMENTAL CONSEQUENCES

No Action Alternative

Because renewal of the long-term contracts would not involve the construction of any physical facilities and structures, the No Action Alternative would not have a direct effect on land use. Additionally, implementation of the No Action Alternative would not conflict with any adopted land use plan. The No Action Alternative would also not cause indirect effects on M&I land use.

Indirect economic effects on agricultural land use could occur under the No Action Alternative due to rewording to provide water service to parcels that are less than or equal to 5 acres as M&I water instead of agricultural water. Under the rewording, Reclamation's Contracting Officer would seek verification that the use is agricultural. Two Contractors in the Division are designated to receive CVP agricultural water (i.e., BVWD and CCCSD). If the use is determined to be agricultural on parcels less than or equal to 5 acres, there would be no indirect effect of the No Action Alternative. Indirect effects, such as reduced agricultural production, could occur if the 2- to 5-acre tracts are currently inappropriately designated as agricultural.

In 1996, a total of 7,319 acres of land within the two districts that are designated for CVP agricultural water use were irrigated with CVP water: 3,388 acres in the BVWD and 3,931 acres in the CCCSD. Under the No Action Alternative for the BVWD, the irrigated acreage is assumed to increase to 5,960 acres and 5,890 acres for the average and dry conditions, respectively. Under the No Action Alternative for the CCCSD, the irrigated acreage is assumed to increase to 4,690 acres and 4,640 acres for the average and dry conditions, respectively. (See also Table 4.3-17.)

Alternative 1

Alternative 1 is assumed to have direct and indirect effects on land use similar to those of the No Action Alternative. There would be no incremental environmental effects on land use under this alternative.

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Alternative 2

Alternative 2 is assumed to have direct effects on land use similar to those of the No Action Alternative. There would be no incremental direct environmental effects on land use under this alternative.

Regarding indirect effects, implementation of Alternative 2 could cause a slight retraction of the regional economy and a consequent effect on M&I land use. A retraction of the regional economy would be expected to delay implementation or reduce the scale of land uses that rely on M&I water deliveries. Regional economic impacts would be small compared to the normal inter-year variation, so impacts on non-agricultural land uses are expected to be small. Otherwise, Alternative 2 is assumed to have indirect effects on M&I land use similar to those of the No Action Alternative. There are no other incremental indirect effects on M&I land use under this alternative.

Under Alternative 2, indirect effects on agricultural land use due to rewording to provide water service to parcels that are less than or equal to 5 acres as M&I water instead of as irrigation water are assumed to be similar to those anticipated under the No Action Alternative. There would be no incremental indirect effects due to rewording under this alternative if 2 to 5 acre tracts now receiving agricultural rates are truly used for agriculture, as those tracts would continue to qualify for agricultural rates.

Nonetheless, for Contractors that deliver agricultural water (i.e., BVWD and CCCSD), the increase in agricultural rates could cause fallowing of lands with implementation of Alternative 2 relative to the No Action Alternative. Almost all of the additional fallowed lands are projected to be taken out of pasture. The incremental acreages that may be fallowed in 2029 under Alternative 2 versus the No Action Alternative are presented for the BVWD (average and dry conditions) in Table 4.3-19. These projections are presented for the CCCSD in Table 4.3-20.

As shown in Table 4.3-19, for the BVWD, implementation of Alternative 2, with its increases in agricultural rates, could result in increased fallowing (relative to the No Action Alternative) of about 800 acres in 2029 under average conditions and could result in increased fallowing of about 1,160 acres under dry conditions. These values represent 13 percent and 20 percent reductions, respectively, in the irrigated acreages that are assumed to occur relative to the No Action Alternative under average and dry conditions.

As shown in Table 4.3-20, for the CCCSD, implementation of Alternative 2, with its increases in agricultural rates, could result in increased fallowing (relative to the No Action Alternative) of about 510 acres in 2029 under average conditions and could result in increased fallowing of about 740 acres under dry conditions. These values represent 11 percent and 16 percent reductions, respectively, in the irrigated acreages that are assumed to occur relative to the No Action Alternative under average and dry conditions. In other words, a shift from agricultural to M&I rates will have no effect if 2- to 5-acre parcels are really agricultural, but the increase in agricultural rates will have an effect.

4.4.3 CUMULATIVE EFFECTS

Cumulative effects to land use would occur in the form of increased fallowing. Almost all of the additional fallowed lands would be taken out of pasture. For the BVWD, about 1,160 additional acres could be fallowed in 2029 under dry conditions under Alternative 2 versus the No Action Alternative, as

shown in Table 4.3-19. For CCCSD, fallowing could occur on about 740 acres under dry conditions as shown in Table 4.3-20. Of the 38,998 acres of pasture in Shasta County, these fallowed areas represent less than 5 percent of pasture in Shasta County. Therefore, implementation of either Alternative 1 or 2 would result in only minor changes to land use.

4.5 BIOLOGICAL RESOURCES

4.5.1 AFFECTED ENVIRONMENT

This characterization of the affected environment for biological resources is based on information provided in *the Biological Assessment/Essential Fish Habitat Assessment for the Shasta and Trinity River Divisions Long-Term Contract Renewal (August 2003)*, including:

- California Native Plant Society Electronic Inventory of Rare and Endangered Vascular Plants of California. This comprehensive database maintained by the California Native Plant Society contains statewide sighting records of special-status plant species.
- California Department of Fish and Game Natural Diversity Database (Rarefind) Version 2.1.2c. (2003). This state-maintained database provides statewide sighting information for special-status wildlife species.
- The U.S. Fish and Wildlife Service (USFWS) list of Endangered and Threatened Species That May Occur in or Be Affected by Projects in Shasta County (USFWS 2000a; Reference File No. 00-SP-2414). This list was updated on June 27, 2003 (<http://sacramento.fws.gov>).
- California Department of Fish and Game's Endangered and Threatened Animals of California (CDFG 2002b) and State and Federally Listed Endangered, Threatened, and Rare Plants of California (CDFG 2002a). These comprehensive statewide lists of special-status species were consulted to determine which species would potentially occur in Shasta County.
- City of Redding Draft Background Report (July 1998). This analysis was prepared by the City of Redding and various consultants, and contains information regarding existing habitat classifications and special-status plant and wildlife species.
- City of Shasta Lake General Plan Existing Conditions Report (February 1999). This analysis, prepared by Diaz Associates, provided information regarding existing habitat classifications and special-status plant and wildlife species.
- Bella Vista Water District Water Conservation Plan (January 1995), prepared by the BVWD. The plan was reviewed for special-status plant and wildlife information.
- City of Redding Water Conservation Plan (undated, assumed 1994), prepared by the City of Redding. The plan was reviewed for special-status plant and wildlife information.
- City of Shasta Lake Water Conservation Plan (March 1994), prepared by the City of Shasta Lake. The plan was reviewed for special-status plant and wildlife information.
- Clear Creek Community Services District Water Conservation Plan (November 1994), prepared by the CCCSD. The plan was reviewed for special-status plant and wildlife information.

Habitat Types and Communities Within the Shasta and Trinity River Divisions

The Redding Basin is a hydrologic subbasin of the Sacramento River Basin, as defined by the California Department of Water Resources (Shasta County Water Agency et al. 1997). More than 90 percent of the Study Area (i.e., within the boundaries of the Shasta and Trinity River Divisions) is included within the 260,000-acre Redding Basin. The Redding Basin supports a diverse range of vegetation types and numerous wildlife species, and there are vegetation and wildlife resources that could be affected by the proposed contract renewals.

Eleven habitat types occur within the Study Area:

- Annual grassland
- Blue oak/grey pine
- Blue oak woodland
- Cropland
- Lacustrine and other aquatic communities
- Riparian
- Ponderosa pine
- Klamath mixed conifer
- Sierran mixed conifer
- Vernal pool
- Urban

A description of each habitat type and associated wildlife species is provided in Table 4.5-1.

**Table 4.5-1
 Habitat Types and Communities Occurring within the
 Shasta and Trinity River Divisions**

Habitat Type	Characteristics
Annual Grassland (AGS)	Annual grassland habitat consists of open grasslands composed primarily of introduced annual grasses. Vernal pools often occur as inclusions within this habitat type. Cropland is commonly cultivated within this habitat type. Annual grasslands are distributed throughout the study area, often interspersed among oak woodlands. The seed crops produced in this habitat type are crucial for insects, birds, and grain-eating mammals, as well as species that prey upon them. Predators include coyote (<i>Canis latrans</i>), grey fox (<i>Urocyon cinereoargenteus</i>), hawks, white-tailed kite (<i>Elanus caeruleus</i>), and owls. This habitat is capable of supporting burrowing owls (<i>Athene cunicularia</i>) and other denning mammals. This is a favored habitat for mule deer. Special-status species associated with annual grasslands include American peregrine falcon and Swainson's hawk.
Blue Oak/Grey Pine (BOP)	This habitat is usually diverse in structure, with a mix of hardwoods, conifers, and shrubs. Within the project study area, the understory is primarily AGS. Blue oaks and grey pines dominate the overstory; blue oak is usually most abundant. Vernal pools often occur as inclusions in this habitat type. Cropland may be included within the AGS habitat component of this habitat type. The project area supports a combination of woodlands, including valley oak (<i>Quercus lobata</i>), blue oak (<i>Q. douglasii</i>), and blue oak/grey pine (<i>Pinus sabiniana</i>). Woodland types transition, as listed above, from valley floor to low foothills. Tree densities vary across the landscape. Woodland habitat is structurally complex and diverse, and important to a variety of wildlife species, particularly grey squirrel (<i>Sciurus carolinensis</i>), mule deer (<i>Odocoileus hemionus</i>), bats, California quail (<i>Callipepla californica</i>), and woodpeckers. Special-status species associated with woodland habitat include American peregrine falcon, northern spotted owl, and Shasta salamander (<i>Hydromantes shastae</i>).
Blue Oak Woodland (BOW)	Blue oak dominates this habitat type. Generally, these woodlands have an overstory of scattered trees, often forming open, savannah-like stands on dry ridges or gentle slopes. On certain sites, the canopy can be nearly closed. Vernal pools and annual grasslands commonly occur as inclusions within this habitat type. Cropland may be included within the AGS habitat component of this habitat type. Similar to BOP habitat, species common to blue oak woodlands include grey squirrel, mule deer, bats, California quail, and woodpeckers. Special-status species include American peregrine falcon and Shasta salamander.
Cropland (CRP)	Vegetation in this habitat type includes a variety of cultivated plants varying in size, shape, and growing patterns. Cropland habitats do not conform to normal habitat stages. Instead, cropland is regulated by the crop cycle in California. Cropland commonly occurs as an inclusion in AGS habitat, which in turn is commonly an inclusion in BOP and BOW habitats. These habitats may occur in association with irrigated pasture. Wildlife species that frequent agricultural areas vary with crop type and season, but may include red-winged blackbird (<i>Agelaius phoeniceus</i>), American crow (<i>Corvus brachyrhynchos</i>), black-tailed jack rabbit, California ground squirrel (<i>Spermophilus beecheyi</i>), burrowing owl, and various predators. Pasturelands are usually a mix of perennial grasses and legumes that normally provide 100 percent cover. Pheasant, quail, and red-winged blackbirds commonly nest in pasture habitat, or in brushy or lightly wooded pasture margins. Listed species associated with these habitat types include bald eagle, Swainson's hawk, and greater sandhill crane.

**Table 4.5-1
Habitat Types and Communities Occurring within the
Shasta and Trinity River Divisions**

Habitat Type	Characteristics
Lacustrine (LAC) and other aquatic communities	Aquatic communities include rivers, streams, lakes, and ponds. These communities provide important wildlife habitat for waterfowl, osprey (<i>Pandion haliaetus</i>), bald eagle, belted kingfisher (<i>Ceryle alcyon</i>), grebes, frogs, and northwestern pond turtles (<i>Clemmys marmorata marmorata</i>). Numerous species of insects reproduce and live in these communities, providing a significant prey base. Many predaceous birds and mammals forage in these communities and use river and stream corridors as travelways or for migration and dispersal. Special-status species associated with lacustrine and other aquatic habitats include bald eagle, American peregrine falcon, bank swallow, and California red-legged frog.
Riparian (RIP)	Riparian communities are found along watercourses in the area and are one of the most valuable habitats in California, providing food, cover, and nesting habitat, thermal refuge, and migration and dispersal corridors. Common associates include valley oak, California sycamore (<i>Platanus racemosa</i>), Fremont's cottonwood (<i>Populus fremontii</i>), willow (<i>Salix</i> sp.), and elderberry (<i>Sambucus</i> sp.). The study area has significant stands of Sacramento River riparian vegetation providing habitat for approximately 250 species of wildlife. Statewide, only 5 percent of the historical acreage of river riparian vegetation remains. Mammals commonly found in riparian areas include ringtail (<i>Basariscus astutus</i>), striped skunk (<i>Mephitis mephitis</i>), raccoon (<i>Procyon lotor</i>), and grey fox. Birds species found in riparian areas commonly include red-shouldered hawk (<i>Buteo lineatus</i>), wood duck (<i>Aix sponsa</i>), great blue heron (<i>Ardea herodias</i>), yellow warbler (<i>Dendroica petechia</i>), and black-crowned night heron (<i>Nycticorax nycticorax</i>). Amphibians such as Pacific tree frogs (<i>Pseudacris regilla</i>) and bullfrogs (<i>Rana catesbiana</i>) are commonly abundant. Reptiles include Pacific gopher snake (<i>Pituophis melanoleucus catenifer</i>) and garter snakes (<i>Thamnophis</i> sp.) Listed species associated with valley foothill riparian habitat include bald eagle, American peregrine falcon, western yellow-billed cuckoo, California red-legged frog, and valley elderberry longhorn beetle.
Ponderosa Pine (PPN)	At least 50% of a stand must be ponderosa pine to be classified ponderosa pine habitat. Within the project study area, the most common associated tree species include other conifers and various oak species. Shrubs such as manzanita and ceanothus, and various grasses and forbs are also common associates. Species commonly found in ponderosa pine habitat include mountain quail (<i>Oreortyx pictus</i>), sharp-shinned hawk (<i>Accipiter striatus</i>), red-tailed hawk (<i>Buteo jamaicensis</i>), long-eared owl (<i>Asio otus</i>), Virginia opossum (<i>Didelphis virginiana</i>), western spotted skunk (<i>Spilogale gracilis</i>), and black bear (<i>Ursus americanus</i>). Listed species associated with ponderosa pine habitat include bald eagle and American peregrine falcon.
Klamath mixed conifer (KMC)	Stands of Klamath mixed conifer habitat are typically tall, dense to moderately open and consist of a mixture of conifers. Dominant conifers typically include white fir (<i>Abies concolor</i>), Douglas-fir, ponderosa pine, incense cedar (<i>Calocedrus decurrens</i>), and sugar pine (<i>Pinus lambertiana</i>). Dense forests have a very rich shrub layer, which can include Sierra laurel (<i>Leucothoe davisiae</i>), Sadler oak (<i>Quercus sadleriana</i>), dwarf rose (<i>Rosa gymnocarpa</i>), and western thimbleberry (<i>Rubus parviflorus</i>). Species commonly found in Klamath mixed conifer habitat include mountain quail, sharp-shinned hawk, long-eared owl, western red bat (<i>Lasiurus blossevillii</i>), western gray squirrel, gray fox, and black bear. Listed species associated with Klamath mixed conifer habitat include northern spotted owl, American peregrine falcon, and California wolverine (<i>Gulo gulo</i>).
Sierran mixed conifer (SMC)	The Sierran mixed conifer habitat is an assemblage of conifer and hardwood species that form closed, multilayered canopies with nearly 100 percent overlapping cover. Dominant species include white fir, Douglas-fir, ponderosa pine, sugar pine, incense-cedar, and California black oak. Deerbrush (<i>Ceanothus integerrimus</i>), manzanita, chinquapin (<i>Chrysolepis chrysophylla</i>), bitter cherry (<i>Prunus emarginata</i>), gooseberry (<i>Ribes amarum</i>), and mountain misery (<i>Chamaebatia foliosa</i>) are common shrub species. Listed species that inhabit Sierran mixed conifer habitat include northern spotted owl and bald eagle.

**Table 4.5-1
 Habitat Types and Communities Occurring within the
 Shasta and Trinity River Divisions**

Habitat Type	Characteristics
Vernal pool (VP)	Vernal pools are seasonally wet areas where water temporarily ponds due to an underlying impervious rock or clay layer. This habitat type typically occurs as an inclusion in other habitats, most commonly within AGS or CRP habitat. These two habitat types commonly occur within BOP or BOW habitat in the project study area. Vernal pools support species such as the western spadefoot toad (<i>Scaphiopus hammondi</i>), and various frog species. Special-status species associated with vernal pool habitat include greater sandhill crane, vernal pool tadpole shrimp, vernal pool fairy shrimp, Greene's tuctoria, Slender Orcutt grass, and Boggs Lake hedge-hyssop.
Urban (URB)	Urban habitat includes five types of vegetative structure: tree grove, street strip, shade tree/lawn, lawn, and shrub cover. A distinguishing feature of urban habitat is the mixture of native and exotic species. Both native and exotic species are valuable, with exotic species providing a good source for additional food in the form of fruits and berries. In the project area, urban habitat may have supplanted any of the habitats listed above. Urban vegetation is frequented by more disturbance-tolerant species such as northern mockingbird (<i>Mimus polyglottos</i>) American robin (<i>Turdus migratorius</i>), European starling (<i>Sturnus vulgaris</i>), California ground squirrel, Pacific tree frog, opossum (<i>Didelphis virginiana</i>), and western toad (<i>Bufo boreas</i>).

Source: North State Resources 2003

Special-Status Species

Special-status species are defined in this EA to include Federally and state-listed threatened or endangered species, species proposed for Federal listing as threatened or endangered, and Federal candidate species.

On June 27, 2003, the U.S. Fish and Wildlife Service (USFWS) provided an updated list of Endangered and Threatened Species That May Occur in or Be Affected by Projects in Shasta County (USFWS 2000a; Reference file No. 00-SP-2414) (Appendix D). A total of 13 Federal special-status wildlife and plant species and critical habitats for 17 species were identified.

Search results from the California Department of Fish and Game (CDFG) California Natural Diversity Database (CDFG 2003), and the CDFG list of Endangered and Threatened Animals of California (CDFG 2002) resulted in the inclusion of seven California special-status plant and wildlife species that could potentially occur in the portions of Shasta County covered by this EA. Query results from the California Native Plant Society (CNPS) Electronic Inventory of Rare and Endangered Vascular Plants (Skinner and Pavlick 1994) resulted in the inclusion of two California special-status plant species that could potentially occur in the Shasta County study area.

Appendix D lists the state and Federally listed species and critical habitats that could occur in Shasta County and that are considered in the analysis in this EA. The general habitat association for each species is also included in the appendix.

District water conservation plans have been prepared by the BVWD (January 1995), CCCSD (November 1994), City of Redding (undated, assume 1994), and City of Shasta Lake (March 1994). The district water

conservation plans were reviewed to ensure that listed plant and wildlife species identified by the districts were included in this analysis. The following species do not require further consideration in this EA for the reasons specified below:

Western yellow-billed cuckoo – The western yellow-billed cuckoo was historically common throughout the Central Valley and other lowland areas. It is now uncommon to rare in scattered locations throughout California (Zeiner and Laudenslayer et al. 1990). There are no recently reported observations of the western yellow-billed cuckoo in the project study area.

California red-legged frog – The historic range of the California red-legged frog extended into the Redding Basin, but the frog is believed to be locally extirpated. There have been no reported observations in the project area since 1925 (Jennings and Hayes 1994).

Shasta crayfish – the Shasta crayfish occurs only in streams in the Pit River, Fall River, and Hat Creek drainages. There are no known sightings of the Shasta crayfish in the project study area.

According to CFDG literature, there are no identified deer migration corridors, fall holding areas, fawning grounds, or critical winter range within the study area (Shasta County DRM 1998). However, deer are known to use all of the habitats described above.

4.5.2 ENVIRONMENTAL CONSEQUENCES

The incremental and cumulative effects of Alternatives 1 and 2 on biological resources are compared to the No Action Alternative.

No Action Alternative

Because renewal of the long-term contracts would not involve the construction of any physical facilities and structures, implementation of the No Action Alternative would not have direct effects on biological resources.

In Shasta County, long-term contract renewal would not be the sole or primary factor influencing changes to biological resources. Counties and cities can encourage or discourage changes to biological resources/habitats by approving or conditioning subdivisions and industrial developments within their jurisdictions. When a city or the County approves land use changes in a General Plan or specific plan, effects on biological resources and other resources must be addressed under the California Environmental Quality Act. These decisions occur independently of Reclamation's authorities and responsibilities. Similarly, a farmer who elects to cultivate one crop over another, or to fallow a parcel of land, may do so without Reclamation approval. However, Reclamation is required to analyze biological effects under the National Environmental Policy Act when Reclamation approves an expansion or a reduction of the service area boundary, or directs a change in water use or development.

Renewal of the long term contracts under the No Action Alternative is unlikely to result in incremental indirect effects to biological resources and habitats on parcels receiving M&I water. However, indirect effects on biological resources could occur in the two districts that are designated for CVP agricultural water use: BVWD and CCCSD. Under the No Action Alternative, contracts would increase the

minimum parcel size eligible to receive water at the lower irrigation rates; parcels less than or equal to 5 acres would receive water at M&I rates (not agricultural rates) unless Reclamation is satisfied that the water use is for commercial agricultural purposes. All water currently deemed commercial agricultural irrigation is expected to qualify as agricultural water under the No Action Alternative.

In 1996, a total of 7,319 acres within the BVWD and the CCCSD were designated for CVP agricultural water use and were irrigated with CVP water: 3,388 acres in the BVWD and 3,931 acres in the CCCSD. Under the No Action Alternative (2029 projection) for the BVWD, the irrigated acreage is assumed to increase to 5,960 acres and 5,890 acres for the average and dry conditions, respectively, per the predictions of the districts. Under the No Action Alternative (2029 projection) for the CCCSD, the irrigated acreage is assumed to increase to 4,690 acres and 4,640 acres for the average and dry conditions, respectively. (See also Table 4.3-17.) This indirect effect may have a beneficial or adverse effect on biological resources, depending on the specific parcels, habitats, and species under consideration. Reclamation is consulting with fish and wildlife agencies (Federal and state) regarding this indirect effect.

Alternative 1

Alternative 1 is assumed to have direct and indirect effects on biological resources similar to those of the No Action Alternative. Land use changes are anticipated over the next 25 years. However, the effects of Alternative 1 on agricultural water costs and associated land and water use are expected to be the same as the No Action Alternative. There would be no incremental direct or indirect environmental effects on biological resources under this alternative.

Alternative 2

Alternative 2 is assumed to have direct effects on biological resources similar to those of the No Action Alternative. There would be no incremental direct environmental effects on land use under this alternative.

Regarding indirect effects, Alternative 2 could cause a slight retraction of the regional economy and a consequent effect on M&I land use. A retraction of the regional economy would be expected to delay implementation of or reduce the scale of land uses that rely on M&I water deliveries, which is assumed to be a beneficial effect on biological resources. Regional economic impacts are expected to be small compared to the normal inter-year variation, so the beneficial effects on biological resources are expected to be small. Otherwise, Alternative 2 is assumed to have indirect effects on biological resources occurring on lands receiving M&I water similar the No Action Alternative. There are no other incremental indirect effects on biological resources occurring on lands receiving M&I water under this alternative.

Under Alternative 2, indirect effects to biological resources may occur on agricultural parcels due to redefining the parcel size eligible to receive water at the lower irrigation rate. Indirect effects are expected to be similar to those anticipated under the No Action Alternative. There are no incremental indirect effects due to rewording under this alternative.

For Contractors that deliver agricultural water (i.e., BVWD and CCCSD), substantial fallowing of lands may occur with implementation of Alternative 2 relative to the No Action Alternative. Almost all of the additional fallowed lands are projected to be taken out of pasture. The incremental acreage that may be

fallowed in 2029 under Alternative 2 versus the No Action Alternative are presented for the BVWD (average and dry conditions) in Table 4.3-19. These projections are presented for the CCCSD in Table 4.3-20.

As shown in Table 4.3-19, for the BVWD, implementation of Alternative 2 could result in increased fallowing (relative to the No Action Alternative) of about 800 acres in 2029 under average conditions and could result in increased fallowing of about 1,160 acres under dry conditions. These values represent 13 percent and 20 percent reductions, respectively, in the irrigated acreages that are assumed to occur under the No Action Alternative in average and dry conditions.

As shown in Table 4.3-20, for the CCCSD, implementation of Alternative 2 could result in increased fallowing (relative to the No Action Alternative) of about 510 acres in 2029 under average conditions and could result in increased fallowing of about 740 acres under dry conditions. These values represent 11 percent and 16 percent reductions, respectively, in the irrigated acreages that are assumed to occur under the No Action Alternative in average and dry conditions. Relative to the entire Trinity River Division, this reduction in irrigated acreage is considered a minor effect.

Increased fallowing may have variable indirect effects on biological resources. These indirect effects may be beneficial or adverse, depending on the specific parcels, habitats, and species under consideration.

Because of the inability to predict where the impacts of the proposed action will occur and the complexity of habitat use patterns by various wildlife species, only a limited number of general predictions can be made regarding the indirect effects of the increased acreage threshold (from 2 to 5 acres):

- In general, decreased irrigation of personal orchards/agricultural plots between 2 and 5 acres in size could indirectly benefit special status-species if the changes to land use result in improved water quality of run-off entering vernal features, drainages, streams, and rivers. Beneficial impacts to Federally listed, proposed, and candidate species could also occur if newly non-irrigated lands were allowed to remain in their natural condition or allowed to lie fallow.
- Decreased irrigation of certain parcels could result in slightly less water entering drainages and intermittent/perennial streams in summer months, which could adversely affect species such as Central Valley steelhead or spring-run chinook salmon that rely on Central Valley rivers and tributaries for a portion of their life cycle, but the effect is expected to be small since this run-off increment may be too warm to be very useful to salmon species.
- Increased subdivision of parcels resulting from the potential increased cost of CVP water could result in increased development and loss of habitat and subsequent impacts to Federally listed, proposed, or candidate species occupying those habitats. In addition, urban and other developed habitats generally receive high levels of human use, which disturb native species and restrict their use of the area (Reclamation 1997). However, if the change is from commercial pasture to recreational pasture for pet horses, the effects would be negligible.

Such potential land use actions will require separate determinations regarding potential effects on threatened and endangered species and critical habitat pursuant to Section 7 and/or Section 10 of the ESA.

Conversions from agricultural to M&I land use would not be caused by the terms of the renewal contract, nor by actions of the Contractors that have no land use planning jurisdiction. Instead, such changes will be the result of land use planning decisions of local regulating authorities. Any impacts or “take” associated with such changes would typically be the responsibility of the local CEQA lead agency.

4.5.3 CUMULATIVE EFFECTS

Alternatives 1 and 2 would not result in any cumulative direct effects to biological resources because there would be no infrastructure changes or physical disturbances due to changes in water purchasing by a water Contractor.

4.6 ENVIRONMENTAL JUSTICE

As mandated by Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” published February 11, 1994, this document addresses potential environmental justice concerns related to the long-term renewal of water contracts between Reclamation and the Shasta and Trinity River Divisions’ Contractors. The Executive Order requires federal agencies to identify and address any disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations.

In August 1994, the Secretary of the Interior issued an environmental justice policy statement directing departmental action, resulting in Interior’s *Strategic Plan for Environmental Justice*. Reclamation’s decision-making process includes public involvement, Indian trust assets consultation, and coordination with potentially affected members of the public.

Renewal of the long-term water service contracts is not expected to disproportionately affect minority populations or low-income populations. Minority populations constitute about 10 percent of the population of Shasta County (California Department of Finance 2000), and are mainly in urban centers, which are less sensitive to price changes than agricultural users. Additionally, the proposed contract terms and provisions would not involve the construction of new facilities, cause the relocation of any populations, result in any known health hazards, cause the generation of any hazardous wastes, result in any property takings, or generate any substantial economic impacts.

The proposed long-term water service contract renewals would not have an adverse effect on human health or the environment, as defined by environmental justice policies and directives. Rather, renewal of the contracts would provide a long-term water supply that would meet the projected water demand and need, which have been previously been documented in the Shasta County General Plan and the general plans of affected cities.

4.7 INDIAN TRUST ASSETS

4.7.1 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 areas of the Shasta and Trinity River Divisions that would be affected, other than the Redding Rancheria, which receives M&I water from the City of Redding. The Redding Rancheria is located outside of the Buckeye Contract service area.

4.7.2 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. Effects to the Redding Rancheria would be the same as those experienced by residents of the City of Redding.

4.7.3 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

4.8 CULTURAL RESOURCES

This section describes the cultural resources in the area of the 10 water service Contractors in the Shasta and Trinity River Divisions. The service area boundaries of these Contractors fall within one of the following: an unincorporated area of Shasta County, the limits of the City of Redding, or the limits of the City of Shasta Lake.

4.8.1 AFFECTED ENVIRONMENT

Prehistory

A paper presented by Elaine Sundahl (1992) provides the best existing overview of the prehistoric period within the study area. Although the field work completed and reported by Sundahl in this paper is more wide ranging, the paper accurately describes the prehistoric record within the study area.

The earliest defensibly dated cultural evidence from the region adjoining the study area comes from archaeological site CA-SHA-475 on the Squaw Creek drainage of Shasta Lake. Radiocarbon dates from the lowest stratum indicate human use dating between 6,530 and 7,580 years ago (Sundahl, 1992:99). Material in this layer represent the Borax Lake Pattern as described by Fredrickson (1973). This cultural tradition is also described in general texts (Chartkoff & Chartkoff, 1984:109; Moratto, 1984:82) as containing relatively large widestem points typically fashioned from Grasshopper Flat/Lost Iron Wells obsidian or local silicate materials and unshaped milling tools. This period, lasting until about 5,000 years ago, was likely typified by a foraging economy based on extensive hunting and the collection of native plants, especially hard seeds. This pattern is thought to be linked to Hokan-speaking people, quite possibly the ancestors of the Yana.

During the period between approximately 5,000 and 3,000 years ago, the tool kit of aboriginal inhabitants changed. This later pattern is termed the Squaw Creek Pattern, again based on Sundahl's work north of Shasta Lake. Contracting stem points, uniface points, and leaf-shaped points appear. These projectile points increasingly are made from Tuscan Source obsidian. Milling tools are evidenced by the addition of mortars and pestles. Hand stones (manos) used on mill stones (metates) are often extensively shaped in contrast to the earlier pattern. The use of mortars suggests an increased reliance on acorns and, perhaps, other softer foods. Evidence of this pattern is more widespread, which could be a factor of preservation or increasing human use.

The period between approximately 3,000 and 1,700 years ago is termed the Whiskeytown Pattern by Sundahl. It is typified by "...large and medium-sized corner-notched and side-notched points, manos, millingstones, and notched-pebble net weights" (Sundahl, 1992:103). Many sites in the Redding vicinity include clear evidence of this pattern. Although the foraging tradition of earlier patterns continued, an increased reliance on riverine resources is suggested by the location of the sites and the inclusion of the net weights.

The last period has long been described as the Shasta Complex (Meighan, 1955). However, Sundahl (1992:104) follows Fredrickson by terming this well-known period as the Augustine Pattern. During the last 1,500 years or so, the aboriginal inhabitants diversified and specialized in the exploitation of natural resources. Smaller barbed projectile points and shaft smoothers mark the appearance and increased use of

the bow and arrow. Specialization led to increased sedentism with relatively large seasonal encampments along the major streams and, especially, at their confluences within the study area. Bone fishing implements and the appearance of substantial quantities of shell and fish bone suggest a riverine-based economy. This cultural pattern is related to the appearance of Penutian speaking people from the Columbia Plateau. These people are assumed to be the ancestors of the modern Wintu.

Ethnography

Prior to appearance of Euro-American explorers and settlers, the study area was populated by the Wintu and Yana. The Wintu occupied all of the study area except the Cow Creek drainage, which fell on the northwestern edge of the Yana (Johnson, 1978:361). The Yana spoke a Hokan dialect (Shipley, 1978:86) whereas the Wintu spoke a Penutian language (Shipley, 1978:82,83). These languages were from different linguistic families.

In addition to the vast language differences, the two peoples occupied somewhat different environments. The Wintu appear to have spread rapidly and to have controlled the Sacramento River corridor and many of its most productive tributaries. The Yana were relegated to the eastern foothills and stream corridors of the southern Cascade.

The material culture and lifestyles of the two groups were, however, quite similar (DuBois, 1935; Johnson, 1978; LaPena, 1978; Sundahl, 1992:90). They both constructed semipermanent or permanent villages on the terraces above main stream corridors and emphasized the use of fish (especially salmon), shellfish, acorns, and other native plant foods. These staples were processed to provide food during the winter and other lean periods. Reliance on a variety of foods lessened the possibility of famine resulting from the failure of one or more food sources. Hunting augmented the staples of the diet (Sundahl, 1992:90). Skins acquired through the hunting or snaring of animals were processed and used for a variety of items, especially clothing. Housing consisted of conical, semi-subterranean family residences. These small structures (approximately 10 feet in diameter) often were located near a larger communal structure that was used variously as a residence and for ceremonies (LaPena, 1978:325,326; Johnson, 1978:367). The size of these communal structures appears to have increased through time.

History

The history of the greater Redding area revolves around mining, ranching, farming, lumbering, transportation, and tourism. The relative importance of these economic pursuits varied by place and time. However, they continue to play some role within the economy of the study area even today. Therefore, the following discussion is organized chronologically, with a brief discussion of the relative importance of these or other significant activities as derived from Petersen (1965).

Although the renowned trapper Jedediah Strong Smith is generally credited with the earliest (1828) Euro-American exploration through Shasta County, his party crossed only the far southwestern corner of Shasta County, well away from the study area. Other trappers crossed the area in hopes of claiming furs and land for Britain or the United States. These forays were upsetting to the Mexican government, which, although it had no presence within the study area during this early period, claimed sovereignty. Alexander McLeod (~~1929~~ 1829), Peter Ogden (1830), and John Work (1832) all represented the interests

of the Hudson Bay Company. Ewing Young was the first American (1832) known to actually cross the study area.

In response to these activities, the Mexican government pressed their sovereignty within the Sacramento Valley by providing land grants to Mexican citizens. Many of these citizens were American or European settlers. The most significant of these new land claimants within the study area was Pierson B. Reading, who was granted the 26,633-acre Buena Ventura land grant in 1844. The grant stretched along the west side of the Sacramento River from Salt Creek in the north to Cottonwood Creek in the south. Although his permanent abode and successful farming operation were located between the lower reaches of Anderson and Cottonwood Creeks, his actions would have significant effects on developments within and adjoining the study area.

Reading played a major role in the Bear Flag Revolt of 1846, which paved the way for American claims to California and the Mexican-American War of 1846-1847. Subsequent to the Mexican cession of California to the United States of America, gold was discovered in 1848 at Sutter's Mill, leading to the California gold rush. Pierson B. Reading was soon involved in the frenzy. He led parties to the second gold strike in California at Reading Bar on Clear Creek, which adjoins the study area, as well as to other discoveries of gold at Reading Bar on the Trinity River and Reading Springs (Old Shasta). These discoveries were the major impetus for the claiming, settlement, and subsequent development of Shasta and Trinity Counties. Within the study area, placer mining and, eventually, hard rock mining fueled the economy. Although mining activities did not occur in the eastern portion of the study area, ranching and farming activities were undertaken to support and profit from the mining communities. Mining flourished throughout the 1850s and 1860s, with individual operations giving way to corporate undertakings.

In 1872, the Central Pacific Railroad reached the new settlement of Redding, which was named after the railroad land agent B. B. Redding. Redding served as the railroad's terminus until 1883, when the route was pushed northward along the Sacramento River canyon. The quick development of Redding led to the demise of Shasta, which served as the county seat from 1851 until 1888. With local mining revenues gone, Shasta soon became a town "gone bust." Large hydraulic mining operations, including those within the study area, ceased in compliance with State law in 1884. Citizens residing in the study area increasingly depended on farming, ranching, and the railroad as the underpinnings of the economy. Happy Valley was the only irrigated area in the early 1880s. Produce grown as a result of this irrigation led to the Valley's settlement and development. Although other areas did not yet benefit from sizeable irrigation projects, extensive agriculture, livestock grazing, dairying, and manufacturing continued to support a growing population.

In the latter part of the nineteenth and early part of the twentieth centuries, large-scale mining returned with the extraction and smelting of copper from a belt running from Keswick upstream along the Sacramento and Pit Rivers to Bully Hill outside of the study area. By the conclusion of World War I, this industry had dwindled. The smelting activities laid ruin to a vast acreage of vegetation, including fruit trees as far away as Happy Valley and Anderson. Local manufacturing (e.g., Terry Lumber Company in Bella Vista and gold dredging along Clear Creek) profited during this copper heyday. All of these undertakings were made possible by the railroad. The study area headed into an economic decline during the 1920s and 1930s after the bust of the copper industry. Redding even lost population during this period.

4.8 Cultural Resources

With the construction of Shasta Dam in the late 1930s and early 1940s, the economy and population began an upward trend. Lumber mills were built within and, especially, south of the City of Redding following World War II to support development in California. Sand and gravel mining supplanted ore extraction within the study area. The completion of State Highway 99 in the 1920s augmented the shipping and transportation services of the railroad. With the proliferation of the automobile, the area became a destination for tourism and recreation.

Identified Cultural Resources

Table 4.8-1 lists the cultural resources identified within or adjacent to the service area boundaries of the Shasta and Trinity River Divisions.

**TABLE 4.8-1
CULTURAL RESOURCES IN THE SHASTA AND TRINITY RIVER DIVISIONS AREA¹**

Name of Cultural Resource	General Location	Theme ²
Bass Hill	North of Redding	EX/SE
Bells Bridge	Highway 99, Clear Creek	EX/SE
Benton Tract Site*	Redding	CULT
Briggsville	Clear Creek Road	EC/IN
California-Oregon Road	Anderson	EX/SE
Clear Creek	Redding	EC/IN
Cow Creek Petroglyphs	**	CULT
Horse Town	Clear Creek Road	EC/IN
Millville	Old 44 Drive	EC/IN
Old City Hall*	Redding	SO/ED
Olsen Petroglyphs	**	CULT
Pine Street School*	Redding	SO/ED
Pioneer Baby's Grave	West of Shasta	EX/SE
Ried Mine in Old Diggins	Summit City	EC/IN
Shasta State Historic Park	Highway 299, west of Redding	EC/IN
Shasta 47	Sacramento River - Redding	CULT
Texas Springs	Texas Springs Road	EC/IN

Source: State of California Department of Parks and Recreation

¹ The heritage resources listed here include resources listed in the National Register of Historic Places, the California Historical landmarks series, or the California Points of Interest program. In addition to the resources listed, there are approximately 500 known sites or areas of archaeological significance. The names and locations of these areas are not revealed in order to protect these sensitive resources. This information is on file with the Cultural Resources Section of the California Department of Parks and Recreation.

² Theme Code:

ARCH	Architecture	EX/SE	Exploration/Settlement	MIL	Military
CULT	Cultural (Aboriginal)	EC/IN	Economic/Industrial	REL	Religion
SO/ED	Social/Education				

* National Register of Historic Places site

** Information regarding the location of these resources is on file with the Cultural Resources Section of the California of Parks and Recreation

4.8.2 ENVIRONMENTAL CONSEQUENCES

No Action Alternative

The No Action Alternative would introduce no new facilities, no new construction activities, or no direct effects to the physical environment, and would therefore not result in any direct effects to cultural resources. Indirect effects to cultural resources due to planned growth and development within the unincorporated portions of Shasta County or within the City of Redding (Buckeye area) or City of Shasta Lake would be expected to occur over the next 25 years. Generally, such changes in land use are predicted to occur throughout Shasta County, independent of the long-term contract renewals, as the area transitions from a rural economy to a more suburban economy.

Under the No Action Alternative, indirect impacts could occur if property owners elect to change the use of their lands from agricultural uses to suburban or urban uses, or from suburban uses to agricultural uses. These changes in land use could affect both known and undiscovered cultural resources. Where sensitive cultural resources occur, both Federal and state jurisdictions provide programs to protect sensitive cultural resources.

For non-Federal actions, such as changes to a county or city general plan or the approval of a use permit, a lead agency under the California Environmental Quality Act (CEQA) would be the responsible decision maker, and impacts on cultural resources would be evaluated pursuant to CEQA. If a Federal action is proposed, such as changes to the CVP service area boundary, a Federal lead agency would be responsible for compliance under NEPA and Section 106 of the National Historic Preservation Act.

Alternative 1

Under Alternative 1, CVP operations and facilities would not be altered and impacts are expected to be identical to the No Action Alternative. Therefore, no incremental environmental effects from this alternative are expected.

Alternative 2

Under Alternative 2, effects to cultural resources would be the same as under the No Action Alternative. Therefore, no incremental environmental effects from this alternative are expected.

4.8.3 CUMULATIVE EFFECTS

Demographic, economic, political, and other factors, independent of implementation of Alternatives 1 or 2, are causing changes with direct and indirect effects to cultural resources that are beyond the range of Reclamation's Section 106 responsibilities. The effects of Alternatives 1 and 2 on cultural resources are expected to be the same as the likely effects of the No Action Alternative. Therefore, the incremental effects to cultural resources due to the approval and conditions of the long-term contract renewal change between the No Action Alternative and Alternatives 1 and 2 is expected to be minor. The proposed action (approval of long-term contract renewals) is not expected to contribute to cumulative impacts to cultural resources.

4.9 — IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

~~NEPA Section 102(C)(v) requires federal agencies to consider to the fullest extent possible any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented. The proposed action is the renewal of existing contracts and does not involve construction or the use of resources except water. There is no other commitment of nonrenewable resources, and the proposed action does not commit future generations to permanent use of natural resources.~~

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

~~NEPA Section 102(c)(iv) requires all federal agencies to disclose the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity. These water delivery contracts are temporary (25 or 40 years), yet result in long-term benefits to the human environment in the Central Valley. Long-term productivity would be enhanced through the water supply that sustains agricultural economies, social benefits, and the long-term productivity of urban and rural populations by providing CVP water.~~

CHAPTER 5

OTHER ACTIVITIES

5.1 INTRODUCTION

Other activities that may have a relationship to the 10 water service Contractors in the Shasta and Trinity Divisions include the actions described below.

- Implementation of the Bay-Delta Plan
- Completion of water transfer actions
- Completion of the Conformed Place of Use EIR for CVP Water Supplies
- Recommendations for increased instream flows in the Trinity River
- Implementation of the Sacramento and San Joaquin River Basins Comprehensive Study
- Changes in Federal farm programs
- Changes in demand for agricultural products
- Implementation of Yield Increase Plan
- Additional listings of special-status species

A summary of the potential effects of these actions and how they may influence the effects of implementing the alternatives considered in this EA is presented in Table 5-1.

**TABLE 5-1
SUMMARY OF CUMULATIVE EFFECTS**

Action	Potential Results
Implementation of the Bay-Delta Plan Accord	Changes in Delta inflow and associated instream releases. Improved water supply reliability through the water quality improvement programs and potential development of groundwater and/or above ground storage and/or conveyance facilities
Water Transfer Actions	Water transfers for both CVP and non-CVP water transfers
Place of Use EIR for CVP Water Supplies	Permitting of CVP water service areas currently served with CVP water but outside of authorized Place of Use
Trinity River Studies	Changes in instream flow requirements for Trinity River

**TABLE 5-1
SUMMARY OF CUMULATIVE EFFECTS**

Action	Potential Results
CVP Operations and Maintenance Agreements	Transfer of operations and maintenance responsibilities to local water user groups under the CVP
Sacramento Water Forum Proposal	Changes in water demands and flow requirements on American River
Changes in Federal Farm Programs	If lands fallowed or retired due to CVP pricing actions continue to accumulate support payments, the net revenue to farmers may increase and the revenue to the Federal Treasury may not increase.
Changes in Demand for Agricultural Products	If changes in demand increase crop value, farmers would be less willing to sell water. If changes in demand decrease crop value, farmers would be more willing to sell water.
Yield Increase Plan	Development of facilities and programs to increase CVP water supplies could reduce impact of shortages.
Future Listings under ESA of Special-Status Species	Initiation of consultation with the Service and National Marine Fisheries Service

5.2 IMPLEMENTATION OF BAY-DELTA PLAN

As a follow-up to adoption of the 1995 Water Quality Control Plan for the San Francisco/Sacramento-San Joaquin Delta Estuary, the SWRCB is evaluating alternatives for implementing that plan. The process includes the SWRCB water rights process and the CALFED Bay-Delta Program.

5.3 SWRCB WATER RIGHTS

The purpose of the SWRCB water rights process for Delta water quality and quantity is to develop a methodology to provide adequate flows to meet the Bay-Delta Plan Accord. The SWRCB process is evaluating several alternatives that would require different agencies, including the CVP and SWP, to release water in a manner that protects Delta quality.

This process may increase the amount of water provided by other water rights holders to meet Bay-Delta water quality standards, but it is anticipated that the impacts to the CVP water supply would not be more severe than the impacts presented in the PEIS and this EA. Consequently, operations of upstream projects may change. Because the outcome is not fully developed, a conservative assumption was used in modeling for the PEIS and this EA. It was assumed that the Bay-Delta Accord criteria would be the long-term plan for the Delta. If instream flows provided by the other water rights holders increase, some portion of the CALFED Ecosystem Restoration Program environmental flows could be satisfied by this water rights process, which may reduce the amount of water that the program needs to acquire from willing sellers. It may also reduce the amount of water that the program needs to develop or may allow for

the developed water to be used more effectively in meeting program objectives. Any additional demand on water right holders could decrease the amount of water available for transfer.

5.4 CALFED-BAY DELTA PROGRAM

The CALFED Bay-Delta Program (CALFED Program) is a cooperative effort of 15 State and Federal agencies with regulatory and management responsibilities in the Bay-Delta system. The mission of the CALFED Bay-Delta Program is to develop a long-term comprehensive plan that will restore ecological health and improve water management for beneficial uses of the Bay-Delta system. The CALFED Program began in May 1995 to address the complex issues that surround the Bay-Delta and the CALFED Agencies have completed the Final Programmatic Environmental Impact Statement/Report (EIS/EIR) for the CALFED Bay-Delta Program, including the Preferred Program Alternative. The August 28, 2000, signing of the CALFED Programmatic Record of Decision (ROD) marked the beginning of implementation for the 30-year program and details on implementation during Stage 1 (the first 7 years of the implementation).

The CALFED Preferred Program Alternative includes the following components: Ecosystem Restoration, Watershed Protection, Water Supply Reliability, Water Storage and Conveyance, Environmental Water Account and Commitments, Water Use Efficiency and Conservation, Water Quality Improvements, Water Transfers, Levee System Integrity, Science Program, Establishment of a Governance Structure for Implementation of CALFED, and a Regional Approach to Ecosystem/Water Management.

Many of these programs could improve water supply reliability and water quality for CVP water service Contractors, especially those located south of the Delta. The CALFED Preferred Program Alternative includes the following components to improve water supply reliability and water quality.

- Water Use Efficiency Program (agricultural, urban, and wetland water conservation and water recycling)
- Water Transfer Program
- Conveyance, including South Delta Improvements
- Surface and groundwater storage
- Operational strategies, such as real-time diversion management through use of the Environmental Water Account
- Water quality improvements to enable users to divert more water to storage during periods of high Delta water quality, reduce contaminants and salinity that impair Delta water quality, evaluate alternative approaches to address disinfection byproducts and salinity issues, and enable voluntary exchanges or purchases of high-quality source waters for drinking water uses.

In addition, other parts of the CALFED Program can provide water supply reliability and water quality benefits. These include the Watershed Program and real-time monitoring through the Science Program.

CALFED's goals for water supply reliability include:

- Increase the utility of available water supplies (making water suitable for more uses and reuses)
- Improve access to existing or new water supplies, in an economically efficient manner, for environmental, urban and agricultural beneficial uses
- Improve flexibility of managing water supply and demand in order to reduce conflicts between beneficial uses, improve access to water supplies, and decrease system vulnerability.

The CALFED Final Programmatic EIS/EIR shows that on an annual basis, without additional storage, the Preferred Program Alternative increases long-term Delta exports by an additional 250,000 to 380,000 acre-feet over the CALFED No-Action Alternative, which is similar to the PEIS No-Action Alternative. With additional storage, the Preferred Program Alternative increases annual Delta exports by 490,000 to 900,000 acre-feet over the CALFED No-Action Alternative.

On an annual basis, without additional storage, the Preferred Program Alternative increases dry- and critical-year Delta exports by an additional 50,000 to 180,000 acre-feet over the CALFED No-Action Alternative. With additional storage, the Preferred Program Alternative increases annual Delta exports from 180,000 to 670,000 acre-feet over the CALFED No-Action Alternative.

In addition, water conservation and recycling will save additional water for use. The potential for water use efficiency varies significantly in California, depending on the region of the State and the sector involved. Working with the stakeholder steering committees and other technical experts, CALFED agencies have developed ranges of estimated water savings during Stage 1 of implementation. These estimates include only water that is currently unavailable for other uses because it is lost to excessive evaporation or drains to the ocean or some other unusable destination. In addition, water can be made available through water reclamation projects. These water savings would include 520,000 to 688,000 acre-feet from urban uses, 260,000 to 350,000 acre-feet from agricultural uses, and 225,000 to 310,000 acre-feet in water reclamation projects for both urban and agricultural uses.

Actions initiated in the first four years of Stage 1 to improve storage and conveyance capacity will substantially increase water supply reliability in the later years, but these benefits will not be realized until the new facilities come on line. Similarly, it will take years to implement and fully realize the water supply benefits of water use efficiency, recycling, and other conservation measures. Therefore, the greatest challenge to improving water supply reliability lies in the first four years of Stage 1. To address these water supply reliability challenges in this short period, the CALFED Record of Decision outlines the following actions.

- Establishment of an Environmental Water Account (EWA) with an average of 380,000 acre-feet set aside annually in the first years to provide additional water for fishery purposes beyond the Regulatory Baseline.
- Establishment of a Regulatory Baseline by delineating existing regulatory requirements and clarifying implementation of specific regulatory actions.

- A commitment that there will be no reductions, beyond the baseline regulatory levels, resulting from measures to protect fish.
- Seek SWRCB approval of Joint Point of Diversion and share water derived from Joint Point of Diversion between the CVP and the EWA.
- Implement conjunctive management projects, water conservation measures, and water transfers.
- Begin implementation of storage projects.
- Allocate Proposition 13 funds dedicated to interim water supply reliability and water quality.

The CALFED ROD also concludes that these actions in the first four years are likely to improve Delta exports for CVP south-of-Delta agricultural water service Contractors, as described in the following:

“In the first four years of Stage 1, it is anticipated that water deliveries will remain at recent levels for most water users who depend upon water from the CVP, including Exchange Contractors, North of Delta CVP agricultural Contractors, refuges, and M&I Contractors, as well as for SWP Contractors and non-project water users. It is also anticipated that implementation of Joint Point of Diversion, operational flexibility, interagency cooperation, EWA implementation, and other cooperative water management actions (some of which may require further specific environmental review) will result in normal years in an increase to CVP south-of-Delta agricultural water service Contractors of 15 percent (or greater) of existing contract totals to 65 to 70 percent. This normal year supply improvement may not be achieved in all years due to annual hydrologic variability and its impact on carryover storage conditions. Substantial progress toward implementation of other program elements, such as development of EWA assets, is also necessary. Water supplies in dry years are likely to be less than the anticipated amounts and more in above normal years. As discussed in the ROD, CALFED agencies are committed to working with local agencies to implement these regional supply actions and to support local water management actions including conservation and other local measures. Part of this effort will include development of a plan for alternative refuge supplies and conveyance.”

5.5 WATER TRANSFERS

The use of water transfers to allow water trades between willing sellers and buyers is expected by many experts to be used increasingly in the future. Transfers provide an opportunity to increase or replace water supplies to support future demands. Overall, implementation of water transfer programs will meet part of the water demand that has been identified by DWR as being unmet by current water supplies. The DWR identified 2.9 to 4.9 million acre-feet of projected water demand that would not be met by existing water facilities, water conservation, and wastewater reclamation if all entitlements and water rights continue to be delivered to existing users. Water transfers can be used in the future to reduce the currently unmet future demand. Therefore, water transfers may be beneficial from a cumulative statewide perspective. However, each transfer proposal must be evaluated individually to determine direct or indirect impacts at a project-specific level.

Cumulative impacts associated with the transfer of water must consider the impacts of other water transfers that would occur throughout the Central Valley. Reclamation has purchased water in the Sacramento and San Joaquin valleys from water rights holders to improve instream fishery flows, Delta outflows, and refuge water supplies. Water also has been purchased on an annual basis by agricultural users on both the eastern and western sides of the San Joaquin Valley to improve water reliability. Water users located in the watersheds of the upper Sacramento, Feather, Yuba, and Bear rivers have participated or are considering participation in short-term water transfers of 1- to 5-year periods for water supplies and/or fish and wildlife uses. However, projects and locations have not been fully evaluated at this time.

Specific water transfers may reduce the ability of other agencies to purchase and transfer water. If the amount of water available for transfers is reduced, the users who do not purchase the water will either increase groundwater withdrawals, which may lead to increased rates of overdraft and subsidence, or purchase more expensive water supplies, which could increase the cost of agricultural crops or reduce net revenues.

Transfers of water held in post-1914 water rights must be evaluated in some type of environmental documentation. These environmental documents evaluate several issues, including the following items, which may have potential adverse impacts:

- Transfers that could reduce Delta inflow during certain critical time periods
- Entrainment losses of some fish due to diversions at new locations
- Losses of fish due to changes in flow patterns that may raise temperatures or dewater or flood spawning areas
- Reduced reservoir levels and associated recreation actions
- Reduced irrigated acreage and wetlands due to changes in water use or return flows
- Reduced employment opportunities due to land fallowing to make the water available
- Reduced groundwater levels due to the replacement of transferred water with additional withdrawals or due to reduction in applied irrigation water that percolates into the aquifer.

It has been difficult in many cases to complete the environmental documentation and obtain approval from the SWRCB, SWP, or CVP during an irrigation season in a timely manner. If these approvals do not occur in a timely manner, unnecessary water may be purchased or users may decide to defer actions that would require full water supplies.

To alleviate this issue, several programmatic environmental documents have been completed and the overall concepts are included in the long-term contracts considered under Alternatives 1 and 2. For example, Reclamation completed the Eastside/Westside Water Transfer/Exchange EA for approval of annual exchange/transfer(s) of up to 150,000 acre-feet of CVP water between CVP Contractors through an internal exchange of SWP water by the Kern County Water Agency. This approval process would be

in effect for 5 years, between March 2001 and February 2006. Specific transfers under this type of program would be compared with the specific approved actions to determine that adverse environmental impacts would not occur.

Similar programmatic approaches for approval of transfers within regional trading zones are being considered under the CALFED process and through the Governor's Drought Contingency Panel.

5.6 TRINITY RIVER STUDIES

In October 1984, the Service began a 12-year study to describe the effectiveness of increased flows and other habitat restoration activities to restore fishery populations in the Trinity River. An EIS/EIR was completed in October 2000 under a concurrent program to evaluate alternatives to restore and maintain natural production of anadromous fish in the Trinity River mainstem downstream of Lewiston Dam. Historically, an average annual quantity of approximately 1.3 million acre-feet of water has been diverted from the Trinity River to the Sacramento River system (1964-1992). A change in the Trinity River flow requirements and a corresponding change in the amount of water diverted to the Sacramento River system could affect future flows to the Delta. Changes also could affect overall water supply reliability and carryover storage in Shasta Reservoir, and water quality and temperature in the Sacramento River.

The alternatives in this EA were developed in 1999-2000, and assumed minimum instream flow requirements for the Trinity River of 390,000 acre-feet/year in critical dry years to 750,000 acre-feet/year in extremely wet years. These flows represent the initial flow recommendation in the Trinity River Flow Evaluation. That initial flow recommendation has since been refined in the Trinity River Flow Evaluation report as: 368,000 acre-feet/year in critical dry years to 815,000 acre-feet/year in extremely wet years. A Record of Decision (ROD) was signed in December 2000 authorizing the refined flow recommendation. In May 2001, a suit was filed against the decision by Central Valley water and power interests to prohibit implementation of flow-related aspects of the ROD. On July 14, 2004, the 9th U.S. Circuit Court of Appeals reversed a lower court ruling (that had halted implementation of flow-related aspects) in favor of the refined flow recommendations for the Trinity River. The Central Valley water and power users are considering asking the 9th Circuit Court to reconsider its ruling. Therefore, the flow recommendations for the Trinity River are not final.

This EA and the PEIS made assumptions about Trinity River flows for the purposes of analysis. To provide a broad range to the analysis in the PEIS, the Cumulative Effects Analysis assumed the flow of 390,000 acre-feet (driest years) and 750,000 acre-feet (wettest years). These flows are the same as those used in the Preferred Alternative in the Trinity River Flow Draft EIR/EIS.

5.7 TRANSFER OF OPERATIONS AND MAINTENANCE RESPONSIBILITIES

Several of the local water user groups provide a portion of the operation and maintenance requirements for CVP facilities that serve only that user group. For example, Clear Creek Community Services is responsible for operating and maintaining the Muletown Conduit serving CCCSD and CCSD (Centerville). Alternative 1 provides for this type of operations and maintenance. Any transfer of

operations and maintenance for specific facilities to non-Federal entities could be completed under Alternative 1 following completion of appropriate environmental documentation and approvals.

5.8 CHANGES IN FEDERAL PROGRAMS

The 1996 Farm Bill revised the way commodity payments are determined, and decoupled the size of the payment from the actual production level. There remains, however, some uncertainty about how the U.S. Department of Agriculture (USDA) will handle lands that are part of a grower's base acreage, yet are retired or fallowed as CVPIA is implemented. For purposes of this EA analysis, it was assumed that USDA would remove such lands from the grower's base acreage and reduce the deficiency payment accordingly. The estimates of changes in farm commodity payments are based on that assumption.

If, instead, growers who retire or fallow their land as part of CVPIA implementation continue to receive program payments associated with that land, then no savings would accrue to the Federal treasury. However, net revenues to the farmers would increase. This may lead to greater participation in the water transfer market, which may lead to a lower cost for water. Either or both of these impacts could increase the amount of water purchased by the U.S. Department of the Interior for water acquisitions. Because the 1996 Farm Bill extends for only a limited number of years, great uncertainty remains about interactions between CVPIA and Federal commodity programs.

5.9 CHANGING DEMAND FOR AGRICULTURAL PRODUCTS

The analyses in the PEIS and this EA used real 1994 prices and costs and did not attempt to estimate differential increases in prices and costs in the future. However, some evidence exists that demands for farm produce, especially fruits and vegetables grown in California, will increase in the future and cause their prices to increase faster than the overall inflation rate. If this occurs, the costs associated with acreage reductions estimated in this study are understated. Higher value for crops would increase the cost of water or reduce the willingness of sellers to participate in the transfer market. This would decrease the opportunities for Interior to acquire water for fish and wildlife purposes.

Another view is that increasing competition from expanding production regions, especially in Central and South America, will hold future price increases to below the level of inflation. Lower value for crops would decrease the cost of water or increase the willingness of sellers to participate in the transfer market. Changes in demand could change the ratio of permanent to annual crops. If more permanent crops were planted, the effects of changes in water availability on an annual basis could become more significant.

5.10 YIELD INCREASE PLAN

As part of the CVPIA, the Least-Cost Yield Increase Plan was completed to describe possible actions to increase CVP yield. The yield increase options considered in the plan ranged from purchase of water supplies, land fallowing, conjunctive use, water conservation and urban wastewater reuse, to off stream storage. New facilities, water reuse, and conjunctive use methods could reduce the shortages that are projected under the PEIS alternatives. The PEIS identified land fallowing and water conservation as measures to provide additional water supplies for fish and wildlife purposes. Implementation of water purchases for both purposes could cause conflicts, or could be implemented in a way that would benefit both programs. For example, if acquired water purchased to increase instream flows were diverted

downstream of the critical reaches and stored in an off stream storage facility, both purposes would benefit. In addition, the cost to both users would be lower.

5.11 ADDITIONAL LISTINGS OF SPECIAL-STATUS SPECIES

There is a high probability that new special-status species will be listed and others will possibly be de-listed. As listings occur, Reclamation and the Service will follow the requirements under the Endangered Species Act and conduct consultation as required. Additional conservation actions are anticipated under the Conservation Program, Anadromous Fish Restoration Program, and CALFED that will aid in ecosystem restoration and improve the status of special-status species, so the need for future listings may be reduced.

CHAPTER 6

CONSULTATION AND COORDINATION

6.1 INTRODUCTION

Prior to 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.

6.2 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. The Scoping Report was released in summer of 1999.

Public input continued during long-term contract negotiations to define the contract language. Discussions were also held with the Shasta and Trinity long-term water service Contractors 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 PEIS and 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 were also addressed. The least number of comments addressed environmental review issues.

Reclamation received numerous comments about issues to be considered in the PEIS and methodologies for analyzing impacts. Comments concerning the development of alternatives were considered in the formation of the alternatives. However, a decision was made to focus the description of alternatives on the contract proposals, and to address issues related to water supply improvements being addressed by CALFED and the Least Cost Yield study. Consideration of comments on methods to address impacts

were considered in the development of the Environmental Consequences section of this EA. However, the impact analysis focused on the comparison of the alternatives with the projected No-Action Alternative, not the Existing Conditions scenario.

Draft EAs for this action were provided for public review in 2000 and 2004.

6.3 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 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 (NEPA)
- California Environmental Quality Act (CEQA)
- Endangered Species Act (ESA)
- Fish and Wildlife Coordination Act (FWCA)
- National Historic Preservation Act (NHPA)
- Indian Trust Assets (ITA)
- 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
- Clean Air Act
- Safe Drinking Water Act (SDWA)
- Clean Water Act (CWA)

6.3.1 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 tiers off of the PEIS (40 CFR 1508.28) and evaluates the potential site-specific environmental and socioeconomic effects of renewing the long-term water service contracts for the Shasta and Trinity Divisions. This EA also provides information regarding the No-Action Alternative and alternatives, and environmental impacts of the alternatives.

6.3.2 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.

6.3.3 ENDANGERED SPECIES ACT

Reclamation prepared a Biological Assessment/Essential Fish Habitat Assessment in August 2003 to determine if the proposed action will affect listed threatened and endangered species (North State Resources 2003). The biological assessment addressed all species affected by the action of contract renewals in the water divisions. Tables 8a and 8b of the Biological Assessment/Essential Fish Habitat Assessment summarize potential impacts to Federally listed, proposed, and candidate species, and designated or proposed critical habitat on a district-by-district basis for the Trinity River District and the Shasta District, respectively. Depending on the district, special-status species and critical habitats may be affected, but are unlikely to be adversely affected by long-term contract renewal.

Consultation with the U.S. Fish and Wildlife Service (USFWS) has been completed for seven of the ten long-term water service contract renewals in the Shasta and Trinity River Divisions. For all seven contracts, the USFWS has concurred with the determinations of the BA, which are that the long-term contract renewals are not likely to adversely affect special-status species and designated or proposed critical habitats of those species. A similar conclusion is expected for the remaining three contracts.

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 Findings (FONSI) before long term renewal contracts can be signed by Reclamation.

USFWS and NOAA letters of consultation are provided at the conclusion of Chapter 6.

6.3.4 FISH AND WILDLIFE COORDINATION ACT

The Fish and Wildlife Coordination Act (FWCA) requires that Reclamation consult with fish and wildlife agencies (Federal and state) 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 USFWS and is being jointly implemented. This continuous consultation and consideration of the views of the USFWS in addition to its review of this document and consideration of its comments satisfies any applicable requirements of the FWCA.

6.3.5 NATIONAL HISTORIC PRESERVATION ACT

Section 106 of the National Historic Preservation Act (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 National Register of Historic Places 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. Reclamation staff will complete the Section 106 consultation process prior to implementing any actions.

6.3.6 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 (ITAs) 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 ITAs. Based upon information provided by Reclamation, no ITAs exist within the Shasta and Trinity Divisions.

6.3.7 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, therefore, none were included in the impact assessment of this EA.

6.3.8 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 has evaluated the environmental, social, and economic impacts on minority and low-income populations in the impact assessment of alternatives. No disproportionate impacts on minority or low-income populations were identified.

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

Executive Order 12372 requires that Federal agencies provide for opportunities for state and local officials to provide input on proposed Federal assistance or development actions. Consistency of the proposed action with the plans and policies of the City of Redding, City of Shasta Lake, and Shasta County have been considered, and input from Federal, state, and local officials has been sought in

developing the analysis for this EA. The Draft EA will be circulated to the appropriate state and local agencies to satisfy review and consultation requirements.

6.3.10 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.

6.3.11 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 the 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.

6.3.12 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 adversely effect flows in wild and scenic, or recreational rivers.

6.3.13 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 these 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. The Natural Resource Conservation Service (NRCS) is the Federal agency responsible for ensuring that these laws and polices are followed. No specific consultation was conducted during preparation of this EA. The alternatives would not affect agricultural or urban lands as compared to the No-Action Alternative.

6.3.14 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 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.

6.3.15 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 provide more flexibility, more state responsibility, and more problem prevention approaches. The law changes the standard-setting procedure for drinking water and establishes a State Revolving Loan Fund to help public water systems improve their facilities and 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 were no changes in compliance as compared to the No-Action Alternative.

6.3.16 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 were no changes in compliance as compared to the No-Action Alternative.

Shasta and Trinity Divisions

Shasta County Water Agency

Bella Vista

Shasta CSD

Mountain Gate CSD

Feather

Sacramento River Division

Kanawha

Stony Creek

4-E

Corning

Orland-Artois

La Grande*

Westside*

Davis*

Colusa County*

County of Colusa*

Dunnigan*

There are either no listed species or critical habitat within the action area (defined for this analysis as the water service area of each water district) or, if listed species or critical habitat are present or likely to occur within the action area (water districts marked by an asterisk *), we do not believe that there will be measurable direct or indirect effects on them as a result of the proposed action. However, we are still analyzing possible adverse affects to listed species by operation and maintenance of conveyance facilities in the water districts marked with an asterisk (*). We are addressing the effects of these actions in a separate, ongoing area-wide consultation with your office because it is our understanding that information is not uniformly available on operation and maintenance of federal conveyance facilities at the water district level.

This concludes informal consultation on the 16 water service contracts listed above. No further action is needed unless: (1) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered; (2) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered; or (3) a new species is listed or critical habitat designated that may be affected by the action, and (4) discretionary Federal agency involvement or control over the action is maintained (or is authorized by law). Reclamation should continue to monitor these actions and review this determination as needed based on the reinitiation criteria.

Based on the information provided in your April 13, 2003 letter, the accompanying Biological Assessments for long-term contract renewals provided for the Shasta and Trinity River Divisions (dated August 2003), the Feather Water District (dated April 2004), and the Black Butte, Corning Canal, and Tehama-Colusa Canal Units (dated April 2004), supplemental information provided

by your office and by the Reclamation Mid-Pacific Regional Office, including GIS data, and other information available to us, we have determined that ground-truthing specific areas within some districts is necessary to determine adverse affects, as appropriate, for the following districts:

City of Redding
City of Shasta Lake
Clear Creek CSD
Kirkwood
Orland-Artois
Corning
Proberta
Thomes Creek

We are coordinating with Reclamation staff to facilitate those efforts. Once our analysis is complete, we will issue our determination for those districts listed above.

Initiation of Formal Consultation and Request for Supplemental Information

This request for supplemental information addresses deficits in the four biological assessments. Until we receive the supplemental information we cannot proceed with the formal consultations. The requested information is consistent with the *Central Valley Project Improvement Act*, the *Biological Opinion on Implementation of the CVPIA and Continued Operation and Maintenance of the CVP* (Service File # 1-1-98-F-0124) (CVPIA Opinion), and is pursuant to the regulations governing interagency consultations (50 CFR §402.14(c)).

- A. Exhibit A is missing from all draft contracts currently on display for public review and comment on Reclamation's web site. Please provide us with all appropriate Exhibit A's so that we fully understand the proposed action.
- B. Please provide Water Needs Assessments for the following districts, or written confirmation that they receive less than the minimum delivery to require a Water Needs Assessment: Black Butte Unit, Mountain Gate, Keswick, USFS, Centerville Community Services, and Shasta Community Services. Please provide us with the appropriate Water Needs Assessments so that we may begin formal consultation on these districts.

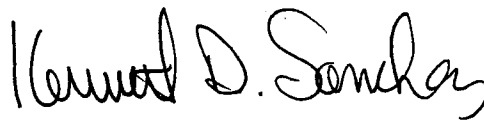
This represents the Service's review of the actions presented in your April 13, 2004, request for formal consultation on the proposed Long-term Contract Renewals for Northern California Area Offices located in Shasta, Tehama, Glenn, Colusa, and Yolo counties, California.

Mr. Micheal J. Ryan

4

If you have questions regarding the proposed Long Term Renewal of Water Service Contracts project, please contact Allison Arnold or Jan Knight at (916) 414-6620 or -6645.

Sincerely yours,

A handwritten signature in black ink that reads "Kenneth D. Sanchez". The signature is written in a cursive style with a large, prominent "K" and "S".

Kenneth D. Sanchez
Acting Field Supervisor

cc:

USBR, Sacramento, CA, (Attn: Frank Michny)

USBR, Shasta Lake, CA, (Attn: Buford Holt)

CDFG, Red Bluff, CA, (Attn: Paul Ward)



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846



In reply refer to:
1-1-04-I-2949

NOV 12 2004

NOV 15 '04

Memorandum

To: Area Manager, Northern California Area Office, Bureau of Reclamation
Sacramento, California

From: *Peter A. Cross*
for Field Supervisor, Sacramento Fish and Wildlife Office, Sacramento, California

Subject: Conclusion of Informal Consultation on Long-Term Renewal of Six Water
Service Contracts in the Shasta, Trinity, and Sacramento River Divisions and
Request for Supplemental Information for Six Others

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NOV 15 '04

BUREAU OF RECLAMATION
NORTHERN CA AREA OFFICE

CODE	INT	DATE
100	<i>10/15/04</i>	<i>11/6</i>
340		
300		

This memorandum is in response to your April 13, 2004, letter requesting formal consultation on the proposed long term renewal of Central Valley Project water service contracts in the Shasta, Trinity, and Sacramento River Divisions of the Northern California Area Office. Your request was received by the U.S. Fish and Wildlife Service (Service) on April 14, 2004. This response is in accordance with the Endangered Species Act of 1973, as amended.

Conclusion of Informal Consultation

We have reviewed the information provided in your April 13, 2004 letter; the accompanying Biological Assessments for long-term contract renewals provided for the Shasta and Trinity River Divisions (dated August 2003) and the Black Butte, Corning Canal, and Tehama-Colusa Canal Units (dated April 2004); supplemental information provided by your office and by the U.S. Bureau of Reclamation (Reclamation) Mid-Pacific Regional Office, including GIS data; and other information available to us. We have determined that the proposed renewal of long term water service contracts is not likely to adversely affect listed species or critical habitat in the following six water districts:

- Shasta and Trinity Divisions
 City of Redding
 City of Shasta Lake
 Clear Creek Community Services

- Sacramento River Division
 Orland-Artois
 Corning
 Thomes Creek

Classification	<i>ENV-6.00</i>
Project	<i>CVP</i>
Control No.	
Felder No.	



There are either no listed species or critical habitat within the action area (defined for this analysis as the water service area of each water district) or, if listed species or critical habitat are present or likely to occur within the action area, we do not believe that there will be measurable direct or indirect effects on them as a result of the proposed action.

This concludes informal consultation on the six water service contracts listed above. No further action is needed unless: (1) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered; (2) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered; or (3) a new species is listed or critical habitat designated that may be affected by the action; and (4) discretionary Federal agency involvement or control over the action is maintained (or is authorized by law). Reclamation should continue to monitor these actions and review this determination as needed based on the reinitiation criteria.

Based on the information provided in your April 13, 2004 letter; the accompanying Biological Assessments for long-term contract renewals provided for the Shasta and Trinity River Divisions (dated August 2003); the Feather Water District (dated April 2004) and the Black Butte, Corning Canal, and Tehama-Colusa Canal Units (dated April 2004); supplemental information provided by your office and by the Reclamation Mid-Pacific Regional Office, including GIS data; and other information available to us, we have determined that ground-truthing specific areas within the districts is necessary to determine adverse affects, as appropriate, for the Kirkwood Water District and the Proberta Water District.

We are coordinating with Reclamation staff to facilitate those efforts. Once our analysis is complete, we will issue our determination for the two districts listed above.

Initiation of Formal Consultation and Request for Supplemental Information

This request for supplemental information addresses deficits in the biological assessments. Until we receive the supplemental information we cannot proceed with the formal consultations. The requested information is consistent with the *Central Valley Project Improvement Act*, the *Biological Opinion on Implementation of the CVPIA and Continued Operation and Maintenance of the CVP* (Service File # 1-1-98-F-0124) (CVPIA Opinion), and is pursuant to the regulations governing interagency consultations (50 CFR §402.14(c)).

- A. Please provide Water Needs Assessments for the following districts, or written confirmation that they receive less than the minimum delivery to require a Water Needs Assessment: Black Butte Unit, Mountain Gate, Keswick, USFS, Centerville Community Services, and Shasta Community Services. Please provide us with the appropriate Water Needs Assessments so that we may begin formal consultation on these districts.

This represents the Service's review of the actions presented in your April 13, 2004, request for formal consultation on long-term renewal of the six water service contracts listed above in the Shasta, Trinity, and Sacramento River Divisions.

If you have questions regarding the proposed project, please contact Allison Arnold or Jan Knight at (916) 414-6620 or (916) 414-6645.



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
 NATIONAL MARINE FISHERIES SERVICE
 Southwest Region
 501 West Ocean Boulevard, Suite 4200
 Long Beach, California 90802-4213

December 10, 2004

In Reply Refer To:
 151422SWR04SA9139:MET

OFFICIAL FILE COPY RECEIVED	
DEC 20 '04	
BUREAU OF RECLAMATION NORTH DIVISION OFFICE	
100	ADN 12/20
300	RDS 12/23

Done by JH 12/20/04 Cylford & Bullen & Smith

Michael J. Ryan
 Area Manager
 U.S. Bureau of Reclamation
 2800 Cottage Way
 Sacramento, California 95825

Dear Mr. Ryan:

This letter responds to your April 15, 2004 letter requesting formal consultation with the National Marine Fisheries Service (NOAA Fisheries) on the U.S. Bureau of Reclamation's (Reclamation) long-term contract renewal of Central Valley Project (CVP) water service contracts for the Shasta and Trinity River Division water contractors in Shasta County, California. This consultation concerns impacts to Federally listed endangered Sacramento River winter-run Chinook salmon (*Oncorhynchus tshawytscha*), threatened Central Valley spring-run Chinook salmon (*O. tshawytscha*), threatened Central Valley steelhead (*O. mykiss*), candidate Central Valley fall/late fall-run Chinook salmon (*O. tshawytscha*), the designated critical habitat of winter-run Chinook salmon, and the essential fish habitat (EFH) of Pacific Salmon.

Reclamation proposes to renew 10 CVP water service contracts. The total amount of water to be delivered under these contracts is approximately 55,000 acre-feet. This water has historically been used and will continue to be used for agricultural as well as municipal and industrial (M&I) purposes.

The renewed contracts would provide for the continued diversions and delivery of the same quantities of water as the existing service contracts. The contract renewals also provide for continued diversions and delivery of water to the same lands and for the same purposes as the existing contracts.

Water will continue to be delivered through existing CVP facilities and will be placed to beneficial use within the authorized place of use for CVP water. The proposed action does not include construction, installation, or modification of any new facilities or structures.

NOAA Fisheries has reviewed the project description for the proposed action and other pertinent information related to this consultation, including the NOAA Fisheries biological opinions for CVP and State Water Project (SWP) Long-term Operations, Criteria, and Plan

Classification
Project
Control No.
Folder No.



[(OCAP) NOAA Fisheries 2004], and the Central Valley Project Improvement Act [(CVPIA) NOAA Fisheries 2000]. The OCAP biological opinion found that CVP actions providing water to service contractors are likely to adversely affect Federally listed Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, and Central Valley steelhead, and the critical habitat of winter-run Chinook salmon, due to reservoir releases, Sacramento River flows, water temperatures, and physical facility operations. These effects are expected to impact and result in the take of individual fish by decreasing spawning success, killing vulnerable life stages such as eggs, larvae, and juveniles due to stranding or elevated water temperatures, or increasing the likelihood of disease or juvenile vulnerability to predation due to temperature stress. The OCAP biological opinion determined that the anticipated level of take is not likely to jeopardize the continued existence of Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, or Central Valley steelhead, and is not likely to destroy or adversely modify the designated critical habitat of Sacramento River winter-run Chinook salmon.

Following review of the biological assessment, additional information provided, and the best scientific and commercial information currently available, we find that the effects of Reclamation's issuance of long term contracts to the Shasta and Trinity River Division water contractors on Federally listed endangered winter-run Chinook salmon, Federally listed threatened Central Valley spring-run Chinook salmon, and threatened Central Valley steelhead, and the designated critical habitat of winter-run Chinook salmon were previously considered as part of the OCAP action and fully analyzed in the OCAP biological opinion. This biological opinion included an incidental take statement pursuant to section 7(b)(4) and section 7(o)(2) of the Endangered Species Act (ESA) that exempted anticipated project impacts from the prohibitions of section 9. The effective period for the incidental take exemption provided in the OCAP biological opinion is 25 years (*i.e.*, through 2030).


Upon expiration of the OCAP biological opinion, Reclamation is required to reinitiate formal consultation, at which time aspects of the OCAP that are interrelated to the proposed action will be analyzed, and an updated incidental take statement will be issued. NOAA Fisheries' determination that the potential for take of listed species associated with the issuance of the subject long term contracts are fully covered in the incidental take statement for the OCAP biological opinion is contingent upon Reclamation implementing all measures intended to prevent and minimize impacts to fish and fish habitat identified in the OCAP biological opinion. With the exception of future reinitiation of formal consultation on the OCAP, no further action pursuant to the ESA is necessary by Reclamation, unless new information indicates that the project may affect listed species in a manner or to an extent not considered in this review or a new species is listed or critical habitat is designated that may be affected by the proposed action, and there is no substantial revision or modification to the information provided.

This letter does not provide exemptions for any form of take associated with the proposed action. Instead, it identifies aspects of the project that were previously considered and exempted in an existing biological opinion. Only those impacts that were specifically analyzed in the OCAP biological opinion are covered, and those exemptions are only valid through the term of that biological opinion (through 2030).

In addition, we find the NOAA Fisheries OCAP EFH consultation addressed effects to EFH for Pacific salmon as described in Amendment 14 of the Pacific Salmon Fishery Management Plan pursuant to the MSA. We find no additional effects of this project to EFH that were not analyzed in the OCAP consultation. Therefore, additional EFH Conservation Recommendations will not be provided. Written response as required under section 305(b)(4)(B) of the Magnuson-Stevens Act and Federal regulations (50 CFR § 600.920) will not be required. Should additional information reveal that the project may affect EFH and/or impact salmonids in a way not previously considered, or should the action be modified in a way that may cause additional effects to EFH, this determination may be reconsidered.

If you have any questions regarding this correspondence or if NOAA Fisheries can provide further assistance on this project, please contact Mr. Michael Tucker in our Sacramento Area Office, 650 Capitol Mall, Suite 8-300, Sacramento, CA 95814. Mr. Tucker may be reached by telephone at (916) 930-3604, or by Fax at (916) 930-3629.

Sincerely,


for Rodney R. McInnis
Regional Administrator

cc: NOAA Fisheries-PRD, Long Beach California

CHAPTER 7

REFERENCES, PERSONS CONSULTED, AND ACRONYMS

7.1 REFERENCES

This section lists the references used in the preparation of this EA.

Bella Vista Water District. 1995. *Bella Vista Water District Water Conservation Plan*. Bella Vista, CA.

Bureau of Economic Analysis (BEA) 1998: United States, Bureau of Economic Analysis, Bear Facts, 1997. <http://www.bea.doc.gov/bea/regional/bearfacts/bf1/06/b106089.htm>

California Department of Water Resources 1993: California Department of Water Resources, Bulletin 160-93: California Water Plan, 1993.

California Department of Water Resources 1994. Public Water System Statistics, Calendar Year 1994

California Department of Finance (CDOF) 1998: State of California Department of Finance, *County Population Projections with Race/Ethnic Detail*, Sacramento, California, December 1998. http://www.dof.ca.gov/HTML/DEMOGRAP/Proj_race.htm,

California Department of Finance (CDOF) 2000a: State of California, Department of Finance, *City/County Population Estimates, with Annual Percent Change, January 1, 1999 and 2000*. Sacramento, California, May 2000. <http://www.dof.ca.gov/HTML/DEMOGRAP/e-1text.htm>

California Department of Finance (CDOF) 2000b: State of California Department of Finance, California County Profiles, 2000. http://www.dof.ca.gov/HTML/FS_DATA/profiles/pf_home.htm

California Department of Fish and Game. 2000b. *Endangered and Threatened Animals of California*. State of California. The Resources Agency. Department of Fish and Game, Habitat Conservation Division. California Natural Diversity Database. July 2000. Sacramento, CA.

California Department of Fish and Game. 2000a. *California Natural Diversity Database (Rarefind)*. Version 2.1.2c. March 24, 2000. Sacramento, CA.

Centerville Community Services District. November 2003. Personal communications.

Central Valley Project Improvement Act, Draft Programmatic EIS and supporting technical appendices, 1997 – Authors, CH2M Hill et. al.

CH2M Hill 1999; spreadsheet model filename: M&i99alt

- CH2M Hill 2000; Technical Memorandum – Analysis of November 1999 Tiered Pricing Proposal for PEIS Preferred Alternative, October 2, 2000
- Chartkoff, J.L., and K.K. Chartkoff. 1984. *The Archeology of California*. Stanford University Press, Stanford, CA.
- City of Shasta Lake. 1994. *City of Shasta Lake Water Conservation Plan*. Shasta Lake, CA.
- City of Redding. 1994 (assumed). *City of Redding Water Conservation Plan*. Redding, CA
- City of Redding Development Services Department, and J. Laurence Mintier and Associates, and Crawford Multari and Starr, Brown-Buntin Associates. July 1998. *City of Redding Draft Background Report*. Redding, CA.
- City of Redding Planning Commission. 2000. *Public Hearing Draft General Plan*. Redding, CA.
- Clear Creek Community Services District. 1994. *Clear Creek Community Services District Water Conservation Plan*. Anderson, CA.
- City of Shasta Lake. 2000: Memo from Dennis Daily with City of Shasta Lake to Melissa Moran with Dornbusch & Company, September 6, 2000
- Diaz Associates. 1999. *City of Shasta Lake General Plan Existing Conditions Report*. Redding, CA.
- Diaz Associates. 1999. *City of Shasta Lake General Plan and Final Environmental Impact Report*. Redding, CA.
- DuBois, Cora. 1935 . Wintu Ethnography. *University of California Publications in American Archaeology and Ethnology*, 36:1-147. Berkeley, CA.
- EDD 1999: State of California, Employment Development Department, County Snapshots – Shasta County, 1999. <http://www.calmis.ca.gov/file/COsnaps/shastSNAP.pdf>
- Fredrickson, David A. 1973. *Early Cultures of the North Coast Ranges, California*. Unpublished PhD dissertation, Department of Anthropology. University of California, Davis.\
- Holt 2000: Conversation between Buford Holt with Bureau of Reclamation and Jason Bass with Dornbusch & Company, October 4, 2000
- Jennings, M., and M. Hayes. 1994. *Amphibian and Reptile Species of Special Concern in California*. California Department of Fish and Game. Sacramento, CA.
- Johnson, Jerald J. 1978. Yana. In *California*, edited by Robert F. Heizer, pp. 361-369. *Handbook of North American Indians*, Vol. 8, William Sturtevant, general editor. Smithsonian Institution. Washington D.C.

- LaPena, Frank R. 1978. Wintu. In *California*, edited by Robert F. Heizer, pp. 324-340. *Handbook of North American Indians*, Vol. 8, William Sturtevant, general editor. Smithsonian Institution. Washington D.C.
- McNeill 2000: Letter from Mr. McNeill (attorney for Clear Creek CSD) to Laura Kuh with North State Resources, RE: Environmental Assessment for Shasta-Trinity Long Term Renewal Contracts, October 3, 2000
- Meighan, Clement C. 1955. Archaeology of the North Coast Ranges, California. *University of California Archaeological Survey Reports*, 30:1-39. Berkeley, CA.
- Minnesota Implan Group, IMPLAN Software and County Data Files, 1994
- Moratto, Michael J. 1984. *California Archaeology*. Academic Press, Orlando, FL.
- National Agricultural Statistics Service (NASS). 1999. The Census of Agriculture, Shasta County California, 1999 <http://govinfo.library.orst.edu/cgi-bin/ag-list?01-089.cac>
- North State Resources. 2003. Biological Assessment/Essential Fish Habitat Assessment for the Shasta and Trinity River Divisions Long-Term Contract Renewal. August. Redding, CA
- Petersen, Edward. 1965. *In the Shadow of the Mountain*. Privately published, Cottonwood, CA.
- Shasta County Department of Resource Management. 1998. *Shasta County General Plan*. Redding, CA.
- Shipley, William F. 1978. Native Languages of California. In *California*, edited by Robert F. Heizer, pp. 80-90. *Handbook of North American Indians*, Vol. 8, William Sturtevant, general editor. Smithsonian Institution. Washington D.C.
- Skinner, M.W., and B.M. Pavlick (Ed.). 1994. *Inventory of Rare and Endangered Vascular Plants of California* (5 ed.). Sacramento, CA. Griffin Printing Company.
- Sundahl, Elaine. 1992. Cultural Patterns and Chronology in the Northern Sacramento River Drainage. In *Proceedings of the Society for California Archaeology*, pp. 89-110, Vol 5. San Diego, CA.
- United States Department of the Interior, Bureau of Reclamation. 2003. Shasta and Trinity River Divisions Long term Contract Renewal, Biological Assessment/Essential Fish Habitat Assessment.
- United States Department of the Interior, Bureau of Reclamation. 2000a: Central Valley Project, Mid-Pacific Region Spreadsheet of historical annual CVP water deliveries by contractor, filename - *historic.123*

- United States Department of the Interior, Bureau of Reclamation. 1999a. Handout 1, Central Valley Project, Schedule of 1999 Published M&I Water Rates and Revised Category 1 & 2 Water Rates Based on Category 1 Deliveries Flat-Lined at the 1999 Level thru 2030, Nov 1999.
<http://www.mp.usbr.gov/cvpia/3404c/usbrwork.html>
- United States Department of the Interior, Bureau of Reclamation. 1994b: Central Valley Project, 1994 Irrigation Water Rates, 1994
- United States Department of the Interior, Bureau of Reclamation. 1994a: U.S. Department of the Interior, Bureau of Reclamation, Central Valley Project, 1994 Municipal & Industrial Water Rates, 1994
- United States Department of the Interior, Bureau of Reclamation. 1996. Central Valley Project, Mid-Pacific Region, Crop Production and Water Utilization Reports, 1996
- United States Department of the Interior, Bureau of Reclamation. 1999b: Handout 1, Central Valley Project, Schedule of 1999 Published Irrigation Water Rates and Revised Category 1 & 2 Water Rates Based on Category 1 Deliveries Flat-Lined at the 1999 Level thru 2030, Nov 1999.
<http://www.mp.usbr.gov/cvpia/3404c/usbrwork.html>
- United States Department of Agriculture, Soil Conservation Service and Forest Service. 1974. *Soil Survey of Shasta County Area, California*. U.S. Government Printing Office. Washington, DC. August 1974.
- United States Department of Agriculture, Soil Conservation Service and Forest Service. 1983 (assumed). *Soil survey of Shasta-Trinity Forest Area, California*. U.S. Government Printing Office. Washington, DC.
- United States Department of the Interior, Bureau of Reclamation (Reclamation). 1999. Central Valley project Long-Term Contract Renewal Scoping Report. Tetra Tech, Inc. April 1999.
- United States Department of the Interior, Bureau of Reclamation (Reclamation). 1992. Bureau of Reclamation Central Valley Project irrigation and M&I Contractor Water Rates.
- United States Department of the Interior, Bureau of Reclamation (Reclamation). 1994. Bureau of Reclamation Central Valley Project irrigation and M&I Contractor Water Rates.
- United States Department of the Interior, Bureau of Reclamation (Reclamation). 1997. Central Valley Project Improvement Act Programmatic Environmental Statement (PEIS) and Appendices.
- United States Department of the Interior, Bureau of Reclamation (Reclamation). 1999. Bureau of Reclamation Central Valley Project irrigation and M&I Contractor Water Rates.
- United States Department of the Interior, Bureau of Reclamation (Reclamation). 2000. Bureau of Reclamation Central Valley Project irrigation and M&I Contractor Water Rates.

- United States Department of the Interior; Bureau of Reclamation. 2000. *Administrative Draft Environmental Assessment for Renewal of the Long-Term Contract for the Feather Water District*; Central Valley Project, California. October 2000. Sacramento, CA.
- United States Department of the Interior; Bureau of Reclamation and U.S. Fish and Wildlife Service. 1999. *Final Programmatic Environmental Impact Statement - Implementation of the Central Valley Project Improvement Act of 1992*. October 1999. Sacramento, CA.
- United States Fish and Wildlife Service. 2000a. *Endangered and Threatened Species That May Occur in or Be Affected by Projects in Shasta County*. Reference File Number 00-SP-2414. July 18, 2000. Sacramento, CA.
- United States Fish and Wildlife Service. 2000b. *Draft Biological Opinion on the Operation and Maintenance of the Central Valley Project and Implementation of the Central Valley Improvement Act. February 1, 2000*. Sacramento, CA.
- Zeiner, D.C., and W.F. Laundenslayer, Jr., and K.E. Mayer, and M. White (Ed.). 1990. *California's Wildlife*, Volume II, Birds. California Department of Fish and Game. Sacramento, CA.

7.2 PERSONS CONSULTED

Cheryl Adcock	United States Forest Service
Nancy Anderson	Bureau of Reclamation
Phil Browning	Centerville Community Services District
Don Bultema	Bureau of Reclamation
Mike Connor	City of Redding Water Division
Valene Day	Clear Creek Community Services District
Dennis Daily	City of Shasta Lake
Robert Dietz	Bella Vista Water District
Don Groundwater	Bella Vista Water District
Janice Heck	Mountain Gate Community Services District
Buford Holt	Bureau of Reclamation
Char Workman-Flowers	Clear Creek Community Services District
Kent Manuel	City of Redding, Planning Division
Pat Minturn	Shasta County Water Agency
Darrell Rankin	United States Forest Service
Lisa Stephens	Shasta Community Services District
Carla Thompson	City of Shasta Lake Planning Department
Scott Wall	Shasta County Public Works
Bill Walker	Shasta County Planning Division

7.3 ACRONYMS

AB	Assembly Bill
BVWD	Bella Vista Water District
CCSD	Centerville Community Services District
CCCSD	Clear Creek Community Services District
CDOF	California Department of Finance
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
cfs	cubic feet per second
COS	cost-of-service
CVP	Central Valley Project
CVP-OCAP	Central Valley Project-Operations Criteria and Plan
CVPIA	Central Valley Project Improvement Act
CWA	Clean Water Act
DAU	Drainage Area Units
DWR	California Department of Water Resources
EA	Environmental Assessment
EFH	essential fish habitat
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
FC	full cost
ITAs	Indian Trust Assets
KCSA	Keswick County Service Area
LTCR	Long Term Contract Renewal
mgd	million gallons per day
M&I	municipal and industrial
MGCSD	Mountain Gate Community Services District
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
<u>NOAA</u>	<u>National Oceanic and Atmospheric Administration</u>
O&M	operations and maintenance
PEIS	Programmatic Environmental Impact Statement
POW	place of work
PUD	Public Utilities District
ROD	Record of Decision
RRA	Reclamation Reform Act
SCPUD	Summit City Public Utilities District
SCSD	Shasta Community Services District
SCWA	Shasta County Water Agency
SDAPUD	Shasta Dam Area Public Utilities District
SDWA	Safe Drinking Water Act
SWP	State Water Project
SWRCB	State Water Resources Control Board
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service

2004 Draft Form Contract
and
Summaries of the 2003 Draft Contract Provisions

(**Table 1** General Summary and Comparison of Draft 2003 Contract Provisions and **Table 2** Elements Unique to Existing and Interim Contracts)

The Final Draft Contracts (June 2004) are available upon request at the Shasta Area Office of the U.S. Bureau of Reclamation 530/275-1554, or you may view the draft contracts at:
<http://www.usbr.gov/mp/cvpia/3404c/1004FOC>

R.O. FINAL 4/19-2004
R.O. FINAL 1/20-2004 Redline
R.O. FINAL 6/10-2003
R.O. Draft 5/19-2003
R. O. Draft 5/09-2003
R.O. Draft 11/01-2000
CVP-Wide Form 11-05
Contract No. _____ - LTR1

1 UNITED STATES
2 DEPARTMENT OF THE INTERIOR
3 BUREAU OF RECLAMATION
4 Central Valley Project, California

5 LONG-TERM RENEWAL CONTRACT BETWEEN THE UNITED STATES
6 AND

7 _____
8 PROVIDING FOR PROJECT WATER SERVICE
9 FROM _____ DIVISION

10 THIS CONTRACT, made this _____ day of _____, 2004, in
11 pursuance generally of the Act of June 17, 1902 (32 Stat. 388), and acts amendatory or
12 supplementary thereto, including, but not limited to, the Acts of August 26, 1937 (50 Stat. 844),
13 as amended and supplemented, August 4, 1939 (53 Stat. 1187), as amended and supplemented,
14 July 2, 1956 (70 Stat. 483), June 21, 1963 (77 Stat. 68), October 12, 1982 (96 Stat. 1263),
15 October 27, 1986 (100 Stat. 3050), as amended, and Title XXXIV of the Act of October 30, 1992
16 (106 Stat. 4706), all collectively hereinafter referred to as Federal Reclamation law, between
17 THE UNITED STATES OF AMERICA, hereinafter referred to as the United States, and
18 _____, hereinafter referred to as the Contractor, a public agency of
19 the State of California, duly organized, existing, and acting pursuant to the laws thereof;

20 WITNESSETH, That:

21 EXPLANATORY RECITALS

22 [1st] WHEREAS, the United States has constructed and is operating the Central Valley
23 Project (Project), California, for diversion, storage, carriage, distribution and beneficial use, for
24 flood control, irrigation, municipal, domestic, industrial, fish and wildlife mitigation, protection
25 and restoration, generation and distribution of electric energy, salinity control, navigation and
26 other beneficial uses, of waters of the Sacramento River, the American River, the Trinity River,
27 and the San Joaquin River and their tributaries; and

28 [2nd] WHEREAS, the United States constructed _____,
29 hereinafter collectively referred to as the _____ [Division/Unit] facilities, which will
30 be used in part for the furnishing of water to the Contractor pursuant to the terms of this
31 Contract; and

32 [3rd] WHEREAS, the rights to Project Water were acquired by the United States
33 pursuant to California law for operation of the Project; and

34 [4th] WHEREAS, the Contractor and the United States entered into Contract
35 No. _____, as amended, which established terms for the delivery to the Contractor of
36 Project Water from the _____ [Division/Unit] from _____ through
37 _____ [For binding agreement contractors only: (hereinafter referred to as
38 the "Existing Contract,"); and [Contractor specific issue as to "as amended"]

39 [5th] [FOR IRC'S] WHEREAS, the Contractor and the United States have pursuant to
40 subsection 3404(c)(1) of the Central Valley Project Improvement Act (CVPIA), subsequently
41 entered into interim renewal contract(s) identified as Contract No(s)._____,
42 the current of which is hereinafter referred to as the Existing Contract, which provided for the
43 continued water service to the Contractor from _____ through
44 _____; and

45 [5th] [For Binding Agreement Contractors] WHEREAS, the United States and the
46 Contractor have, pursuant to Subsection 3404(c)(3) of the Central Valley Project Improvement
47 Act (CVPIA)¹, subsequently entered into a binding agreement, identified as Binding Agreement
48 No. _____, which sets out the terms pursuant to which the Contractor agreed to renew
49 the Existing Contract before its expiration date after completion of a programmatic
50 environmental impact statement and other appropriate environmental documentation and
51 negotiation of a renewal contract, and which also sets out the consequences of a subsequent
52 decision not to renew; and

53 [6th] WHEREAS, Section 3404(c) of the CVPIA² provides for long-term renewal of
54 the Existing Contract following completion of appropriate environmental documentation,
55 including a programmatic environmental impact statement PEIS pursuant to the National
56 Environmental Policy Act (NEPA), analyzing the direct and indirect impacts and benefits of
57 implementing the CVPIA and the potential renewal of all existing contracts for Project Water;
58 and

59 [7th] WHEREAS, the United States has completed the PEIS and all other appropriate
60 environmental review necessary to provide for long-term renewal of the Existing Contract; and

61 [8th] WHEREAS, the Contractor has requested the long-term renewal of the Existing
62 Contract, pursuant to the terms of the Existing Contract, Federal Reclamation law, and the laws
63 of the State of California, for water service from the Project; and

64 [9th] WHEREAS, the United States has determined that the Contractor has fulfilled all
65 of its obligations under the Existing Contract; and

¹ Contractor Specific Issue: citation of Sec. 3404(c)(3) in M&I only contracts.

² Contractor Specific Issue: citation of Sec. 3404(c) in M&I only contracts.

66 [10th] [CONTRACTOR SPECIFIC] WHEREAS, the Contractor has demonstrated to
67 the satisfaction of the Contracting Officer that the Contractor has utilized the Project Water
68 supplies available to it for reasonable and beneficial use and/or has demonstrated projected
69 future demand for water use such that the Contractor has the capability³ and expects to utilize
70 fully for reasonable and beneficial use the quantity of Project Water to be made available to it
71 pursuant to this Contract; and

72 [11th] WHEREAS, water obtained from the Project has been relied upon by urban and
73 agricultural areas within California for more than 50 years, and is considered by the Contractor
74 as an essential portion of its water supply; and

75 [12th] WHEREAS, the economies of regions within the Project, including the
76 Contractor's, depend upon the continued availability of water, including water service from the
77 Project; and

78 [13th] WHEREAS, the Secretary intends through coordination, cooperation, and
79 partnerships to pursue measures to improve water supply, water quality, and reliability of the
80 Project for all Project purposes; and

81 [14th] WHEREAS, the mutual goals of the United States and the Contractor include: to
82 provide for reliable Project Water supplies; to control costs of those supplies; to achieve
83 repayment of the Project as required by law; to guard reasonably against Project Water
84 shortages; to achieve a reasonable balance among competing demands for use of Project Water;
85 and to comply with all applicable environmental statutes, all consistent with the legal obligations

³ Contractor Specific issue - This recital may need to be modified for individual contractors who do not have the capability today to take Project Water but can demonstrate that they will have the capability to take Project Water prior to the delivery of water.

86 of the United States relative to the Project; and

87 [15th] WHEREAS, the parties intend by this Contract to develop a more cooperative
88 relationship in order to achieve their mutual goals; and

89 [16th] WHEREAS, the United States and the Contractor are willing to enter into this
90 Contract pursuant to Federal Reclamation law on the terms and conditions set forth below;

91 NOW, THEREFORE, in consideration of the mutual and dependent covenants herein
92 contained, it is hereby mutually agreed by the parties hereto as follows:

93 DEFINITIONS

94 1. When used herein unless otherwise distinctly expressed, or manifestly
95 incompatible with the intent of the parties as expressed in this Contract, the term:

96 (a) "Calendar Year" shall mean the period January 1 through December 31,
97 both dates inclusive;

98 (b) "Charges" shall mean the payments required by Federal Reclamation law
99 in addition to the Rates and Tiered Pricing Component specified in this Contract as determined
100 annually by the Contracting Officer pursuant to this Contract;

101 (c) "Condition of Shortage" shall mean a condition respecting the Project
102 during any Year such that the Contracting Officer is unable to deliver sufficient water to meet the
103 Contract Total;⁴

104 (d) "Contracting Officer" shall mean the Secretary of the Interior's duly
105 authorized representative acting pursuant to this Contract or applicable Federal Reclamation law
106 or regulation;

107 (e) "Contract Total" shall mean the maximum amount of water to which the

⁴ May need to be modified for some divisions, including a definition of interruption of supply.

108 Contractor is entitled under subdivision (a) of Article 3 of this Contract;

109 (f) "Contractor's Service Area" shall mean the area to which the Contractor is
110 permitted to provide Project Water under this Contract as described in Exhibit "A" attached
111 hereto, which may be modified from time to time in accordance with Article 35 of this Contract
112 without amendment of this Contract;⁵

113 (g) "CVPIA" shall mean the Central Valley Project Improvement Act, Title
114 XXXIV of the Act of October 30, 1992 (106 Stat. 4706);

115 (h) "Eligible Lands" shall mean all lands to which Irrigation Water may be
116 delivered in accordance with Section 204 of the Reclamation Reform Act of October 12, 1982
117 (96 Stat. 1263), as amended, hereinafter referred to as RRA;

118 (i) "Excess Lands" shall mean all lands in excess of the limitations contained
119 in Section 204 of the RRA, other than those lands exempt from acreage limitation under Federal
120 Reclamation law;

121 (j) "Full Cost Rate" shall mean an annual rate as determined by the
122 Contracting Officer that shall amortize the expenditures for construction properly allocable to the
123 Project irrigation or M&I functions, as appropriate, of facilities in service including all O&M
124 deficits funded, less payments, over such periods as may be required under Federal Reclamation
125 law, or applicable contract provisions. Interest will accrue on both the construction expenditures
126 and funded O&M deficits from October 12, 1982, on costs outstanding at that date, or from the
127 date incurred in the case of costs arising subsequent to October 12, 1982, and shall be calculated
128 in accordance with subsections 202(3)(B) and (3)(C) of the RRA. The Full Cost Rate includes

⁵ Some Contractors may propose alternate language. Some Contractors may use a legal description, others may use a map.

129 actual operation, maintenance, and replacement costs consistent with Section 426.2 of the Rules
130 and Regulations for the RRA;

131 (k) “Ineligible Lands” shall mean all lands to which Irrigation Water may not
132 be delivered in accordance with Section 204 of the RRA;

133 (l) “Irrigation Full Cost Water Rate” shall mean the Full Cost Rate applicable
134 to the delivery of Irrigation Water;

135 (m) “Irrigation Water” shall mean water made available from the Project that
136 is used primarily in the production of agricultural crops or livestock, including domestic use
137 incidental thereto, and watering of livestock;

138 (n) “Landholder” shall mean a party that directly or indirectly owns or leases
139 nonexempt land, as provided in 43 CFR 426.2;

140 (o) “Municipal and Industrial (M&I) Water”⁷ shall mean Project Water, other
141 than Irrigation Water, made available to the Contractor. M&I Water shall include water used for
142 human use and purposes such as the watering of landscaping or pasture for animals (e.g., horses)
143 which are kept for personal enjoyment or water delivered to land holdings operated in units of
144 less than five acres unless the Contractor establishes to the satisfaction of the Contracting Officer
145 that the use of water delivered to any such landholding is a use described in subdivision (m) of
146 this Article;

147 (p) “M&I Full Cost Water Rate” shall mean the Full Cost Rate applicable to
148 the delivery of M&I Water;

⁷ Some Contractors may want to include “other water” definition in lieu of this definition. Individual Contractors with unique circumstances may negotiate a lower threshold.

149 (q) "Operation and Maintenance" or "O&M" shall mean normal and
150 reasonable care, control, operation, repair, replacement (other than capital replacement), and
151 maintenance of Project facilities;

152 (r) "Operating Non-Federal Entity" shall mean the _____, its
153 successors or assigns, a non-Federal entity which has the obligation to operate and maintain all
154 or a portion of the _____ [Division/Unit] facilities pursuant to an agreement with the
155 United States, and which may have funding obligations with respect thereto;

156 (s) "Project" shall mean the Central Valley Project owned by the United
157 States and managed by the Department of the Interior, Bureau of Reclamation;

158 (t) "Project Contractors" shall mean all parties who have water service
159 contracts for Project Water from the Project with the United States pursuant to Federal
160 Reclamation law;

161 (u) "Project Water" shall mean all water that is developed, diverted, stored, or
162 delivered by the Secretary in accordance with the statutes authorizing the Project and in
163 accordance with the terms and conditions of water rights acquired pursuant to California law;

164 (v) "Rates" shall mean the payments determined annually by the Contracting
165 Officer in accordance with the then-current applicable water ratesetting policies for the Project,
166 as described in subdivision (a) of Article 7 of this Contract;

167 (w) "Recent Historic Average" shall mean the most recent five-year average of
168 the final forecast of Water Made Available to the Contractor pursuant to this Contract or its
169 preceding contract(s);

170 (x) "Secretary" shall mean the Secretary of the Interior, a duly appointed
171 successor, or an authorized representative acting pursuant to any authority of the Secretary and

172 through any agency of the Department of the Interior;

173 (y) "Tiered Pricing Component" shall be the incremental amount to be paid
174 for each acre-foot of Water Delivered as described in subdivision (j) of Article 7 of this Contract;

175 (z) "Water Delivered" or "Delivered Water" shall mean Project Water
176 diverted for use by the Contractor at the point(s) of delivery approved by the Contracting
177 Officer⁸;

178 (aa) "Water Made Available" shall mean the estimated amount of Project
179 Water that can be delivered to the Contractor for the upcoming Year as declared by the
180 Contracting Officer, pursuant to subdivision (a) of Article 4 of this Contract;

181 (bb) "Water Scheduled" shall mean Project Water made available to the
182 Contractor for which times and quantities for delivery have been established by the Contractor
183 and Contracting Officer, pursuant to subdivision (b) of Article 4 of this Contract; and

184 (cc) "Year" shall mean the period from and including March 1 of each
185 Calendar Year through the last day of February of the following Calendar Year.

186 TERM OF CONTRACT

187 2. (a) This Contract shall be effective March 1, 200_, through February 28,
188 20__, and supercedes the Existing Contract.⁹ In the event the Contractor wishes to renew this
189 Contract beyond February 28, 20__, the Contractor shall submit a request for renewal in writing
190 to the Contracting Officer no later than two years prior to the date this Contract expires. The
191 renewal of this Contract insofar as it pertains to the furnishing of Irrigation Water to the

⁸ This language may be modified at the Contractor level.

⁹ Contractor specific-may need to include language regarding this contract superceding Existing Contract, in whole or in part.

192 Contractor shall be governed by subdivision (b) of this Article, and the renewal of this Contract
193 insofar as it pertains to the furnishing of M&I Water to the Contractor shall be governed by
194 subdivision (c) of this Article.

195 (b) (1) Under terms and conditions of a renewal contract that are mutually
196 agreeable to the parties hereto, and upon a determination by the Contracting Officer that at the
197 time of contract renewal the conditions set forth in subdivision (b)(2) of this Article are met, and
198 subject to Federal and State law, this Contract, insofar as it pertains to the furnishing of Irrigation
199 Water to the Contractor, shall be renewed for a period of 25 years.

200 (2) The conditions which must be met for this Contract to be renewed
201 are: (i) the Contractor has prepared a water conservation plan that has been determined by the
202 Contracting Officer in accordance with Article 26 of this Contract to meet the conservation and
203 efficiency criteria for evaluating such plans established under Federal law; (ii) the Contractor is
204 implementing an effective water conservation and efficiency program based on the Contractor's
205 water conservation plan as required by Article 26 of this Contract; (iii) the Contractor is
206 maintaining all water measuring devices and implementing all water measurement methods as
207 approved by the Contracting Officer pursuant to Article 6 of this Contract; (iv) the Contractor
208 has reasonably and beneficially used the Project Water supplies made available to it and, based
209 on projected demands, is reasonably anticipated and expects to fully utilize for reasonable and
210 beneficial use the quantity of Project Water to be made available to it pursuant to such renewal;
211 (v) the Contractor is complying with all terms and conditions of this Contract; and (vi) the
212 Contractor has the physical and legal ability to deliver Project Water.

213 (3) The terms and conditions of the renewal contract described in
214 subdivision (b)(1) of this Article and any subsequent renewal contracts shall be developed

215 consistent with the parties' respective legal rights and obligations, and in consideration of all
216 relevant facts and circumstances, as those circumstances exist at the time of renewal, including,
217 without limitation, the Contractor's need for continued delivery of Project Water; environmental
218 conditions affected by implementation of the Contract to be renewed, and specifically changes in
219 those conditions that occurred during the life of the Contract to be renewed; the Secretary's
220 progress toward achieving the purposes of the CVPIA as set out in Section 3402 and in
221 implementing the specific provisions of the CVPIA; and current and anticipated economic
222 circumstances of the region served by the Contractor.

223 (c) This Contract, insofar as it pertains to the furnishing of M&I Water to the
224 Contractor, shall be renewed for successive periods of up to 40 years each, which periods shall
225 be consistent with then-existing Reclamation-wide policy, under terms and conditions mutually
226 agreeable to the parties and consistent with Federal and State law. The Contractor shall be
227 afforded the opportunity to comment to the Contracting Officer on the proposed adoption and
228 application of any revised policy applicable to the delivery of M&I Water that would limit the
229 term of any subsequent renewal contract with the Contractor for the furnishing of M&I Water to
230 less than 40 years.

231 (d) The Contracting Officer shall make a determination ten years after the
232 date of execution of this Contract, and every five years thereafter during the term of this
233 Contract, of whether a conversion of the relevant portion of this Contract to a contract under
234 subsection 9(d) of the Reclamation Project Act of 1939 can be accomplished pursuant to the Act
235 of July 2, 1956 (70 Stat 483). The Contracting Officer shall also make a determination ten years
236 after the date of execution of this Contract and every five years thereafter during the term of this
237 Contract of whether a conversion of the relevant portion of this Contract to a contract under

238 subsection 9(c)(1) of the Reclamation Project Act of 1939 can be accomplished.
239 Notwithstanding any provision of this Contract, the Contractor reserves and shall have all rights
240 and benefits under the Act of July 2, 1956 (70 Stat. 483). The Contracting Officer anticipates that
241 during the term of this Contract, all authorized Project construction expected to occur will have
242 occurred, and on that basis the Contracting Officer agrees upon such completion to allocate all
243 costs that are properly assignable to the Contractor, and agrees further that, at any time after such
244 allocation is made, and subject to satisfaction of the condition set out in this subdivision, this
245 Contract shall, at the request of the Contractor, be converted to a contract under subsection 9(d)
246 or 9(c)(1), whichever is applicable, of the Reclamation Project Act of 1939, subject to applicable
247 Federal law and under stated terms and conditions mutually agreeable to the Contractor and the
248 Contracting Officer. A condition for such conversion to occur shall be a determination by the
249 Contracting Officer that, account being taken of the amount credited to return by the Contractor
250 as provided for under Federal Reclamation law, the remaining amount of construction costs
251 assignable for ultimate return by the Contractor can probably be repaid to the United States
252 within the term of a contract under subsection 9(d) or 9(c)(1), whichever is applicable. If the
253 remaining amount of costs that are properly assignable to the Contractor cannot be determined
254 during the term of this Contract, the Contracting Officer shall notify the Contractor, and provide
255 the reason(s) why such a determination could not be made. Further, the Contracting Officer shall
256 make such a determination as soon thereafter as possible so as to permit, upon request of the
257 Contractor and satisfaction of the condition set out above, conversion to a contract under
258 subsection 9(d) or 9(c)(1), whichever is applicable. In the event such determination of costs has
259 not been made at a time which allows conversion of this Contract during the term of this
260 Contract or the Contractor has not requested conversion of this Contract within such term, the

261 parties shall incorporate in any subsequent renewal contract as described in subdivision (b) of
262 this Article a provision that carries forth in substantially identical terms the provisions of this
263 subdivision.

264 WATER TO BE MADE AVAILABLE AND DELIVERED TO THE CONTRACTOR

265 3. (Divisional) (a) During each Year, consistent with all applicable State water rights,
266 permits, and licenses, Federal law, and subject to the provisions set forth in Articles 11 and 12 of
267 this Contract, the Contracting Officer shall make available for delivery to the Contractor _____
268 acre-feet of Project Water for irrigation and M&I purposes. Water Delivered to the Contractor in
269 accordance with this subdivision shall be scheduled and paid for pursuant to the provisions of
270 Articles 4 and 7 of this Contract.

271 (b) Because the capacity of the Project to deliver Project Water has been
272 constrained in recent years and may be constrained in the future due to many factors including
273 hydrologic conditions and implementation of Federal and State laws, the likelihood of the
274 Contractor actually receiving the amount of Project Water set out in subdivision (a) of this
275 Article in any given Year is uncertain. The Contracting Officer's modeling referenced in the
276 PEIS projected that the Contract Total set forth in this Contract will not be available to the
277 Contractor in many years. During the most recent five years, the Recent Historic Average of
278 water made available to the Contractor was _____ acre-feet. Nothing in subdivision (b) of this
279 Article shall affect the rights and obligations of the parties under any provision of this Contract.

280 (c) The Contractor shall utilize the Project Water in accordance with all
281 applicable legal requirements.

282 (d) The Contractor shall make reasonable and beneficial use of all water

283 furnished pursuant to this Contract. Groundwater recharge programs (direct, indirect, or in lieu),
284 groundwater banking programs, surface water storage programs, and other similar programs
285 utilizing Project Water or other water furnished pursuant to this Contract conducted within the
286 Contractor's Service Area which are consistent with applicable State law and result in use
287 consistent with Federal Reclamation law will be allowed; Provided, That any direct recharge
288 program(s) is (are) described in the Contractor's water conservation plan submitted pursuant to
289 Article 26 of this Contract; Provided, further, That such water conservation plan demonstrates
290 sufficient lawful uses exist in the Contractor's Service Area so that using a long-term average,
291 the quantity of Delivered Water is demonstrated to be reasonable for such uses and in
292 compliance with Federal Reclamation law. Groundwater recharge programs, groundwater
293 banking programs, surface water storage programs, and other similar programs utilizing Project
294 Water or other water furnished pursuant to this Contract conducted outside the Contractor's
295 Service Area may be permitted upon written approval of the Contracting Officer, which approval
296 will be based upon environmental documentation, Project Water rights, and Project operational
297 concerns. The Contracting Officer will address such concerns in regulations, policies, or
298 guidelines.

299 (e) The Contractor shall comply with requirements applicable to the
300 Contractor in biological opinion(s) prepared as a result of a consultation regarding the execution
301 of this Contract undertaken pursuant to Section 7 of the Endangered Species Act of 1973 (ESA),
302 as amended, that are within the Contractor's legal authority to implement. The Existing Contract,
303 which evidences in excess of ___years of diversions for irrigation and/or M&I purposes¹¹ of the
304 quantities of water provided in subdivision (a) of Article 3 of this Contract, will be considered in

¹¹ **Specific Contract Issue:** The type of water diverted will be addressed on a contractor specific basis.

305 developing an appropriate baseline for biological assessment(s) prepared pursuant to the ESA,
306 and any other needed environmental review. Nothing herein shall be construed to prevent the
307 Contractor from challenging or seeking judicial relief in a court of competent jurisdiction with
308 respect to any biological opinion or other environmental documentation referred to in this
309 Article.¹²

310 (f) Following the declaration of Water Made Available under Article 4 of this
311 Contract, the Contracting Officer will make a determination whether Project Water, or other
312 water available to the Project, can be made available to the Contractor in addition to the Contract
313 Total under Article 3 of this Contract during the Year without adversely impacting other Project
314 Contractors. At the request of the Contractor, the Contracting Officer will consult with the
315 Contractor prior to making such a determination. If the Contracting Officer determines that
316 Project Water, or other water available to the Project, can be made available to the Contractor,
317 the Contracting Officer will announce the availability of such water and shall so notify the
318 Contractor as soon as practical. The Contracting Officer will thereafter meet with the Contractor
319 and other Project Contractors capable of taking such water to determine the most equitable and
320 efficient allocation of such water. If the Contractor requests the delivery of any quantity of such
321 water, the Contracting Officer shall make such water available to the Contractor in accordance
322 with applicable statutes, regulations, guidelines, and policies.

323 [DIVISIONAL ISSUE-SECTION 215 WATER]

324 (g) The Contractor may request permission to reschedule for use during the
325 subsequent Year some or all of the Water Made Available to the Contractor during the current

¹² **Specific Contract Issue:** As an example, the concern over land use authority may be the subject of discussion with individual contractors.

326 Year, referred to as “carryover.”¹³ The Contractor may request permission to use during the
327 current Year a quantity of Project Water which may be made available by the United States to
328 the Contractor during the subsequent Year, referred to as “preuse.” The Contracting Officer’s
329 written approval may permit such uses in accordance with applicable statutes, regulations,
330 guidelines, and policies.

331 (h) The Contractor’s right pursuant to Federal Reclamation law and applicable
332 State law to the reasonable and beneficial use of Water Delivered pursuant to this Contract
333 during the term thereof and any subsequent renewal contracts, as described in Article 2 of this
334 Contract, during the terms thereof shall not be disturbed so long as the Contractor shall fulfill all
335 of its obligations under this Contract and any renewals thereof. Nothing in the preceding
336 sentence shall affect the Contracting Officer’s ability to impose shortages under Article 11 or
337 subdivision (b) of Article 12 of this Contract or applicable provisions of any subsequent renewal
338 contracts.

339 (i) Project Water furnished to the Contractor pursuant to this Contract may be
340 delivered for purposes other than those described in subdivisions (m) and (o) of Article 1 of this
341 Contract upon written approval by the Contracting Officer in accordance with the terms and
342 conditions of such approval.

343 (j) The Contracting Officer shall make reasonable efforts to protect the water
344 rights necessary for the Project and to provide the water available under this Contract. The
345 Contracting Officer shall not object to participation by the Contractor, in the capacity and to the
346 extent permitted by law, in administrative proceedings related to the Project Water rights;
347 Provided, That the Contracting Officer retains the right to object to the substance of the

¹³ “Rescheduled” in some divisions.

348 Contractor's position in such a proceeding; Provided further, That in such proceedings the
349 Contracting Officer shall recognize the Contractor has a legal right under the terms of this
350 Contract to use Project Water.

351 TIME FOR DELIVERY OF WATER

352 4. (a) On or about February 20 of each Calendar Year, the Contracting Officer
353 shall announce the Contracting Officer's expected declaration of the Water Made Available.
354 Such declaration will be expressed in terms of both Water Made Available and the Recent
355 Historic Average and will be updated monthly, and more frequently if necessary, based on then-
356 current operational and hydrologic conditions and a new declaration with changes, if any, to the
357 Water Made Available will be made. The Contracting Officer shall provide forecasts of Project
358 operations and the basis of the estimate, with relevant supporting information, upon the written
359 request of the Contractor. Concurrently with the declaration of the Water Made Available, the
360 Contracting Officer shall provide the Contractor with the updated Recent Historic Average.

361 (b) On or before each March 1 and at such other times as necessary, the
362 Contractor shall submit to the Contracting Officer a written schedule, satisfactory to the
363 Contracting Officer, showing the monthly quantities of Project Water to be delivered by the
364 United States to the Contractor pursuant to this Contract for the Year commencing on such
365 March 1. The Contracting Officer shall use all reasonable means to deliver Project Water
366 according to the approved schedule for the Year commencing on such March 1.

367 (c) The Contractor shall not schedule Project Water in excess of the quantity
368 of Project Water the Contractor intends to put to reasonable and beneficial use within the
369 Contractor's Service Area or to sell, transfer, or exchange pursuant to Article 9 of this Contract
370 during any Year.

371 (d) Subject to the conditions set forth in subdivision (a) of Article 3 of this
372 Contract, the United States shall deliver Project Water to the Contractor in accordance with the
373 initial schedule submitted by the Contractor pursuant to subdivision (b) of this Article, or any
374 written revision(s), satisfactory to the Contracting Officer, thereto submitted within a reasonable
375 time prior to the date(s) on which the requested change(s) is/are to be implemented.

376 POINT OF DIVERSION AND RESPONSIBILITY FOR DISTRIBUTION OF WATER

377 5. (a) Project Water scheduled pursuant to subdivision (b) of Article 4 of this
378 Contract shall be delivered to the Contractor at _____ and any
379 additional point or points of delivery either on Project facilities or another location or locations
380 mutually agreed to in writing by the Contracting Officer and the Contractor.

381 (b) The Contracting Officer, either directly or through its written
382 agreement(s) with the Operating Non-Federal Entity/Entities [Contractor specific issue-reference
383 to Entities] shall make all reasonable efforts to maintain sufficient flows and levels of water in
384 Project facilities to deliver Project Water to the Contractor at specific turnouts established
385 pursuant to subdivision (a) of this Article.

386 (c) The Contractor shall deliver Irrigation Water in accordance with any
387 applicable land classification provisions of Federal Reclamation law and the associated
388 regulations. The Contractor shall not deliver Project Water to land outside the Contractor's
389 Service Area unless approved in advance by the Contracting Officer.

390 (d) All Water Delivered to the Contractor pursuant to this Contract shall be
391 measured and recorded with equipment furnished, installed, operated, and maintained by the
392 United States, or the Operating Non-Federal Entity/Entities ¹⁴ at the point or points of delivery

393 established pursuant to subdivision (a) of this Article. Upon the request of either party to this
394 Contract, the Contracting Officer shall investigate, or cause to be investigated by the appropriate
395 Operating Non-Federal Entity/Entities, the accuracy of such measurements and shall take any
396 necessary steps to adjust any errors appearing therein. For any period of time when accurate
397 measurements have not been made, the Contracting Officer shall consult with the Contractor and
398 the appropriate Operating Non-Federal Entity/Entities prior to making a final determination of
399 the quantity delivered for that period of time.

400 (e) Neither the Contracting Officer nor any Operating Non-Federal
401 Entity/Entities shall be responsible for the control, carriage, handling, use, disposal, or
402 distribution of Water Delivered to the Contractor pursuant to this Contract beyond the delivery
403 points specified in subdivision (a) of this Article. The Contractor shall indemnify the United
404 States, its officers, employees, agents, and assigns on account of damage or claim of damage of
405 any nature whatsoever for which there is legal responsibility, including property damage,
406 personal injury, or death arising out of or connected with the control, carriage, handling, use,
407 disposal, or distribution of such Water Delivered beyond such delivery points, except for any
408 damage or claim arising out of (i) acts or omissions of the Contracting Officer or any of its
409 officers, employees, agents, or assigns, including the Operating Non-Federal Entity/Entities, with
410 the intent of creating the situation resulting in any damage or claim, (ii) willful misconduct of the
411 Contracting Officer or any of its officers, employees, agents, or assigns, including the Operating
412 Non-Federal Entity/Entities, (iii) negligence of the Contracting Officer or any of its officers,
413 employees, agents, or assigns including the Operating Non-Federal Entity/Entities, or (iv)
414 damage or claims resulting from a malfunction of facilities owned and/or operated by the United
415 States or the Operating Non-Federal Entity/Entities

416 MEASUREMENT OF WATER WITHIN THE CONTRACTOR'S SERVICE AREA¹⁵

417 6. (Contractor Specific)(a) The Contractor has established a measuring program
418 satisfactory to the Contracting Officer. The Contractor shall ensure that all surface water
419 delivered for irrigation purposes within the Contractor's Service Area is measured at each
420 agricultural turnout and such water delivered for M&I purposes is measured at each M&I service
421 connection. The water measuring devices or water measuring methods of comparable
422 effectiveness must be acceptable to the Contracting Officer. The Contractor shall be responsible
423 for installing, operating, and maintaining and repairing all such measuring devices and
424 implementing all such water measuring methods at no cost to the United States. The Contractor
425 shall use the information obtained from such water measuring devices or water measuring
426 methods to ensure its proper management of the water, to bill water users for water delivered by
427 the Contractor; and, if applicable, to record water delivered for M&I purposes by customer class
428 as defined in the Contractor's water conservation plan provided for in Article 26 of this Contract.
429 Nothing herein contained, however, shall preclude the Contractor from establishing and
430 collecting any charges, assessments, or other revenues authorized by California law. The
431 Contractor shall include a summary of all its annual surface water deliveries in the annual report
432 described in subdivision (c) of Article 26.

433 (b) (Contractor Specific) To the extent the information has not otherwise
434 been provided, upon execution of this Contract, the Contractor shall provide to the Contracting
435 Officer a written report describing the measurement devices or water measuring methods being
436 used or to be used to implement subdivision (a) of this Article and identifying the agricultural
437 turnouts and the M&I service connections or alternative measurement programs approved by the

¹⁵ Recognize unique circumstances at Contractor level may require negotiation of different language.

438 Contracting Officer, at which such measurement devices or water measuring methods are being
439 used, and, if applicable, identifying the locations at which such devices and/or methods are not
440 yet being used including a time schedule for implementation at such locations. The Contracting
441 Officer shall advise the Contractor in writing within 60 days as to the adequacy and necessary
442 modifications, if any, of the measuring devices or water measuring methods identified in the
443 Contractor's report and if the Contracting Officer does not respond in such time, they shall be
444 deemed adequate. If the Contracting Officer notifies the Contractor that the measuring devices
445 or methods are inadequate, the parties shall within 60 days following the Contracting Officer's
446 response, negotiate in good faith the earliest practicable date by which the Contractor shall
447 modify said measuring devices and/or measuring methods as required by the Contracting Officer
448 to ensure compliance with subdivision (a) of this Article.

449 (c) All new surface water delivery systems installed within the Contractor's
450 Service Area after the effective date of this Contract shall also¹⁶ comply with the measurement
451 provisions described in subdivision (a) of this Article.

452 (d) (Contractor Specific) The Contractor shall inform the Contracting Officer
453 and the State of California in writing by April 30 of each Year of the monthly volume of surface
454 water delivered within the Contractor's Service Area during the previous Year.

455 (e) (Contractor Specific) The Contractor shall inform the Contracting Officer
456 and the Operating Non-Federal Entity on or before the 20th calendar day of each month of the
457 quantity of Irrigation and M&I Water taken during the preceding month.

458 RATES AND METHOD OF PAYMENT FOR WATER

459 7. (a) The Contractor shall pay the United States as provided in this Article for

¹⁶ Some Contractors may propose alternate date.

460 all Delivered Water at Rates, Charges, and the Tiered Pricing Component established in
461 accordance with (i) the Secretary's ratesetting policy for Irrigation Water adopted in 1988 and
462 the Secretary's then-existing ratesetting policy for M&I Water. Such ratesetting policies shall be
463 amended, modified, or superceded only through a public notice and comment procedure; (ii)
464 applicable Federal Reclamation law and associated rules and regulations, or policies; and (iii)
465 other applicable provisions of this Contract. Payments shall be made by cash transaction,
466 electronic funds transfer, or any other mechanism as may be agreed to in writing by the
467 Contractor and the Contracting Officer. The Rates, Charges, and Tiered Pricing Component
468 applicable to the Contractor upon execution of this Contract are set forth in Exhibit "B," as may
469 be revised annually.

470 (b) The Contracting Officer shall notify the Contractor of the Rates, Charges,
471 and Tiered Pricing Component as follows:

472 (1) Prior to July 1 of each Calendar Year, the Contracting Officer shall
473 provide the Contractor an estimate of the Charges for Project Water that will be applied to the
474 period October 1, of the current Calendar Year, through September 30, of the following Calendar
475 Year, and the basis for such estimate. The Contractor shall be allowed not less than two months
476 to review and comment on such estimates. On or before September 15 of each Calendar Year,
477 the Contracting Officer shall notify the Contractor in writing of the Charges to be in effect during
478 the period October 1 of the current Calendar Year, through September 30, of the following
479 Calendar Year, and such notification shall revise Exhibit "B."

480 (2) Prior to October 1 of each Calendar Year, the Contracting Officer
481 shall make available to the Contractor an estimate of the Rates and Tiered Pricing Component
482 for Project Water for the following Year and the computations and cost allocations upon which

R.O. FINAL 4/19-2004
R.O. FINAL 1/20-2004 Redline
R.O. FINAL 6/10-2003
R.O. Draft 5/19-2003
R. O. Draft 5/09-2003
R.O. Draft 11/01-2000
CVP-Wide Form 11-05
Contract No. _____ - LTR1

483 those Rates are based. The Contractor shall be allowed not less than two months to review and
484 comment on such computations and cost allocations. By December 31 of each Calendar Year,
485 the Contracting Officer shall provide the Contractor with the final Rates and Tiered Pricing
486 Component to be in effect for the upcoming Year, and such notification shall revise Exhibit "B."

487 (c) At the time the Contractor submits the initial schedule for the delivery of
488 Project Water for each Year pursuant to subdivision (b) of Article 4 of this Contract, the
489 Contractor shall make an advance payment to the United States equal to the total amount payable
490 pursuant to the applicable Rate(s) set under subdivision (a) of this Article, for the Project Water
491 scheduled to be delivered pursuant to this Contract during the first two calendar months of the
492 Year. Before the end of the first month and before the end of each calendar month thereafter, the
493 Contractor shall make an advance payment to the United States, at the Rate(s) set under
494 subdivision (a) of this Article, for the Water Scheduled to be delivered pursuant to this Contract
495 during the second month immediately following. Adjustments between advance payments for
496 Water Scheduled and payments at Rates due for Water Delivered shall be made before the end of
497 the following month; Provided, That any revised schedule submitted by the Contractor pursuant
498 to Article 4 of this Contract which increases the amount of Water Delivered pursuant to this
499 Contract during any month shall be accompanied with appropriate advance payment, at the Rates
500 then in effect, to assure that Project Water is not delivered to the Contractor in advance of such
501 payment. In any month in which the quantity of Water Delivered to the Contractor pursuant to
502 this Contract equals the quantity of Water Scheduled and paid for by the Contractor, no
503 additional Project Water shall be delivered to the Contractor unless and until an advance
504 payment at the Rates then in effect for such additional Project Water is made. Final adjustment
505 between the advance payments for the Water Scheduled and payments for the quantities of Water

506 Delivered during each Year pursuant to this Contract shall be made as soon as practicable, but no
507 later than April 30th of the following Year, or 60 days after the delivery of Project Water carried
508 over under subdivision (g) of Article 3 of this Contract if such water is not delivered by the last
509 day of February.

510 (d) The Contractor shall also make a payment in addition to the Rate(s) in
511 subdivision (c) of this Article to the United States for Water Delivered, at the Charges and the
512 appropriate Tiered Pricing Component then in effect, before the end of the month following the
513 month of delivery; Provided, That the Contractor may be granted an exception from the Tiered
514 Pricing Component pursuant to subdivision (j)(2) of this Article. The payments shall be
515 consistent with the quantities of Irrigation Water and M&I Water Delivered as shown in the
516 water delivery report for the subject month prepared by the Operating Non-Federal
517 Entity/Entities or, if there is no Operating Non-Federal Entity/Entities, by the Contracting
518 Officer. The water delivery report shall be deemed a bill for the payment of Charges and the
519 applicable Tiered Pricing Component for Water Delivered. Adjustment for overpayment or
520 underpayment of Charges shall be made through the adjustment of payments due to the United
521 States for Charges for the next month. Any amount to be paid for past due payment of Charges
522 and the Tiered Pricing Component shall be computed pursuant to Article 20 of this Contract.

523 (e) The Contractor shall pay for any Water Delivered under subdivision (a),
524 (f), or (g) of Article 3 of this Contract as determined by the Contracting Officer pursuant to
525 applicable statutes, associated regulations, any applicable provisions of guidelines or ratesetting
526 policies; Provided, That the Rate for Water Delivered under subdivision (f) of Article 3 of this
527 Contract shall be no more than the otherwise applicable Rate for Irrigation Water or M&I Water
528 under subdivision (a) of this Article.

529 (f) Payments to be made by the Contractor to the United States under this
530 Contract may be paid from any revenues available to the Contractor.

531 (g) All revenues received by the United States from the Contractor relating to
532 the delivery of Project Water or the delivery of non-Project water through Project facilities shall
533 be allocated and applied in accordance with Federal Reclamation law and the associated rules or
534 regulations, and the then-current Project ratesetting policies for M&I Water or Irrigation Water.

535 (h) The Contracting Officer shall keep its accounts pertaining to the
536 administration of the financial terms and conditions of its long-term contracts, in accordance
537 with applicable Federal standards, so as to reflect the application of Project costs and revenues.
538 The Contracting Officer shall, each Year upon request of the Contractor, provide to the
539 Contractor a detailed accounting of all Project and Contractor expense allocations, the
540 disposition of all Project and Contractor revenues, and a summary of all water delivery
541 information. The Contracting Officer and the Contractor shall enter into good faith negotiations
542 to resolve any discrepancies or disputes relating to accountings, reports, or information.

543 (i) The parties acknowledge and agree that the efficient administration of this
544 Contract is their mutual goal. Recognizing that experience has demonstrated that mechanisms,
545 policies, and procedures used for establishing Rates, Charges, and Tiered Pricing Components,
546 and/or for making and allocating payments, other than those set forth in this Article may be in
547 the mutual best interest of the parties, it is expressly agreed that the parties may enter into
548 agreements to modify the mechanisms, policies, and procedures for any of those purposes while
549 this Contract is in effect without amending this Contract.

550 (j) (1) Beginning at such time as deliveries of Project Water in a Year
551 exceed 80 percent of the Contract Total, then before the end of the month following the month of

552 delivery the Contractor shall make an additional payment to the United States equal to the
553 applicable Tiered Pricing Component. The Tiered Pricing Component for the amount of Water
554 Delivered in excess of 80 percent of the Contract Total, but less than or equal to 90 percent of the
555 Contract Total, shall equal one-half of the difference between the Rate established under
556 subdivision (a) of this Article and the Irrigation Full Cost Water Rate or M&I Full Cost Water
557 Rate, whichever is applicable. The Tiered Pricing Component for the amount of Water
558 Delivered which exceeds 90 percent of the Contract Total shall equal the difference between (i)
559 the Rate established under subdivision (a) of this Article and (ii) the Irrigation Full Cost Water
560 Rate or M&I Full Cost Water Rate, whichever is applicable. For all Water Delivered pursuant to
561 subdivision (a) of Article 3 of this Contract which is in excess of 80 percent of the Contract
562 Total, this increment shall be deemed to be divided between Irrigation Water and M&I Water in
563 the same proportion as actual deliveries of each bear to the cumulative total Water Delivered.¹⁷

564 (2) Subject to the Contracting Officer's written approval, the
565 Contractor may request and receive an exemption from such Tiered Pricing Components for
566 Project Water delivered to produce a crop which the Contracting Officer determines will provide
567 significant and quantifiable habitat values for waterfowl in fields where the water is used and the
568 crops are produced; Provided, That the exemption from the Tiered Pricing Component for
569 Irrigation Water shall apply only if such habitat values can be assured consistent with the
570 purposes of the CVPIA through binding agreements executed with or approved by the
571 Contracting Officer prior to use of such water.

572 (3) For purposes of determining the applicability of the Tiered Pricing
573 Component pursuant to this Article, Water Delivered shall include Project Water that the

¹⁷ Deletion of the last sentence or alternate language may be negotiated by individual districts.

574 Contractor transfers to others but shall not include Project Water transferred to the Contractor,
575 nor shall it include the additional water provided to the Contractor under the provisions of
576 subdivision (f) of Article 3 of this Contract.¹⁸

577 (k) For the term of this Contract, Rates under the respective ratesetting
578 policies will be established to recover only reimbursable O&M (including any deficits) and
579 capital costs of the Project, as those terms are used in the then-current Project ratesetting
580 policies, and interest, where appropriate, except in instances where a minimum Rate is applicable
581 in accordance with the relevant Project ratesetting policy. Changes of significance in practices
582 which implement the Contracting Officer's ratesetting policies will not be implemented until the
583 Contracting Officer has provided the Contractor an opportunity to discuss the nature, need, and
584 impact of the proposed change.

585 (l) Except as provided in subsections 3405(a)(1)(B) and 3405(f) of the
586 CVPIA, the Rates for Project Water transferred by the Contractor shall be the Contractor's Rates
587 adjusted upward or downward to reflect the changed costs, if any, incurred by the Contracting
588 Officer in the delivery of the transferred Project Water to the transferee's point of delivery in
589 accordance with the then applicable Project ratesetting policy. If the Contractor is receiving
590 lower Rates and Charges because of inability to pay and is transferring Project Water to another
591 entity whose Rates and Charges are not adjusted due to inability to pay, the Rates and Charges
592 for transferred Project Water shall be the Contractor's Rates and Charges and will not be
593 adjusted to reflect the Contractor's inability to pay.

594 (m) Pursuant to the Act of October 27, 1986 (100 Stat. 3050), the Contracting
595 Officer is authorized to adjust determinations of ability to pay every five years.

¹⁸ **Divisions/Districts may propose alternative language.**

596 (n) [For contractors with M&I water]: With respect to the Rates for M&I
597 Water the Contractor asserts that it is not legally obligated to pay any Project deficits claimed by
598 the United States to have accrued as of the date of this Contract or deficit-related interest charges
599 thereon. By entering into this Contract, the Contractor does not waive any legal rights or
600 remedies that it may have with respect to such disputed issues. Notwithstanding the execution of
601 this Contract and payments made hereunder, the Contractor may challenge in the appropriate
602 administrative or judicial forums: (1) the existence, computation, or imposition of any deficit
603 charges accruing during the term of the Existing Contract and any preceding interim renewal
604 contracts, if applicable; (2) interest accruing on any such deficits; (3) the inclusion of any such
605 deficit charges or interest in the Rates; (4) the application by the United States of payments made
606 by the Contractor under its Existing Contract and any preceding interim renewal contracts, if
607 applicable; and (5) the application of such payments in the Rates. The Contracting Officer
608 agrees that the Contractor shall be entitled to the benefit of any administrative or judicial ruling
609 in favor of any Project M&I contractor on any of these issues, and credits for payments
610 heretofore made, Provided, That the basis for such ruling is applicable to the Contractor.¹⁹

611 NON-INTEREST BEARING OPERATION AND MAINTENANCE DEFICITS²⁰

612 8. The Contractor and the Contracting Officer concur that, as of the effective date of
613 this Contract, the Contractor has no non-interest-bearing O&M deficits and shall have no further
614 liability therefor.

615 [Or,]

616 The Contractor and the Contracting Officer have entered into a written agreement

¹⁹ Contractors may opt-out of including this subarticle in the contract.

²⁰ Contractor Specific

617 specifying a mutually acceptable mechanism through which the Contractor will retire its
618 outstanding non-interest-bearing OO&M deficits.

619 SALES, TRANSFERS, OR EXCHANGES OF WATER

620 9. (a) The right to receive Project Water provided for in this Contract may be
621 sold, transferred, or exchanged to others for reasonable and beneficial uses within the State of
622 California if such sale, transfer, or exchange is authorized by applicable Federal and State laws,
623 and applicable guidelines or regulations then in effect. No sale, transfer, or exchange of Project
624 Water under this Contract may take place without the prior written approval of the Contracting
625 Officer, except as provided for in subdivision (b) of this Article, and no such sales, transfers, or
626 exchanges shall be approved absent all appropriate environmental documentation, including but
627 not limited to documents prepared pursuant to NEPA and ESA. Such environmental
628 documentation should include, as appropriate, an analysis of groundwater impacts and economic
629 and social effects, including environmental justice, of the proposed water transfers on both the
630 transferor and transferee.

631 (b) In order to facilitate efficient water management by means of water
632 transfers of the type historically carried out among Project Contractors located within the same
633 geographical area and to allow the Contractor to participate in an accelerated water transfer
634 program during the term of this Contract, the Contracting Officer shall prepare, as appropriate,
635 all necessary environmental documentation including, but not limited to, documents prepared
636 pursuant to NEPA and ESA, analyzing annual transfers within such geographical areas, and the
637 Contracting Officer shall determine whether such transfers comply with applicable law.
638 Following the completion of the environmental documentation, such transfers addressed in such
639 documentation shall be conducted with advance notice to the Contracting Officer, but shall not

640 require prior written approval by the Contracting Officer. Such environmental documentation
641 and the Contracting Officer's compliance determination shall be reviewed every five years and
642 updated, as necessary, prior to the expiration of the then-existing five-year period. All
643 subsequent environmental documentation shall include an alternative to evaluate not less than the
644 quantity of Project Water historically transferred within the same geographical area.

645 (c) For a water transfer to qualify under subdivision (b) of this Article, such
646 water transfer must: (i) be for irrigation purposes for lands irrigated within the previous three
647 years, for M&I use, groundwater recharge, water banking, or fish and wildlife resources; not lead
648 to land conversion; and be delivered to established cropland, wildlife refuges, groundwater
649 basins or M&I use; (ii) occur within a single Year; (iii) occur between a willing seller and a
650 willing buyer; (iv) convey water through existing facilities with no new construction or
651 modifications to facilities and be between existing Project Contractors and/or the Contractor and
652 the United States, Department of the Interior; and (v) comply with all applicable Federal, State,
653 and local or tribal laws and requirements imposed for protection of the environment and Indian
654 Trust Assets, as defined under Federal law.

655 APPLICATION OF PAYMENTS AND ADJUSTMENTS

656 10. (a) The amount of any overpayment by the Contractor of the Contractor's
657 O&M, capital, and deficit (if any) obligations for the Year shall be applied first to any current
658 liabilities of the Contractor arising out of this Contract then due and payable. Overpayments of
659 more than \$1,000 shall be refunded at the Contractor's request. In lieu of a refund, any amount
660 of such overpayment, at the option of the Contractor, may be credited against amounts to become
661 due to the United States by the Contractor. With respect to overpayment, such refund or
662 adjustment shall constitute the sole remedy of the Contractor or anyone having or claiming to

663 have the right to the use of any of the Project Water supply provided for herein. All credits and
664 refunds of overpayments shall be made within 30 days of the Contracting Officer obtaining
665 direction as to how to credit or refund such overpayment in response to the notice to the
666 Contractor that it has finalized the accounts for the Year in which the overpayment was made.

667 (b) All advances for miscellaneous costs incurred for work requested by the
668 Contractor pursuant to Article 25 of this Contract shall be adjusted to reflect the actual costs
669 when the work has been completed. If the advances exceed the actual costs incurred, the
670 difference will be refunded to the Contractor. If the actual costs exceed the Contractor's
671 advances, the Contractor will be billed for the additional costs pursuant to Article 25.

672 TEMPORARY REDUCTIONS-RETURN FLOWS

673 11. (a) Subject to: (i) the authorized purposes and priorities of the Project and the
674 requirements of Federal law; and (ii) the obligations of the United States under existing
675 contracts, or renewals thereof, providing for water deliveries from the Project, the Contracting
676 Officer shall make all reasonable efforts to optimize Project Water deliveries to the Contractor as
677 provided in this Contract.

678 (b) The Contracting Officer or Operating Non-Federal Entity/Entities may
679 temporarily discontinue or reduce the quantity of Water Delivered to the Contractor as herein
680 provided for the purposes of investigation, inspection, maintenance, repair, or replacement of any
681 of the Project facilities or any part thereof necessary for the delivery of Project Water to the
682 Contractor, but so far as feasible the Contracting Officer or Operating Non-Federal Entity will
683 give the Contractor due notice in advance of such temporary discontinuance or reduction, except
684 in case of emergency, in which case no notice need be given; Provided, That the United States
685 shall use its best efforts to avoid any discontinuance or reduction in such service. Upon

686 resumption of service after such reduction or discontinuance, and if requested by the Contractor,
687 the United States will, if possible, deliver the quantity of Project Water which would have been
688 delivered hereunder in the absence of such discontinuance or reduction.

689 (c) The United States reserves the right to all seepage and return flow water
690 derived from Water Delivered to the Contractor hereunder which escapes or is discharged
691 beyond the Contractor's Service Area; Provided, That this shall not be construed as claiming for
692 the United States any right to seepage or return flow being put to reasonable and beneficial use
693 pursuant to this Contract within the Contractor's Service Area²¹ by the Contractor or those
694 claiming by, through, or under the Contractor.

695 CONSTRAINTS ON THE AVAILABILITY OF WATER

696 12. (a) In its operation of the Project, the Contracting Officer will use all
697 reasonable means to guard against a Condition of Shortage in the quantity of water to be made
698 available to the Contractor pursuant to this Contract. In the event the Contracting Officer
699 determines that a Condition of Shortage appears probable, the Contracting Officer will notify the
700 Contractor of said determination as soon as practicable.

701 (b) If there is a Condition of Shortage because of errors in physical operations
702 of the Project, drought, other physical causes beyond the control of the Contracting Officer or
703 actions taken by the Contracting Officer to meet legal obligations then, except as provided in
704 subdivision (a) of Article 18 of this Contract, no liability shall accrue against the United States or
705 any of its officers, agents, or employees for any damage, direct or indirect, arising therefrom.

706 (c) DIVISIONAL ISSUE - APPORTIONMENT AMONG CONTRACTORS.

707 (d) DIVISIONAL ISSUE - M&I Water Service Contracts

²¹ Divisions may propose alternate language

708 (e) DIVISIONAL ISSUE – Reservation of Rights re M&I Shortage Policy

709 UNAVOIDABLE GROUNDWATER PERCOLATION

710 13. To the extent applicable, the Contractor shall not be deemed to have delivered
711 Irrigation Water to Excess Lands or Ineligible Lands within the meaning of this Contract if such
712 lands are irrigated with groundwater that reaches the underground strata as an unavoidable result
713 of the delivery of Irrigation Water by the Contractor to Eligible Lands.

714 RULES AND REGULATIONS²²

715
716 14. The parties agree that the delivery of Irrigation Water or use of Federal facilities
717 pursuant to this Contract is subject to Federal Reclamation law, including but not limited to the
718 Reclamation Reform Act of 1982 (43 U.S.C.390aa et seq.), as amended and supplemented, and
719 the rules and regulations promulgated by the Secretary of the Interior under Federal Reclamation
720 law.

721 WATER AND AIR POLLUTION CONTROL

722
723 15. The Contractor, in carrying out this Contract, shall comply with all applicable
724 water and air pollution laws and regulations of the United States and the State of California, and
725 shall obtain all required permits or licenses from the appropriate Federal, State, or local
726 authorities.

727 QUALITY OF WATER²³

728
729 16. (a) Project facilities used to deliver Project Water to the Contractor pursuant
730 to this Contract shall be operated and maintained to enable the United States to deliver Project
731 Water to the Contractor in accordance with the water quality standards specified in subsection
732 2(b) of the Act of August 26, 1937 (50 Stat. 865), as added by Section 101 of the Act of October
733 27, 1986 (100 Stat. 3050) or other existing Federal laws. The United States is under no

²² Contractor Specific Issue - This may need to be modified on an individual contractor basis. Some contractors may be precluded by law to agreeing to all or part of this Article.

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734 obligation to construct or furnish water treatment facilities to maintain or to improve the quality
735 of Water Delivered to the Contractor pursuant to this Contract. The United States does not
736 warrant the quality of Water Delivered to the Contractor pursuant to this Contract.

737
738 (b) The O&M of Project facilities shall be performed in such manner as is
739 practicable to maintain the quality of raw water made available through such facilities at the
740 highest level reasonably attainable as determined by the Contracting Officer. The Contractor
741 shall be responsible for compliance with all State and Federal water quality standards applicable
742 to surface and subsurface agricultural drainage discharges generated through the use of Federal
743 or Contractor facilities or Project Water provided by the Contractor within the Contractor's
744 Service Area.

745
746 (c) [DIVISIONAL ISSUE – DRAINAGE, WHERE APPLICABLE]

747 WATER ACQUIRED BY THE CONTRACTOR
748 OTHER THAN FROM THE UNITED STATES

749 17. (a) Water or water rights now owned or hereafter acquired by the Contractor
750 other than from the United States and Irrigation Water furnished pursuant to the terms of this
751 Contract may be simultaneously transported through the same distribution facilities of the
752 Contractor subject to the following: (i) if the facilities utilized for commingling Irrigation Water
753 and non-Project water were constructed without funds made available pursuant to Federal
754 Reclamation law, the provisions of Federal Reclamation law will be applicable only to the
755 Landholders of lands which receive Irrigation Water; (ii) the eligibility of land to receive

²³ Some Contractors may request tailored language regarding water quality.

756 Irrigation Water must be established through the certification requirements as specified in the
757 Acreage Limitation Rules and Regulations (43 CFR Part 426); (iii) the water requirements of
758 Eligible Lands within the Contractor's Service Area can be established and the quantity of
759 Irrigation Water to be utilized is less than or equal to the quantity necessary to irrigate such
760 Eligible Lands; and (iv) if the facilities utilized for commingling Irrigation Water and non-
761 Project water are/were constructed with funds made available pursuant to Federal Reclamation
762 law, the non-Project water will be subject to the acreage limitation provisions of Federal
763 Reclamation law, unless the Contractor pays to the United States the incremental fee described in
764 43 CFR 426.15. In determining the incremental fee, the Contracting Officer will calculate
765 annually the cost to the Federal Government, including interest, of storing or delivering non-
766 Project water, which for purposes of this Contract shall be determined as follows: The quotient
767 shall be the unpaid distribution system costs divided by the total irrigable acreage within the
768 Contractor's Service Area. The incremental fee per acre is the mathematical result of such
769 quotient times the interest rate determined using Section 202 (3) of the Act of October 12, 1982
770 (96 Stat. 1263). Such incremental fee will be charged to each acre of excess or full cost land
771 within the Contractor's Service Area that receives non-Project water through Federally financed
772 or constructed facilities. The incremental fee calculation methodology will continue during the
773 term of this Contract absent the promulgation of a contrary Reclamation-wide rule, regulation, or
774 policy adopted after the Contractor has been afforded the opportunity to review and comment on
775 the proposed rule, regulation, or policy. If such rule, regulation, or policy is adopted it shall
776 supercede this provision.

777 (b) Water or water rights now owned or hereafter acquired by the Contractor,
778 other than from the United States, may be stored, conveyed, and/or diverted through Project

779 facilities, subject to the completion of appropriate environmental documentation, with the
780 approval of the Contracting Officer and the execution of any contract determined by the
781 Contracting Officer to be necessary, consistent with the following provisions:

782 (1) The Contractor may introduce non-Project water into Project
783 facilities and deliver said water to lands within the Contractor's Service Area, including
784 Ineligible Lands, subject to payment to the United States and/or to any applicable Operating
785 Non-Federal Entity of an appropriate rate as determined by the applicable Project ratesetting
786 policy, the R R A, and the Project use power policy, if such Project use power policy is
787 applicable, each as amended, modified, or superceded from time to time.

(2) Delivery of such
788 or quality of water available to other Project Contractors; (iii) interfere with the delivery of
789 contractual water entitlements to any other Project Contractors; or (iv) interfere with the physical
790 maintenance of the Project facilities.

791 (3) Neither the United States nor the Operating Non-Federal Entity
792 shall be responsible for control, care, or distribution of the non-Project water before it is
793 introduced into or after it is delivered from the Project facilities. The Contractor hereby releases
794 and agrees to defend and indemnify the United States and the Operating Non-Federal Entity, and
795 their respective officers, agents, and employees, from any claim for damage to persons or
796 property, direct or indirect, resulting from the acts of the Contractor, its officers', employees',
797 agents' or assigns', act(s) in (i) extracting or diverting non-Project water from any source, or (ii)
798 diverting such non-Project water into Project facilities.

799 (4) Diversion of such non-Project water into Project facilities shall be
800 consistent with all applicable laws, and if involving groundwater, consistent with any applicable
801 groundwater management plan for the area from which it was extracted.

802 (5) After Project purposes are met, as determined by the Contracting
803 Officer, the United States and the Contractor shall share priority to utilize the remaining capacity
804 of the facilities declared to be available by the Contracting Officer for conveyance and
805 transportation of non-Project water prior to any such remaining capacity being made available to
806 non-Project contractors. [DIVISIONAL ISSUE – DIVISIONS MAY SEEK LANGUAGE
807 PROVIDING FOR WHEELING AND NON-PROJECT WATER PURSUANT TO CVPIA
808 SECTION 3408(c), ETC.]

809 OPINIONS AND DETERMINATIONS

810 18. (a) Where the terms of this Contract provide for actions to be based upon the
811 opinion or determination of either party to this Contract, said terms shall not be construed as
812 permitting such action to be predicated upon arbitrary, capricious, or unreasonable opinions or
813 determinations. Both parties, notwithstanding any other provisions of this Contract, expressly
814 reserve the right to seek relief from and appropriate adjustment for any such arbitrary, capricious,
815 or unreasonable opinion or determination. Each opinion or determination by either party shall be
816 provided in a timely manner. Nothing in subdivision (a) of Article 18 of this Contract is
817 intended to or shall affect or alter the standard of judicial review applicable under Federal law to
818 any opinion or determination implementing a specific provision of Federal law embodied in
819 statute or regulation.

820 (b) The Contracting Officer shall have the right to make determinations
821 necessary to administer this Contract that are consistent with the provisions of this Contract, the
822 laws of the United States and of the State of California, and the rules and regulations
823 promulgated by the Secretary of the Interior. Such determinations shall be made in consultation
824 with the Contractor to the extent reasonably practicable.

825 COORDINATION AND COOPERATION

826 19. (a) In order to further their mutual goals and objectives, the Contracting
827 Officer and the Contractor shall communicate, coordinate, and cooperate with each other, and
828 with other affected Project Contractors, in order to improve the operation and management of the
829 Project. The communication, coordination, and cooperation regarding operations and
830 management shall include, but not be limited to, any action which will or may materially affect
831 the quantity or quality of Project Water supply, the allocation of Project Water supply, and
832 Project financial matters including, but not limited to, budget issues. The communication,
833 coordination, and cooperation provided for hereunder shall extend to all provisions of this
834 Contract. Each party shall retain exclusive decision making authority for all actions, opinions,
835 and determinations to be made by the respective party.

836 (b) Within 120 days following the effective date of this Contract, the
837 Contractor, other affected Project Contractors, and the Contracting Officer shall arrange to meet
838 with interested Project Contractors to develop a mutually agreeable, written Project-wide
839 process, which may be amended as necessary separate and apart from this Contract. The goal of
840 this process shall be to provide, to the extent practicable, the means of mutual communication
841 and interaction regarding significant decisions concerning Project operation and management on
842 a real-time basis.

843 (c) In light of the factors referred to in subdivision (b) of Article 3 of this
844 Contract, it is the intent of the Secretary to improve water supply reliability. To carry out this
845 intent:

846 (1) The Contracting Officer will, at the request of the Contractor,
847 assist in the development of integrated resource management plans for the Contractor. Further,

848 the Contracting Officer will, as appropriate, seek authorizations for implementation of
849 partnerships to improve water supply, water quality, and reliability.

850 (2) The Secretary will, as appropriate, pursue program and project
851 implementation and authorization in coordination with Project Contractors to improve the water
852 supply, water quality, and reliability of the Project for all Project purposes.

853 (3) The Secretary will coordinate with Project Contractors and the
854 State of California to seek improved water resource management.

855 (4) The Secretary will coordinate actions of agencies within the
856 Department of the Interior that may impact the availability of water for Project purposes.

857 (5) The Contracting Officer shall periodically, but not less than
858 annually, hold division level meetings to discuss Project operations, division level water
859 management activities, and other issues as appropriate.

860 (d) Without limiting the contractual obligations of the Contracting Officer
861 under the other Articles of this Contract, nothing in this Article shall be construed to limit or
862 constrain the Contracting Officer's ability to communicate, coordinate, and cooperate with the
863 Contractor or other interested stakeholders or to make decisions in a timely fashion as needed to
864 protect health, safety, or the physical integrity of structures or facilities.

865 CHARGES FOR DELINQUENT PAYMENTS

866 20. (a) The Contractor shall be subject to interest, administrative and penalty
867 charges on delinquent installments or payments. When a payment is not received by the due
868 date, the Contractor shall pay an interest charge for each day the payment is delinquent beyond
869 the due date. When a payment becomes sixty (60) days delinquent, the Contractor shall pay an
870 administrative charge to cover additional costs of billing and processing the delinquent payment.
871 When a payment is delinquent ninety (90) days or more, the Contractor shall pay an additional
872 penalty charge of six (6%) percent per year for each day the payment is delinquent beyond the
873 due date. Further, the Contractor shall pay any fees incurred for debt collection services

874 associated with a delinquent payment.

875 (b) The interest charge rate shall be the greater of the rate prescribed quarterly
876 in the Federal Register by the Department of the Treasury for application to overdue payments,
877 or the interest rate of one-half of one (0.5%) percent per month prescribed by Section 6 of the
878 Reclamation Project Act of 1939 (Public Law 76-260). The interest charge rate shall be
879 determined as of the due date and remain fixed for the duration of the delinquent period.

880 (c) When a partial payment on a delinquent account is received, the amount
881 received shall be applied, first to the penalty, second to the administrative charges, third to the
882 accrued interest, and finally to the overdue payment.

883 EQUAL OPPORTUNITY

884 21. During the performance of this Contract, the Contractor agrees as follows:

885 (a) The Contractor will not discriminate against any employee or applicant for
886 employment because of race, color, religion, sex, or national origin. The Contractor will take
887 affirmative action to ensure that applicants are employed, and that employees are treated during
888 employment, without regard to their race, color, religion, sex, or national origin. Such action
889 shall include, but not be limited to, the following: Employment, upgrading, demotion, or
890 transfer; recruitment or recruitment advertising; layoff or termination, rates of payment or other
891 forms of compensation; and selection for training, including apprenticeship. The Contractor
892 agrees to post in conspicuous places, available to employees and applicants for employment,
893 notices to be provided by the Contracting Officer setting forth the provisions of this
894 nondiscrimination clause.

895 (b) The Contractor will, in all solicitations or advertisements for employees
896 placed by or on behalf of the Contractor, state that all qualified applicants will receive
897 consideration for employment without discrimination because of race, color, religion, sex, or
898 national origin.

899 (c) The Contractor will send to each labor union or representative of workers
900 with which it has a collective bargaining agreement or other contract or understanding, a notice,
901 to be provided by the Contracting Officer, advising the said labor union or workers'
902 representative of the Contractor's commitments under Section 202 of Executive Order 11246 of
903 September 24, 1965, and shall post copies of the notice in conspicuous places available to
904 employees and applicants for employment.

905 (d) The Contractor will comply with all provisions of Executive Order

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906 No. 11246 of September 24, 1965, as amended, and of the rules, regulations, and relevant orders
907 of the Secretary of Labor.

908 (e) The Contractor will furnish all information and reports required by said
909 amended Executive Order and by the rules, regulations, and orders of the Secretary of Labor, or
910 pursuant thereto, and will permit access to its books, records, and accounts by the Contracting
911 Officer and the Secretary of Labor for purposes of investigation to ascertain compliance with
912 such rules, regulations, and orders.

913 (f) In the event of the Contractor's noncompliance with the nondiscrimination
914 clauses of this Contract or with any of the said rules, regulations, or orders, this Contract may be
915 canceled, terminated, or suspended, in whole or in part, and the Contractor may be declared
916 ineligible for further Government contracts in accordance with procedures authorized in said
917 amended Executive Order, and such other sanctions may be imposed and remedies invoked as
918 provided in said Executive Order, or by rule, regulation, or order of the Secretary of Labor, or as
919 otherwise provided by law.

920 (g) The Contractor will include the provisions of paragraphs (a) through (g) in
921 every subcontract or purchase order unless exempted by the rules, regulations, or orders of the
922 Secretary of Labor issued pursuant to Section 204 of said amended Executive Order, so that such
923 provisions will be binding upon each subcontractor or vendor. The Contractor will take such
924 action with respect to any subcontract or purchase order as may be directed by the Secretary of
925 Labor as a means of enforcing such provisions, including sanctions for noncompliance:
926 Provided, however, That in the event the Contractor becomes involved in, or is threatened with,
927 litigation with a subcontractor or vendor as a result of such direction, the Contractor may request
928 the United States to enter into such litigation to protect the interests of the United States.

929 GENERAL OBLIGATION--BENEFITS CONDITIONED UPON PAYMENT

930 22. (a) The obligation of the Contractor to pay the United States as provided in
931 this Contract is a general obligation of the Contractor notwithstanding the manner in which the
932 obligation may be distributed among the Contractor's water users and notwithstanding the default
933 of individual water users in their obligations to the Contractor.

934 (b) The payment of charges becoming due hereunder is a condition precedent
935 to receiving benefits under this Contract. The United States shall not make water available to the
936 Contractor through Project facilities during any period in which the Contractor may be in arrears
937 in the advance payment of water rates due the United States. The Contractor shall not furnish
938 water made available pursuant to this Contract for lands or parties which are in arrears in the
939 advance payment of water rates levied or established by the Contractor.

940 (c) With respect to subdivision (b) of this Article, the Contractor shall have no
941 obligation to require advance payment for water rates which it levies.

942 COMPLIANCE WITH CIVIL RIGHTS LAWS AND REGULATIONS

943 23. (a) The Contractor shall comply with Title VI of the Civil Rights Act of 1964
944 (42 U.S.C. 2000d), Section 504 of the Rehabilitation Act of 1975 (P.L. 93-112, as amended), the
945 Age Discrimination Act of 1975 (42 U.S.C. 6101, et seq.) and any other applicable civil rights
946 laws, as well as with their respective implementing regulations and guidelines imposed by the
947 U.S. Department of the Interior and/or Bureau of Reclamation.

948 (b) These statutes require that no person in the United States shall, on the
949 grounds of race, color, national origin, handicap, or age, be excluded from participation in, be
950 denied the benefits of, or be otherwise subjected to discrimination under any program or activity
951 receiving financial assistance from the Bureau of Reclamation. By executing this Contract, the
952 Contractor agrees to immediately take any measures necessary to implement this obligation,
953 including permitting officials of the United States to inspect premises, programs, and documents.

954 (c) The Contractor makes this agreement in consideration of and for the
955 purpose of obtaining any and all Federal grants, loans, contracts, property discounts, or other
956 Federal financial assistance extended after the date hereof to the Contractor by the Bureau of
957 Reclamation, including installment payments after such date on account of arrangements for
958 Federal financial assistance which were approved before such date. The Contractor recognizes
959 and agrees that such Federal assistance will be extended in reliance on the representations and
960 agreements made in this Article, and that the United States reserves the right to seek judicial
961 enforcement thereof.

962 PRIVACY ACT COMPLIANCE

963 24. (a) The Contractor shall comply with the Privacy Act of 1974 (5 U.S.C. 552a)
964 (the Act) and the Department of the Interior rules and regulations under the Act (43 CFR 2.45 et
965 seq.) in maintaining Landholder acreage certification and reporting records, required to be
966 submitted to the Contractor for compliance with Sections 206 and 228 of the Reclamation
967 Reform Act of 1982 (96 Stat. 1266), and pursuant to 43 CFR 426.18.

968 (b) With respect to the application and administration of the criminal penalty
969 provisions of the Act (5 U.S.C. 552a(i)), the Contractor and the Contractor's employees
970 responsible for maintaining the certification and reporting records referenced in (a) above are

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971 considered to be employees of the Department of the Interior. See 5 U.S.C. 552a(m).

972 (c) The Contracting Officer or a designated representative shall provide the
973 Contractor with current copies of the Interior Department Privacy Act regulations and the Bureau
974 of Reclamation Federal Register Privacy Act System of Records Notice (Acreage Limitation--
975 Interior, Reclamation-31) which govern the maintenance, safeguarding, and disclosure of
976 information contained in the Landholder's certification and reporting records.

977 (d) The Contracting Officer shall designate a full-time employee of the
978 Bureau of Reclamation to be the System Manager who shall be responsible for making decisions
979 on denials pursuant to 43 CFR 2.61 and 2.64 amendment requests pursuant to 43 CFR 2.72. The
980 Contractor is authorized to grant requests by individuals for access to their own records.

981 (e) The Contractor shall forward promptly to the System Manager each
982 proposed denial of access under 43 CFR 2.64; and each request for amendment of records filed
983 under 43 CFR 2.71; notify the requester accordingly of such referral; and provide the System
984 Manager with information and records necessary to prepare an appropriate response to the
985 requester. These requirements do not apply to individuals seeking access to their own
986 certification and reporting forms filed with the Contractor pursuant to 43 CFR 426.18, unless the
987 requester elects to cite the Privacy Act as a basis for the request.

988
989 CONTRACTOR TO PAY CERTAIN MISCELLANEOUS COSTS

990 25. In addition to all other payments to be made by the Contractor pursuant to this
991 Contract, the Contractor shall pay to the United States, within 60 days after receipt of a bill and
992 detailed statement submitted by the Contracting Officer to the Contractor for such specific items
993 of direct cost incurred by the United States for work requested by the Contractor associated with
994 this Contract plus indirect costs in accordance with applicable Bureau of Reclamation policies
995 and procedures. All such amounts referred to in this Article shall not exceed the amount agreed
996 to in writing in advance by the Contractor. This Article shall not apply to costs for routine
997 contract administration.

998 WATER CONSERVATION

999 26. (a) Prior to the delivery of water provided from or conveyed through

1000 Federally constructed or Federally financed facilities pursuant to this Contract, the Contractor
1001 shall be implementing an effective water conservation and efficiency program based on the
1002 Contractor's water conservation plan that has been determined by the Contracting Officer to meet
1003 the conservation and efficiency criteria for evaluating water conservation plans established under
1004 Federal law. The water conservation and efficiency program shall contain definite water
1005 conservation objectives, appropriate economically feasible water conservation measures, and
1006 time schedules for meeting those objectives. Continued Project Water delivery pursuant to this
1007 Contract shall be contingent upon the Contractor's continued implementation of such water
1008 conservation program. In the event the Contractor's water conservation plan or any revised water
1009 conservation plan completed pursuant to subdivision (d) of Article 26 of this Contract have not
1010 yet been determined by the Contracting Officer to meet such criteria, due to circumstances which
1011 the Contracting Officer determines are beyond the control of the Contractor, water deliveries
1012 shall be made under this Contract so long as the Contractor diligently works with the Contracting
1013 Officer to obtain such determination at the earliest practicable date, and thereafter the Contractor
1014 immediately begins implementing its water conservation and efficiency program in accordance
1015 with the time schedules therein.

1016 (b) Should the amount of M&I Water delivered pursuant to subdivision (a) of
1017 Article 3 of this Contract equal or exceed 2,000 acre-feet per Year, the Contractor shall
1018 implement the Best Management Practices identified by the time frames issued by the California
1019 Urban Water Conservation Council for such M&I Water unless any such practice is determined
1020 by the Contracting Officer to be inappropriate for the Contractor.

1021 (c) The Contractor shall submit to the Contracting Officer a report on the
1022 status of its implementation of the water conservation plan on the reporting dates specified in the

1023 then existing conservation and efficiency criteria established under Federal law.

1024 (d) At five-year intervals, the Contractor shall revise its water conservation
1025 plan to reflect the then-current conservation and efficiency criteria for evaluating water
1026 conservation plans established under Federal law and submit such revised water management
1027 plan to the Contracting Officer for review and evaluation. The Contracting Officer will then
1028 determine if the water conservation plan meets Reclamation's then-current conservation and
1029 efficiency criteria for evaluating water conservation plans established under Federal law.

1030 (e) If the Contractor is engaged in direct groundwater recharge, such activity
1031 shall be described in the Contractor's water conservation plan.

1032 EXISTING OR ACQUIRED WATER OR WATER RIGHTS

1033 27. Except as specifically provided in Article 17 of this Contract, the provisions of
1034 this Contract shall not be applicable to or affect non-Project water or water rights now owned or
1035 hereafter acquired by the Contractor or any user of such water within the Contractor's Service
1036 Area. Any such water shall not be considered Project Water under this Contract. In addition,
1037 this Contract shall not be construed as limiting or curtailing any rights which the Contractor or
1038 any water user within the Contractor's Service Area acquires or has available under any other
1039 contract pursuant to Federal Reclamation law.

1040 OPERATION AND MAINTENANCE BY OPERATING NON-FEDERAL ENTITY²⁴

1041 28. (a) The O&M of a portion of the Project facilities which serve the Contractor,
1042 and responsibility for funding a portion of the costs of such O&M, have been transferred to the
1043 Operating Non-Federal Entity by separate agreement between the United States and the

²⁴ Include where applicable.

1044 Operating Non-Federal Entity. That separate agreement shall not interfere with or affect the
1045 rights or obligations of the Contractor or the United States hereunder.

1046 (b) The Contracting Officer has previously notified the Contractor in writing
1047 that the O&M of a portion of the Project facilities which serve the Contractor has been
1048 transferred to the Operating Non-Federal Entity, and therefore, the Contractor shall pay directly
1049 to the Operating Non-Federal Entity, or to any successor approved by the Contracting Officer
1050 under the terms and conditions of the separate agreement between the United States and the
1051 Operating Non-Federal Entity described in subdivision (a) of this Article, all rates, charges, or
1052 assessments of any kind, including any assessment for reserve funds, which the Operating Non-
1053 Federal Entity or such successor determines, sets, or establishes for the O&M of the portion of
1054 the Project facilities operated and maintained by the Operating Non-Federal Entity or such
1055 successor. Such direct payments to the Operating Non-Federal Entity or such successor shall not
1056 relieve the Contractor of its obligation to pay directly to the United States the Contractor's share
1057 of the Project Rates, Charges, and Tiered Pricing Component(s) except to the extent the
1058 Operating Non-Federal Entity collects payments on behalf of the United States in accordance
1059 with the separate agreement identified in subdivision (a) of this Article.

1060 (c) For so long as the O&M of any portion of the Project facilities serving the
1061 Contractor is performed by the Operating Non-Federal Entity, or any successor thereto, the
1062 Contracting Officer shall adjust those components of the Rates for Water
1063 Delivered under this Contract representing the cost associated with the activity being performed
1064 by the Operating Non-Federal Entity or its successor.

1065 (d) In the event the O&M of the Project facilities operated and maintained by
1066 the Operating Non-Federal Entity is re-assumed by the United States during the term of this

1067 Contract, the Contracting Officer shall so notify the Contractor, in writing, and present to the
1068 Contractor a revised Exhibit "B" which shall include the portion of the Rates to be paid by the
1069 Contractor for Project Water under this Contract representing the O&M costs of the portion of
1070 such Project facilities which have been re-assumed. The Contractor shall, thereafter, in the
1071 absence of written notification from the Contracting Officer to the contrary, pay the Rates,
1072 Charges, and Tiered Pricing Component(s) specified in the revised Exhibit "B" directly to the
1073 United States in compliance with Article 7 of this Contract.

1074 [Divisional Issue – inclusion of new Article 28.1 for contracts involving additional
1075 Operating CONTINGENT ON APPROPRIATION OR ALLOTMENT OF FUNDS

29. The expenditure or advance of any money or the performance of any obligation of the United States under this Contract shall be contingent upon appropriation or allotment of funds. Absence of appropriation or allotment of funds shall not relieve the Contractor from any obligations under this Contract. No liability shall accrue to the United States in case funds are not appropriated or allotted.

1076 BOOKS, RECORDS, AND REPORTS

1077 30. (a) The Contractor shall establish and maintain accounts and other books and
1078 records pertaining to administration of the terms and conditions of this Contract, including: the
1079 Contractor's financial transactions, water supply data, and Project land and right-of-way
1080 agreements; the water users' land-use (crop census), land ownership, land-leasing and water use
1081 data; and other matters that the Contracting Officer may require. Reports thereon shall be
1082 furnished to the Contracting Officer in such form and on such date or dates as the Contracting
1083 Officer may require. Subject to applicable Federal laws and regulations, each party to this
1084 Contract shall have the right during office hours to examine and make copies of the other party's
1085 books and records relating to matters covered by this Contract.

1086 (b) Notwithstanding the provisions of subdivision (a) of this Article, no
1087 books, records, or other information shall be requested from the Contractor by the Contracting
1088 Officer unless such books, records, or information are reasonably related to the administration or
1089 performance of this Contract. Any such request shall allow the Contractor a reasonable period of

1090 time within which to provide the requested books, records, or information.

1091 (c) At such time as the Contractor provides information to the Contracting
1092 Officer pursuant to subdivision (a) of this Article, a copy of such information shall be provided
1093 to the Operating Non-Federal Entity.

1094 ASSIGNMENT LIMITED--SUCCESSORS AND ASSIGNS OBLIGATED

1095 31. (a) The provisions of this Contract shall apply to and bind the successors and
1096 assigns of the parties hereto, but no assignment or transfer of this Contract or any right or interest
1097 therein shall be valid until approved in writing by the Contracting Officer.

1098 (b) The assignment of any right or interest in this Contract by either party
1099 shall not interfere with the rights or obligations of the other party to this Contract absent the
1100 written concurrence of said other party.

1101 (c) The Contracting Officer shall not unreasonably condition or withhold his
1102 approval of any proposed assignment.

1103 SEVERABILITY

1104 32. In the event that a person or entity who is neither (i) a party to a Project contract,
1105 nor (ii) a person or entity that receives Project Water from a party to a Project contract, nor (iii)
1106 an association or other form of organization whose primary function is to represent parties to
1107 Project contracts, brings an action in a court of competent jurisdiction challenging the legality or
1108 enforceability of a provision included in this Contract and said person, entity, association, or
1109 organization obtains a final court decision holding that such provision is legally invalid or
1110 unenforceable and the Contractor has not intervened in that lawsuit in support of the plaintiff(s),
1111 the parties to this Contract shall use their best efforts to (i) within 30 days of the date of such
1112 final court decision identify by mutual agreement the provisions in this Contract which must be

1113 revised, and (ii) within three months thereafter promptly agree on the appropriate revision(s).
1114 The time periods specified above may be extended by mutual agreement of the parties. Pending
1115 the completion of the actions designated above, to the extent it can do so without violating any
1116 applicable provisions of law, the United States shall continue to make the quantities of Project
1117 Water specified in this Contract available to the Contractor pursuant to the provisions of this
1118 Contract which were not found to be legally invalid or unenforceable in the final court decision.

1119 RESOLUTION OF DISPUTES

1120 33. Should any dispute arise concerning any provisions of this Contract, or the
1121 parties' rights and obligations thereunder, the parties shall meet and confer in an attempt to
1122 resolve the dispute. Prior to the Contractor commencing any legal action, or the Contracting
1123 Officer referring any matter to Department of Justice, the party shall provide to the other party
1124 30 days' written notice of the intent to take such action; Provided, That such notice shall not be
1125 required where a delay in commencing an action would prejudice the interests of the party that
1126 intends to file suit. During the 30-day notice period, the Contractor and the Contracting Officer
1127 shall meet and confer in an attempt to resolve the dispute. Except as specifically provided,
1128 nothing herein is intended to waive or abridge any right or remedy that the Contractor or the
1129 United States may have.

1130 OFFICIALS NOT TO BENEFIT

1131 34. No Member of or Delegate to Congress, Resident Commissioner, or official of the
1132 Contractor shall benefit from this Contract other than as a water user or landowner in the same
1133 manner as other water users or landowners.

1134 CHANGES IN CONTRACTOR'S SERVICE AREA

1135 35. (a) While this Contract is in effect, no change may be made in the
1136 Contractor's Service Area, by inclusion or exclusion of lands, dissolution, consolidation, merger,
1137 or otherwise, except upon the Contracting Officer's written consent.

1138 (b) Within 30 days of receipt of a request for such a change, the Contracting
1139 Officer will notify the Contractor of any additional information required by the Contracting
1140 Officer for processing said request, and both parties will meet to establish a mutually agreeable
1141 schedule for timely completion of the process. Such process will analyze whether the proposed
1142 change is likely to: (i) result in the use of Project Water contrary to the terms of this Contract;
1143 (ii) impair the ability of the Contractor to pay for Project Water furnished under this Contract or
1144 to pay for any Federally-constructed facilities for which the Contractor is responsible; and (iii)
1145 have an impact on any Project Water rights applications, permits, or licenses. In addition, the
1146 Contracting Officer shall comply with the NEPA and the ESA. The Contractor will be
1147 responsible for all costs incurred by the Contracting Officer in this process, and such costs will
1148 be paid in accordance with Article 25 of this Contract.

1149 FEDERAL LAWS

1150 36. By entering into this Contract, the Contractor does not waive its rights to contest
1151 the validity or application in connection with the performance of the terms and conditions of this
1152 Contract of any Federal law or regulation; Provided, That the Contractor agrees to comply with
1153 the terms and conditions of this Contract unless and until relief from application of such Federal
1154 law or regulation to the implementing provision of the Contract is granted by a court of
1155 competent jurisdiction.

1156 NOTICES

1157
1158 37. Any notice, demand, or request authorized or required by this Contract shall be
1159 deemed to have been given, on behalf of the Contractor, when mailed, postage prepaid, or
1160 delivered to the Area Manager _____, and on
1161 behalf of the United States, when mailed, postage prepaid, or delivered to the Board of
1162 Directors/City Council of the _____. The designation of the
1163 addressee or the address may be changed by notice given in the same manner as provided in this
1164 Article for other notices.

R.O. Draft 6/10-2003
R.O. Draft 5/19-2003
R. O. Draft 5/09-2003
R.O. Draft 11/01-2000
CVP-Wide Form 11-05
Contract No. _____ - LTR1

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CONFIRMATION OF CONTRACT²⁵

38. The Contractor, after the execution of this Contract, shall promptly seek to secure a decree of a court of competent jurisdiction of the State of California, confirming the execution of this Contract. The Contractor shall furnish the United States a certified copy of the final decree, the validation proceedings, and all pertinent supporting records of the court approving and confirming this Contract, and decreeing and adjudging it to be lawful, valid, and binding on the Contractor.

²⁵ Permission is pending to use alternate provision for M&I only contractors.

R.O. Draft 6/10-2003
R.O. Draft 5/19-2003
R. O. Draft 5/09-2003
R.O. Draft 11/01-2000
CVP-Wide Form 11-05
Contract No. _____ - LTR1

EXHIBIT A

[Map or Description of Service Area]

2000

R. O. Draft 5/09-2003

R.O. Draft 11/01-

CVP-Wide Form 11-05

Contract No. _____ - LTR1

EXHIBIT B
[Initial Rates and Charges]

APPENDIX A: TABLE A-1 GENERAL SUMMARY AND COMPARISON OF SELECTED DRAFT <u>DRAFT 2003</u> CONTRACT PROVISIONS			
Contract Provisions	<u>Draft General Summary of Existing Contract Provisions</u> (Refer to Table A-2 for unique elements by Contractor)	General Summary of <u>Proposed</u> Preferred Action Contract Provisions ¹	
	<u>Generally based on 2003 personal communications</u> (B. Holt, Reclamation, 2003) information; (<u>pers. comm., B. Holt 2003</u>)	Common to All Ten ⁴ <u>2003 Draft RAFT-Final Long Term Contracts</u> ²	Elements Unique to Contracts that Include Irrigation Water ³
Explanatory Recitals	No similar recital.	Assumes water rights held by CVP.	
	No similar recital.	Assumes CVP water has been relied upon by urban and agricultural areas in California for more than 50 years and is considered an essential part of its water supply by the contractor.	
	No similar recital.	Assumes regional economies depend on CVP water.	
	No similar recital.	Assumes the Secretary of the Interior intends, through coordination, cooperation, and partnerships, to pursue measures to improve the water supply, water quality, and reliability of the CVP.	
	Assumes the need for the 3408(j) study.	Assumes CVP will facilitate cooperative efforts among local water service agencies to develop the Redding Groundwater Basin for conjunctive management and use with CVP water supplies.	
Definitions	Assumes payments in addition to the Rates determined by the contracting officer each year.	Defines "Charges" as "payments required by Federal contracting officer law in addition to the Rates and Tiered Pricing Components specified in the contract."	
	No similar definition.	Defines "Contract Total" as "the maximum amount of water to which the contractor is entitled" under the contract.	

¹ Contract provisions were based on draft form contracts dated as follows: June 16, 2003 for BVWD, CCSD, City of Redding-Buckeye, City of Shasta Lake, CCCSD, and SCWA; June 26, 2003 for SCSD; and June 27, 2003 for KCSA and MGCSD. ~~The 10th contract, although informal, is a Memorandum of Agreement between two federal agencies and is not covered in this table.~~

² Ten contractors comprise the Shasta and Trinity River Division. The tenth "contract" is actually a Memorandum of Understanding between two federal agencies: USFS (at Centimudi Boat Ramp) and Reclamation, and is not included in this table.

³ BVWD and CCWD ¹ Excludes the USFS Centimudi Memorandum of Understanding.

APPENDIX A: TABLE A-1 GENERAL SUMMARY AND COMPARISON OF SELECTED DRAFT DRAFT 2003 CONTRACT PROVISIONS			
Contract Provisions	<u>Draft General Summary of Existing Contract Provisions</u> (Refer to Table A-2 for unique elements by Contractor)	General Summary of <u>Proposed</u> Preferred Action Contract Provisions¹	
	<u>Generally based on 2003 personal communications</u> (B. Holt, Reclamation, 2003) information; (pers. comm., B. Holt 2003)	Common to All Ten⁴ 2003 Draft RAFT-Final Long Term Contracts²	Elements Unique to Contracts that Include Irrigation Water³
	Existing long-term contract: No similar definition. Interim renewal contract: Assumes to be individual or entity owning or leasing lands served with irrigation water.		Defines "Landholder" as "a party that directly or indirectly owns or leases nonexempt land."
	Existing long-term contract: Assumes use of water delivered to land in units less than or equal to 2 acres to be M&I use unless contracting officer is satisfied that use is irrigation. Interim renewal contract: Assumes same as existing long-term contracts except applied to units less than 5 acres.	Defines "M&I Water" as CVP "water made available to the contractor for purposes other than the commercial production of agricultural crops or livestock "	Defines "M&I Water" as "CVP water, other than irrigation water, made available to the contractor. M&I Water shall include water used for human use and purposes such as the watering of landscaping or pasture for animals (e.g., horses) which are kept for personal enjoyment or water delivered to land holdings operated in units of less than 5 acres unless the contractor establishes to the satisfaction of the contracting officer that the use of water delivered to any such landholding is a use described in [the definition for "irrigation water"].
	No similar definition.	Defines "Recent Historic Average" as "the most recent 5-year average of the final forecast of water made available to the contractor" under the LTCR or its preceding contract(s).	
	No similar definition.	Defines "Tiered Pricing Component" as "the incremental amount to be paid for each acre-foot of water delivered."	

¹ Contract provisions were based on draft form contracts dated as follows: June 16, 2003 for BVWD, CCSD, City of Redding-Buckeye, City of Shasta Lake, CCCSD, and SCWA; June 26, 2003 for SCSD; and June 27, 2003 for KCSA and MGCSD.

² Ten contractors comprise the Shasta and Trinity River Division. The tenth "contract" is actually a Memorandum of Understanding between two federal agencies: USFS (at Centimudi Boat Ramp) and Reclamation, and is not included in this table.

³ BVWD and CCWD

⁴ The 10th contract, although informal, is a Memorandum of Agreement between two federal agencies and is not covered in this table.

⁺ Excludes the USFS Centimudi Memorandum of Understanding.

APPENDIX A: TABLE A-1 GENERAL SUMMARY AND COMPARISON OF SELECTED DRAFT <u>DRAFT 2003</u> CONTRACT PROVISIONS			
Contract Provisions	<u>Draft General Summary of Existing Contract Provisions</u> (Refer to Table A-2 for unique elements by Contractor)	General Summary of <u>Proposed</u> Preferred Action Contract Provisions ¹	
	<u>Generally based on 2003 personal communications</u> (B. Holt, Reclamation, 2003) information; (pers. comm., B. Holt 2003)	Common to All Ten ⁴ <u>2003 Draft RAFT-Final Long Term Contracts</u> ²	Elements Unique to Contracts that Include Irrigation Water ³
	No similar definition.		Defines "Excess Lands" as all lands in excess of the limitations contained in Section 204 of the RRA.
	No similar definition.		Defines "Landholder" as "a party that directly or indirectly owns or leases nonexempt land."
Term of Contract and Renewal Terms	Existing long-term contract: Assumes shall remain in effect through December 31, 2004; right to renew for additional terms not to exceed 40 years on mutually agreeable terms. Also assumes conversion to repayment contract authorized upon mutually agreeable terms once project costs allocated. Interim renewal contract: Assumes shall remain in effect through February 28, 2002; assumes renewal will be 25-year long-term renewal or further interim renewal under specified conditions.	States that contract will be effective from March 1, 2004, through February 28, 2029. States that contract "shall be renewed for a period of 25 years." The term for subsequent renewal of M&I water "shall be . . . for a period of 25 years and thereafter shall be renewed for successive periods of up to 40 years each, . . . consistent with then-existing contracting officer-wide policy . . . and consistent with Federal and state law."	States that "contract, insofar as it pertains to the furnishing of irrigation water to the contractor, shall be renewed for a period of 25 years." Makes renewal contingent on several provisions, including the following: "(1) the contractor has prepared a water conservation plan that meets the Federal conservation and efficiency criteria for evaluating such plans; (2) the contractor is implementing an effective water conservation and efficiency program; [and] (3) the contractor is maintaining all water measuring devices and implementing water measurement methods."
Water to Be Made Available and Delivered	Existing long-term contract: Assumes water will be made available according	Specifies the amount of water available for delivery to the contractor.	

¹ Contract provisions were based on draft form contracts dated as follows: June 16, 2003 for BVWD, CCSD, City of Redding-Buckeye, City of Shasta Lake, CCCSD, and SCWA; June 26, 2003 for SCSD; and June 27, 2003 for KCSA and MGCSD.

~~The 10th contract, although informal, is a Memorandum of Agreement between two federal agencies and is not covered in this table.~~

² Ten contractors comprise the Shasta and Trinity River Division. The tenth "contract" is actually a Memorandum of Understanding between two federal agencies: USFS (at Centimudi Boat Ramp) and Reclamation, and is not included in this table.

³ BVWD and CCWD¹ ~~Excludes the USFS Centimudi Memorandum of Understanding.~~

APPENDIX A: TABLE A-1 GENERAL SUMMARY AND COMPARISON OF SELECTED DRAFT <u>DRAFT 2003</u> CONTRACT PROVISIONS			
Contract Provisions to the Contractor	<u>Draft General Summary of Existing Contract Provisions</u> (Refer to Table A-2 for unique elements by Contractor)	General Summary of <u>Proposed</u> Preferred Action Contract Provisions ¹	
	<u>Generally based on 2003 personal communications</u> (B. Holt, Reclamation, 2003) information; (pers. comm., B. Holt 2003)	Common to All Ten ⁴ <u>2003 Draft RAFT-Final Long Term Contracts</u> ²	Elements Unique to Contracts that Include Irrigation Water ³
	to schedule; application of laws and provision re facility outages and shortage provision implicit. Interim renewal contract: Assumes water will be made available according to schedule, existing rules; provision re facility outages and shortage provision explicit.	States that because of constraints on CVP water, “the likelihood of [a] contractor actually receiving the amount of water” specified as available for delivery “in any given year is uncertain.” Further states that “modeling referenced in the PEIS projected that the contract total...will not be available...in many years.” Cites recent historic average of water made available to contractor.	
	No similar explicit requirement.	Assumes compliance with applicable laws	
	Existing long-term contract: No similar explicit terms; reasonable and beneficial use required by Federal and state law. Interim renewal contract: Assumes contractor required to make reasonable and beneficial use of water; contractor permitted to use CVP water in groundwater recharge program in accordance with state law and water management plan.	Allows CVP or other water furnished pursuant to the contract to be used for groundwater recharge, groundwater banking, surface water storage, and similar programs. Requires that any direct recharge program be described in the contractor’s Water Conservation Plan. Allows use of CVP water or other water furnished pursuant to the contract be used for such programs with approval of contracting officer, which would be based on environmental documentation and CVP water rights and operational concerns.	

¹ Contract provisions were based on draft form contracts dated as follows: June 16, 2003 for BVWD, CCSD, City of Redding-Buckeye, City of Shasta Lake, CCCSD, and SCWA; June 26, 2003 for SCSD; and June 27, 2003 for KCSA and MGCS.

² Ten contractors comprise the Shasta and Trinity River Division. The tenth “contract” is actually a Memorandum of Understanding between two federal agencies: USFS (at Centimudi Boat Ramp) and Reclamation, and is not included in this table.

³ BVWD and CCWD

⁴ The 10th contract, although informal, is a Memorandum of Agreement between two federal agencies and is not covered in this table.

⁺ Excludes the USFS Centimudi Memorandum of Understanding.

APPENDIX A: TABLE A-1 GENERAL SUMMARY AND COMPARISON OF SELECTED DRAFT <u>DRAFT 2003</u> CONTRACT PROVISIONS			
Contract Provisions	<u>Draft General Summary of Existing Contract Provisions</u> (Refer to Table A-2 for unique elements by Contractor)	General Summary of <u>Proposed</u> Preferred Action Contract Provisions¹	
	<u>Generally based on 2003 personal communications</u> (B. Holt, Reclamation, 2003) information; (pers. comm., B. Holt 2003)	Common to All Ten⁴ <u>2003 Draft RAFT-Final Long Term Contracts</u>²	Elements Unique to Contracts that Include Irrigation Water³
	Existing long-term contract: Assumes compliance with laws; implicit obligation to meet applicable requirements under environmental documents. Interim renewal contract: Assumes explicit obligation on compliance with applicable requirements of biological opinions and other environmental documents for contracting.	Requires that contractor comply with applicable requirements in Biological Opinions prepared concerning the contract to comply with the Endangered Species Act that are within the contractor's legal authority to implement. States that contractor can challenge or seek judicial relief with respect to Biological Opinions or other environmental documentation.	
	Existing long-term contract: Assumes contracting officer will strive to develop additional firm supplies. Interim renewal contract: Assumes contracting officer will determine if additional water can be made available; if so, will be made available in accordance with statutes, regulations, policies, and guidelines.	States that contracting officer will determine whether CVP water or other water available to the CVP can be made available to contractor in addition to the contract total, in accordance with applicable statutes, regulations, guidelines, and policies.	
	Existing long-term contract: No similar provision. Interim renewal contract: Contract may request to carry over or preuse contract supplies.	States that contractor can request to "reschedule" (i.e., to "preuse" or "carry over") water made available under the contract.	

¹ Contract provisions were based on draft form contracts dated as follows: June 16, 2003 for BVWD, CCSD, City of Redding-Buckeye, City of Shasta Lake, CCCSD, and SCWA; June 26, 2003 for SCSD; and June 27, 2003 for KCSA and MGCSG. ~~The 10th contract, although informal, is a Memorandum of Agreement between two federal agencies and is not covered in this table.~~

² Ten contractors comprise the Shasta and Trinity River Division. The tenth "contract" is actually a Memorandum of Understanding between two federal agencies: USFS (at Centimudi Boat Ramp) and Reclamation, and is not included in this table.

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APPENDIX A: TABLE A-1 GENERAL SUMMARY AND COMPARISON OF SELECTED DRAFT DRAFT 2003 CONTRACT PROVISIONS			
Contract Provisions	<u>Draft General Summary of Existing Contract Provisions</u> (Refer to Table A-2 for unique elements by Contractor)	General Summary of <u>Proposed</u> Preferred Action Contract Provisions¹	
	<u>Generally based on 2003 personal communications</u> (B. Holt, Reclamation, 2003) information; (pers. comm., B. Holt 2003)	Common to All Ten⁴ 2003 Draft RAFT-Final Long Term Contracts²	Elements Unique to Contracts that Include Irrigation Water³
	Existing long-term contract: No similar provision. Interim renewal contract: Upon written approval by contracting officer specifying terms and conditions, water may be delivered for purposes other than irrigation or M&I.	States that CVP water furnished to the contractor "may be delivered for other than irrigation or M&I purposes" upon written approval by contracting officer in accordance with terms and conditions specified in approval.	
	Existing long-term contract: No similar provision. Interim renewal contract: No similar provision.	States that contracting officer will "make reasonable efforts to protect water rights necessary for the [CVP] and to provide the water available" under the contract Further states that contracting officer shall not object to contractor's participation in administrative proceedings related to water rights	
Time for Delivery of Water	Assumes methods for determining timing of deliveries.	Assumes methods for determining timing of water deliveries	
Point of Diversion and Responsibility for Distribution of Water	Assumes methods for determining point of diversion.	Assumes methods for determining point(s) of diversion; assumes measurement at points of delivery.	States that "the contracting officer shall make all reasonable efforts to maintain sufficient flows and levels of water in [water body specific to each contractor]."

¹ Contract provisions were based on draft form contracts dated as follows: June 16, 2003 for BVWD, CCCSD, City of Redding-Buckeye, City of Shasta Lake, CCCSD, and SCWA; June 26, 2003 for SCSD; and June 27, 2003 for KCSA and MGCSD.

² Ten contractors comprise the Shasta and Trinity River Division. The tenth "contract" is actually a Memorandum of Understanding between two federal agencies: USFS (at Centimudi Boat Ramp) and Reclamation, and is not included in this table.

³ BVWD and CCWD

⁴ The 10th contract, although informal, is a Memorandum of Agreement between two federal agencies and is not covered in this table.

⁺ Excludes the USFS Centimudi Memorandum of Understanding.

APPENDIX A: TABLE A-1 GENERAL SUMMARY AND COMPARISON OF SELECTED DRAFT <u>DRAFT 2003</u> CONTRACT PROVISIONS			
Contract Provisions	<u>Draft General Summary of Existing Contract Provisions</u> (Refer to Table A-2 for unique elements by Contractor)	General Summary of <u>Proposed</u> Preferred Action Contract Provisions ¹	
	<u>Generally based on 2003 personal communications</u> (B. Holt, Reclamation, 2003) information; (pers. comm., B. Holt 2003)	Common to All Ten ⁴ <u>2003 Draft RAFT-Final Long Term Contracts</u> ²	Elements Unique to Contracts that Include Irrigation Water ³
Measurement of Water within the District/Service Area	Existing long-term contract: Contractor has no similar obligation. Interim renewal contract: Assumes measurement for each agricultural turnout and M&I connection for facilities that are used for all water supplies.	Requires contractor to measure "all surface water delivered for M&I purposes [to be] measured at each municipal and industrial service connection."	Requires contractor to measure all surface water delivered for irrigation purposes at each agricultural turnout.
Rates and Method of Payment for Water	Existing long-term contract: Assumes rates fixed or determined as specified in contract; assumes semiannual payment of rates in advance of delivery; no provision for charges or tiered pricing. Interim renewal contract: Assumes payment of cost-of-service rates pursuant to rate-setting policy; payment of rates for first two months of scheduled deliveries with submission of delivery schedule each year; payment before end of month for next succeeding month=s deliveries thereafter; assumes payment for charges before end of month following delivery; tiered pricing as required by water conservation plan.	TO BE DETERMINED	TO BE DETERMINED

¹ Contract provisions were based on draft form contracts dated as follows: June 16, 2003 for BVWD, CCSD, City of Redding-Buckeye, City of Shasta Lake, CCCSD, and SCWA; June 26, 2003 for SCSD; and June 27, 2003 for KCSA and MGCSD. ~~The 10th contract, although informal, is a Memorandum of Agreement between two federal agencies and is not covered in this table.~~

² Ten contractors comprise the Shasta and Trinity River Division. The tenth "contract" is actually a Memorandum of Understanding between two federal agencies: USFS (at Centimudi Boat Ramp) and Reclamation, and is not included in this table.

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APPENDIX A: TABLE A-1 GENERAL SUMMARY AND COMPARISON OF SELECTED DRAFT <u>DRAFT 2003</u> CONTRACT PROVISIONS			
Contract Provisions	<u>Draft General Summary of Existing Contract Provisions</u> (Refer to Table A-2 for unique elements by Contractor)	General Summary of <u>Proposed</u> Preferred Action Contract Provisions ¹	
	<u>Generally based on 2003 personal communications</u> (B. Holt, Reclamation, 2003) information; (pers. comm., B. Holt 2003)	Common to All Ten ⁴ <u>2003 Draft RAFT-Final Long Term Contracts</u> ²	Elements Unique to Contracts that Include Irrigation Water ³
	No similar provision.		Allows the contractor to request an exemption from tiered pricing components for CVP water delivered to produce a crop that will provide habitat values for waterfowl, if the habitat values are consistent with the purposes of the CVPIA.
	No similar provision.		Provides conditions and costs to the contractor for the commingling of CVP irrigation water and water acquired from another source.
Non-Interest Bearing Operation and Maintenance Deficits	Existing long-term contract: No similar provision. Interim renewal contract: Assumes either there is no non-interest-bearing deficit or that agreement is in place to retire any non-interest-bearing deficit.	Assumes the contractor has no non-interest bearing operation and maintenance deficits or, if there are deficits, that there is an agreement in place to retire the deficits.	

¹ Contract provisions were based on draft form contracts dated as follows: June 16, 2003 for BVWD, CCSD, City of Redding-Buckeye, City of Shasta Lake, CCCSD, and SCWA; June 26, 2003 for SCSD; and June 27, 2003 for KCSA and MGCSD.

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APPENDIX A: TABLE A-1 GENERAL SUMMARY AND COMPARISON OF SELECTED DRAFT <u>DRAFT 2003</u> CONTRACT PROVISIONS			
Contract Provisions	<u>Draft General Summary of Existing Contract Provisions</u> (Refer to Table A-2 for unique elements by Contractor)	General Summary of Proposed Preferred Action Contract Provisions ¹	
	<u>Generally based on 2003 personal communications</u> (B. Holt, Reclamation, 2003) information; (pers. comm., B. Holt 2003)	Common to All Ten ⁴ <u>2003 Draft RAFT-Final Long Term Contracts</u> ²	Elements Unique to Contracts that Include Irrigation Water ³
Sales, Transfers, or Exchanges of Water	Existing long-term contract: Requires contracting officer consent for CVP water use outside contractor service area. Interim renewal contract: Assumes sales, transfers or exchanges with others in accordance with Federal and state laws, guidelines and regulations, with consent of Contracting Officer. No intent to impede transfers between districts historically approved.	Assumes right to receive CVP water provided for in contract may be sold, transferred, or exchanged. Requires prior written consent of contracting officer except for transfers of a type historically carried out among contractors in the same geographical area. Requires environmental documentation. For historic transfers, requires advance notice but not prior written approval. Contracting officer will prepare environmental documentation for historic transfers, which shall be reviewed every 5 years and updated, as necessary.	
Application of Payments and Adjustments	Assumes refund of overpayment after satisfaction of any accrued indebtedness upon contractor request	Assumes any overpayments will be applied to current liabilities under the contract. Overpayments totaling more than \$1,000 will be refunded at contractor's request.	

¹ Contract provisions were based on draft form contracts dated as follows: June 16, 2003 for BVWD, CCSD, City of Redding-Buckeye, City of Shasta Lake, CCCSD, and SCWA; June 26, 2003 for SCSD; and June 27, 2003 for KCSA and MGCSD. ~~The 10th contract, although informal, is a Memorandum of Agreement between two federal agencies and is not covered in this table.~~

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APPENDIX A: TABLE A-1 GENERAL SUMMARY AND COMPARISON OF SELECTED DRAFT <u>DRAFT 2003</u> CONTRACT PROVISIONS			
Contract Provisions	<u>Draft General Summary of Existing Contract Provisions</u> (Refer to Table A-2 for unique elements by Contractor)	General Summary of <u>Proposed</u> Preferred Action Contract Provisions ¹	
	<u>Generally based on 2003 personal communications</u> (B. Holt, Reclamation, 2003) information; (pers. comm., B. Holt 2003)	Common to All Ten ¹ <u>2003 Draft RAFT Final Long Term Contracts</u> ²	Elements Unique to Contracts that Include Irrigation Water ³
Temporary Reductions--Return Flows	Existing long-term contract: Assumes United States reserves the right to return flows, seepage, and waste exiting contractor boundaries; assumes temporary reductions for operation, maintenance, and rehabilitation of facilities. Interim renewal contract: Substantially similar to long-term contracts; makes express existing obligation of Contracting Officer to make CVP water available, subject to authorized purposes and priorities of CVP and to obligations under existing contracts.	States that “contracting officer shall make all reasonable efforts to optimize water deliveries” from the CVP. Assumes contracting officer may temporarily discontinue or reduce water deliveries to investigate, inspect, maintain, repair, or replace CVP facilities. Reserves for the United States the right to all seepage and return flow water.	

¹ Contract provisions were based on draft form contracts dated as follows: June 16, 2003 for BVWD, CCCSD, City of Redding-Buckeye, City of Shasta Lake, CCCSD, and SCWA; June 26, 2003 for SCSD; and June 27, 2003 for KCSA and MGCSA.

² Ten contractors comprise the Shasta and Trinity River Division. The tenth “contract” is actually a Memorandum of Understanding between two federal agencies: USFS (at Centimudi Boat Ramp) and Reclamation, and is not included in this table.

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APPENDIX A: TABLE A-1 GENERAL SUMMARY AND COMPARISON OF SELECTED DRAFT <u>DRAFT 2003</u> CONTRACT PROVISIONS			
Contract Provisions	<u>Draft General Summary of Existing Contract Provisions</u> (Refer to Table A-2 for unique elements by Contractor)	General Summary of <u>Proposed</u> Preferred Action Contract Provisions ¹	
	<u>Generally based on 2003 personal communications</u> (B. Holt, Reclamation, 2003) information; (pers. comm., B. Holt 2003)	Common to All Ten ⁴ <u>2003 Draft RAFT-Final Long Term Contracts</u> ²	Elements Unique to Contracts that Include Irrigation Water ³
Constraints on Availability of Project Water	Existing long-term contract: Assumes obligation of United States to utilize all reasonable means to guard against a condition of shortage; no liability of United States for shortages from specified causes; provides mechanism for apportionment of shortages among existing contractors. Interim renewal contract: Assumes obligation of Contracting Officer to utilize all reasonable means to guard against a condition of shortage; no liability to United States for shortages from specified causes, including actions of Contracting Officer to meet legal obligations, so long as such actions are not based upon arbitrary, capricious or unreasonable opinions or determinations; provides mechanism for apportionment of shortages among existing and future contractors, as described.	Absolves United States from liability for water shortage for causes beyond the control of the contracting officer or actions taken to meet legal obligations. Allocates CVP water "in accordance with the then-existing CVP M&I Water Shortage Policy." States that "contracting officer shall make all reasonable efforts to optimize water deliveries"; absolves U S from liability for water shortages for causes beyond the control of the contracting officer or actions taken to meet legal obligations; and allocates water "in accordance with then-existing CVP M&I Water Shortage Policy."	States that "Contractor shall not be deemed to have delivered irrigation water to excess lands or ineligible lands...if such lands are irrigated with groundwater" that percolates from applied CVP water.
Unavoidable Groundwater Percolation	Assumes that some of applied CVP water will percolate to groundwater		States that "Contractor shall not be deemed to have delivered irrigation water to excess lands or ineligible lands...if such lands are irrigated with groundwater" that percolates from applied CVP water.

¹ Contract provisions were based on draft form contracts dated as follows: June 16, 2003 for BVWD, CCSD, City of Redding-Buckeye, City of Shasta Lake, CCCSD, and SCWA; June 26, 2003 for SCSD; and June 27, 2003 for KCSA and MGCSD.

~~The 10th contract, although informal, is a Memorandum of Agreement between two federal agencies and is not covered in this table.~~

² Ten contractors comprise the Shasta and Trinity River Division. The tenth "contract" is actually a Memorandum of Understanding between two federal agencies: USFS (at Centimudi Boat Ramp) and Reclamation, and is not included in this table.

³ BVWD and CCWD¹ ~~Excludes the USFS Centimudi Memorandum of Understanding.~~

APPENDIX A: TABLE A-1 GENERAL SUMMARY AND COMPARISON OF SELECTED DRAFT <u>DRAFT 2003</u> CONTRACT PROVISIONS			
Contract Provisions	<u>Draft General Summary of Existing Contract Provisions</u> (Refer to Table A-2 for unique elements by Contractor)	General Summary of <u>Proposed</u> Preferred Action Contract Provisions ¹	
	<u>Generally based on 2003 personal communications</u> (B. Holt, Reclamation, 2003) information; (pers. comm., B. Holt 2003)	Common to All Ten ⁴ <u>2003 Draft RAFT-Final Long Term Contracts</u> ²	Elements Unique to Contracts that Include Irrigation Water ³
Rules and Regulations	Assumes that CVP will operate in accordance with then-existing rules.	Assumes that CVP will operate in accordance with then-existing rules and regulations.	
Water and Air Pollution Control	Assumes that CVP will operate in accordance with then-existing rules.	Requires contractor to comply with state and Federal water and air pollution control laws and to obtain required permits.	
Quality of Water	Existing long-term contract: Assumes that water quality will be based on subjective standard; no warranty of quality; payment relief if water quality unsuitable. Interim renewal contract: Assumes operation and maintenance of CVP facilities to enable United States to deliver water in accordance with existing statutory quality standards; no warranty of quality.	States that CVP facilities shall be operated and maintained to enable the United States to deliver water in accordance with statutory water quality standards; does not provide warranty for water quality.	
Water Acquired by the Contractor Other Than from the United States	Existing long-term contract: Assumes that water may be commingled in district system as specified in contract. Interim renewal contract: Assumes that CVP and non-CVP water may be commingled in district system in accordance with existing rules.	Allows contractor to use CVP facilities for water not provided by the United States subject to environmental documentation and payment for such use.	

¹ Contract provisions were based on draft form contracts dated as follows: June 16, 2003 for BVWD, CCSD, City of Redding-Buckeye, City of Shasta Lake, CCCSD, and SCWA; June 26, 2003 for SCSD; and June 27, 2003 for KCSA and MGCSD.

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APPENDIX A: TABLE A-1 GENERAL SUMMARY AND COMPARISON OF SELECTED DRAFT <u>DRAFT 2003</u> CONTRACT PROVISIONS			
Contract Provisions	<u>Draft General Summary of Existing Contract Provisions</u> (Refer to Table A-2 for unique elements by Contractor)	General Summary of Proposed Preferred Action Contract Provisions ¹	
	<u>Generally based on 2003 personal communications</u> (B. Holt, Reclamation, 2003) information; (pers. comm., B. Holt 2003)	Common to All Ten ⁴ <u>2003 Draft RAFT-Final Long Term Contracts</u> ²	Elements Unique to Contracts that Include Irrigation Water ³
Opinions and Determinations	Existing long-term contract: Opinions and determinations of parties to contract not to be arbitrary, capricious, or unreasonable; adjustment of payment obligations. Interim renewal contract: Opinions and determinations not to be arbitrary, capricious, or unreasonable; parties may seek relief, adjustment, monetary damages if they are.	Expresses right to relief for actions based on "arbitrary, capricious, or unreasonable opinions or determinations."	
Coordination and Cooperation	No similar provision.	States that contracting officer and contractor "shall communicate, coordinate, and cooperate with each other, and with other affected [CVP] contractors, in order to improve the operation and management of the [CVP]."	
	No similar provision.	Provides mechanism to develop communication process.	
	No similar provision.	Allows contracting officer to assist the contractor in developing integrated resource management plans.	
	No similar provision.	Provides for the Secretary of the Interior to coordinate with contractors and the State of California to seek improved water resource management.	

¹ Contract provisions were based on draft form contracts dated as follows: June 16, 2003 for BVWD, CCSD, City of Redding-Buckeye, City of Shasta Lake, CCCSD, and SCWA; June 26, 2003 for SCSD; and June 27, 2003 for KCSA and MGCSD. ~~The 10th contract, although informal, is a Memorandum of Agreement between two federal agencies and is not covered in this table.~~

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APPENDIX A: TABLE A-1 GENERAL SUMMARY AND COMPARISON OF SELECTED DRAFT <u>DRAFT 2003</u> CONTRACT PROVISIONS			
Contract Provisions	<u>Draft General Summary of Existing Contract Provisions</u> (Refer to Table A-2 for unique elements by Contractor)	General Summary of <u>Proposed</u> Preferred Action Contract Provisions ¹	
	<u>Generally based on 2003 personal communications</u> (B. Holt, Reclamation, 2003) information; (pers. comm., B. Holt 2003)	Common to All Ten ⁴ <u>2003 Draft RAFT-Final Long Term Contracts</u> ²	Elements Unique to Contracts that Include Irrigation Water ³
	No similar provision.	Provides for the Secretary of the Interior and contractor to work together and with others in the region of the Redding Groundwater Basin to “facilitate the better integration within the region ... of all water supplies.”	
Charges for Delinquent Payments	Assumes that CVP will operate in accordance with existing rules.	Assumes that CVP will operate in accordance with existing rules.	
Equal Opportunity	Assumes that CVP will operate in accordance with existing rules.	Assumes that CVP will operate in accordance with existing rules.	
General Obligation-- Benefits Conditioned upon Payment	Assumes that CVP will operate in accordance with existing rules.	Assumes that CVP will operate in accordance with existing rules.	
		Does not require contractor to obtain advance payment for water rates.	
Compliance with Civil Rights Laws and Regulations	Assumes that CVP will operate in accordance with existing rules.	Requires contractor to comply with existing laws and regulations.	
Privacy Act Compliance	Assumes that CVP will operate in accordance with existing rules.	Requires contractor to comply with existing laws and regulations.	

¹ Contract provisions were based on draft form contracts dated as follows: June 16, 2003 for BVWD, CCSD, City of Redding-Buckeye, City of Shasta Lake, CCCSD, and SCWA; June 26, 2003 for SCSD; and June 27, 2003 for KCSA and MGCSD.

² Ten contractors comprise the Shasta and Trinity River Division. The tenth “contract” is actually a Memorandum of Understanding between two federal agencies: USFS (at Centimudi Boat Ramp) and Reclamation, and is not included in this table.

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APPENDIX A: TABLE A-1 GENERAL SUMMARY AND COMPARISON OF SELECTED DRAFT <u>DRAFT 2003</u> CONTRACT PROVISIONS			
Contract Provisions	<u>Draft General Summary of Existing Contract Provisions</u> (Refer to Table A-2 for unique elements by Contractor)	General Summary of <u>Proposed</u> Preferred Action Contract Provisions ¹	
	<u>Generally based on 2003 personal communications</u> (B. Holt, Reclamation, 2003) information; (pers. comm., B. Holt 2003)	Common to All Ten ⁴ <u>2003 Draft RAFT-Final Long Term Contracts</u> ²	Elements Unique to Contracts that Include Irrigation Water ³
Contractor to Pay Certain Miscellaneous Costs	Existing long-term contract: No similar provision. Interim renewal contract: Assumes that CVP will operate in accordance with existing rules.	Assumes that CVP will operate in accordance with existing rules.	
Water Conservation	Existing long-term contract: No explicit similar requirement. Interim renewal contract: Assumes compliance with conservation programs established by Reclamation and the state.	Requires contractor to comply with water conservation programs established by Reclamation and the State of California.	
	No similar provision.	For contracts providing more than 2,000 acre-feet per year of M&I water, requires contractor to implement best management practices issued by the California Urban Water Conservation Council.	
	No similar provision.	Requires contractor to revise its water conservation plan at 5-year intervals to reflect then-current Federal criteria for evaluating water conservation plans.	
Existing or Acquired Water or Water Rights	Assumes that contract provisions are not applicable to non-CVP water, subject to provision on commingling.	Assumes that contract provisions are not applicable to non-CVP water.	

¹ Contract provisions were based on draft form contracts dated as follows: June 16, 2003 for BVWD, CCSD, City of Redding-Buckeye, City of Shasta Lake, CCCSD, and SCWA; June 26, 2003 for SCSD; and June 27, 2003 for KCSA and MGCS. ~~The 10th contract, although informal, is a Memorandum of Agreement between two federal agencies and is not covered in this table.~~

² Ten contractors comprise the Shasta and Trinity River Division. The tenth "contract" is actually a Memorandum of Understanding between two federal agencies: USFS (at Centimudi Boat Ramp) and Reclamation, and is not included in this table.

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APPENDIX A: TABLE A-1 GENERAL SUMMARY AND COMPARISON OF SELECTED DRAFT DRAFT 2003 CONTRACT PROVISIONS			
Contract Provisions	<u>Draft General Summary of Existing Contract Provisions</u> (Refer to Table A-2 for unique elements by Contractor)	General Summary of <u>Proposed</u> Preferred Action Contract Provisions¹	
	<u>Generally based on 2003 personal communications</u> (B. Holt, Reclamation, 2003) information; (pers. comm., B. Holt 2003)	Common to All Ten¹ 2003 Draft RAFT Final Long Term Contracts²	Elements Unique to Contracts that Include Irrigation Water³
Operation and Maintenance by Non-Federal Entity	Existing long-term contract: No similar provision. Interim renewal contract: Assumes that non-Federal entity will operate and maintain facilities and that certain payments to be made to that entity.	Assumes that non-Federal entity (if any) will operate and maintain CVP facilities and that certain payments will be made to that entity.	
Contingent on Appropriation or Allotment of Funds	Assumes that CVP will operate in accordance with existing rules.	Assumes that CVP will operate in accordance with existing rules.	
Books, Records, and Reports	Assumes that CVP will operate in accordance with existing rules.	Assumes that CVP will operate in accordance with existing rules; clarifies that only contract-related records will be requested, and requires copies to be sent to non-Federal operating entity (if any).	
Assignment Limited	Assumes that CVP will operate in accordance with existing rules.	Assumes that CVP will operate in accordance with existing rules.	
Severability	Existing long-term contract: No similar provision. Interim renewal contract: Assumes mechanism to address correction of provision found to be invalid upon legal challenge.	Assumes mechanism to address correction of provision found to be invalid upon legal challenge.	

¹ Contract provisions were based on draft form contracts dated as follows: June 16, 2003 for BVWD, CCSD, City of Redding-Buckeye, City of Shasta Lake, CCCSD, and SCWA; June 26, 2003 for SCSD; and June 27, 2003 for KCSA and MGCSA.

² Ten contractors comprise the Shasta and Trinity River Division. The tenth "contract" is actually a Memorandum of Understanding between two federal agencies: USFS (at Centimudi Boat Ramp) and Reclamation, and is not included in this table.

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APPENDIX A: TABLE A-1 GENERAL SUMMARY AND COMPARISON OF SELECTED DRAFT <u>DRAFT 2003</u> CONTRACT PROVISIONS			
Contract Provisions	<u>Draft General Summary of Existing Contract Provisions</u> (Refer to Table A-2 for unique elements by Contractor)	General Summary of <u>Proposed</u> Preferred Action Contract Provisions ¹	
	<u>Generally based on 2003 personal communications</u> (B. Holt, Reclamation, 2003) information; (pers. comm., B. Holt 2003)	Common to All Ten ⁴ <u>2003 Draft RAFT Final Long Term Contracts</u> ²	Elements Unique to Contracts that Include Irrigation Water ³
Resolution of Disputes	No similar provision.	Assumes a dispute resolution process.	
Officials Not to Benefit	Assumes that CVP will operate in accordance with existing rules.	Assumes that CVP will operate in accordance with existing rules.	
Changes in Contractor's Service Area	Assumes that CVP will operate in accordance with existing rules.	Assumes that CVP will operate in accordance with existing rules and describes administrative process.	
Notices	Assumes that CVP will operate in accordance with existing rules.	Assumes that CVP will operate in accordance with existing rules.	
Confirmation of Contract	Existing long-term contract: Assumes required validation of contract under state law. Interim renewal contract: No validation action required.	Assumes required validation of contract under state law.	

¹ Contract provisions were based on draft form contracts dated as follows: June 16, 2003 for BVWD, CCSD, City of Redding-Buckeye, City of Shasta Lake, CCCSD, and SCWA; June 26, 2003 for SCSD; and June 27, 2003 for KCSA and MGCSD. ~~The 10th contract, although informal, is a Memorandum of Agreement between two federal agencies and is not covered in this table.~~

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APPENDIX A: TABLE 2 ELEMENTS UNIQUE TO EXISTING AND INTERIM CONTRACTS: SHASTA AND TRINITY RIVER DIVISIONS ¹									
Unique Elements	M&I Water Only							M&I and Irrigation	
	Centerville Community Services District	City of Redding	City of Shasta Lake	Keswick County Services Area	Mountain Gate Community Services District	Shasta Community Services District	Shasta County Water Agency	Bella Vista Water District	Clear Creek Community Services District
Water available for delivery	2,900 acre-feet	6,140 acre-feet	2,750 acre-feet	500 acre-feet	350 acre-feet	1,000 acre-feet	2,100 acre-feet	24,000 acre-feet	15,300 acre-feet
Recent historic average made available	2,668 acre-feet	5,649 acre-feet	2,530 acre-feet	460 acre-feet	322 acre-feet	920 acre-feet	1,932 acre-feet	22,080 acre-feet	14,076 acre-feet
Point(s) of Diversion	Station 376+50 of the Muletown Conduit	Meter vault on 6-inch pipeline about 3/4 mile south of intersection of Lake Blvd. and Shasta Dam Blvd.; Spring Creek Power Conduit at Buckeye Water Treatment Plant, and existing point(s) of delivery from Sacramento River below Keswick Dam	16-inch water meter at water treatment facilities adjacent to Shasta Dam visitor area	Downstream end of metering equipment approximately at Station 176+62.0 of the Spring Creek Power Conduit	Shasta Reservoir	downstream end of metering equipment at Station 98+60 of Spring Creek Power Conduit	either at CVP facilities or location(s) agreed to by contracting officer and contractor	Sacramento River at Wintu Pumping Plant	downstream side of bifurcation valve at Whiskeytown Dam outlet works
Operating non-federal entity	Clear Creek CSD	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Privacy Act compliance	Not applicable	Required	Not applicable	Not applicable	Not applicable	Not applicable	Required [may change to Not applicable when contract is revised to remove ag water]	Required	Required

¹ Based on existing interim or unexpired contracts/data as of July 2003. The tenth “contract” is a Memorandum of Understanding between Reclamation and U.S. Forest Service (at the Centimudi Boat Ramp)

APPENDIX A: TABLE 2 ELEMENTS UNIQUE TO EXISTING AND INTERIM CONTRACTS: SHASTA AND TRINITY RIVER DIVISIONS ¹									
Unique Elements	M&I Water Only							M&I and Irrigation	
	Centerville Community Services District	City of Redding	City of Shasta Lake	Keswick County Services Area	Mountain Gate Community Services District	Shasta Community Services District	Shasta County Water Agency	Bella Vista Water District	Clear Creek Community Services District
Construction, installation, operations and maintenance (O&M), and ownership of facilities		Contractor shall operate and maintain 6-inch pipeline, which shall continued to be owned by U.S.; unless otherwise provided by Congress, U.S. will continue to own Toyon Pipeline.	Contractor shall construct, install, operate and maintain at its own expense facilities required to take, convey, and distribute water to users served by contractor.		Contractor shall construct, install, operate and maintain at its own expense facilities required to take, convey, and distribute water to users served by contractor.	Contractor shall construct, install, operate and maintain at its own expense facilities required to take, convey, and distribute water to users served by contractor.	Contractor shall construct, operate, and maintain at its own expense facilities required to take, convey, and distribute water to users served by contractor		
Other special provisions		Contractor will compensate U.S. for electricity losses resulting from water diverted at Spring Creek Power Conduit. U.S. is not obligated to furnish more than 40 acre-feet per year from Shasta Reservoir at the meter vault on the 6-inch pipeline. Contractor shall not use water furnished under the contract for power production unless it is incidental to water delivery to			U.S. shall not be responsible to maintain water levels in Shasta Reservoir to permit contractor to withdraw water from reservoir.	U.S. shall not be obligated to furnish water at point(s) of delivery in excess of 1,750 gallons per minute nor to furnish water at heads or pressures sufficient to deliver water into or through contractor's facilities.	Also receives water from Reclamation's Sacramento River Division. Water made available for direct diversion by contractor from Shasta, Keswick, and Whiskeytown have a valid claim. All surface water delivered to contractor must be measured by the contractor.	Costs associated with irrigation water distribution works constructed by U.S. separately covered by a repayment contract.	Contracting officer shall make reasonable efforts to deliver CVP water at full design head of bifurcation valve less reductions in capacity or head caused by contractor's devices or systems.

¹ Based on existing interim or unexpired contracts/data as of July 2003. The tenth "contract" is a Memorandum of Understanding between Reclamation and U.S. Forest Service (at the Centimudi Boat Ramp)

APPENDIX A: TABLE 2 ELEMENTS UNIQUE TO EXISTING AND INTERIM CONTRACTS: SHASTA AND TRINITY RIVER DIVISIONS ¹									
Unique Elements	M&I Water Only						M&I and Irrigation		
	Centerville Community Services District	City of Redding	City of Shasta Lake	Keswick County Services Area	Mountain Gate Community Services District	Shasta Community Services District	Shasta County Water Agency	Bella Vista Water District	Clear Creek Community Services District
		individual customers and Reclamation concurs with its use for power production. Contractor may use CVP water taken from 6-inch pipeline for approved water transfers and may pressurize deliveries through the pipeline. Requirement to measure water delivered includes backwash water used to clean filters at Buckeye Water Treatment Plant. Water furnished under this contract is considered separate from water furnished under Contract No. 14-06-200-2871A-R1.							

¹ Based on existing interim or unexpired contracts/data as of July 2003. The tenth “contract” is a Memorandum of Understanding between Reclamation and U.S. Forest Service (at the Centimudi Boat Ramp)

APPENDIX B

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APPENDIX C

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APPENDIX D

Updated Special-Status Species List (June 2003)

USFWS County Species List
County Species List Federal Endangered and Threatened Species that
may be affected by projects in Shasta County

Database Last Updated: June 5, 2003
Today's Date is: June 27, 2003

Listed Species

Invertebrates

- Branchinecta lynchi - vernal pool fairy shrimp (T)
- Desmocerus californicus dimorphus - valley elderberry longhorn beetle (T)
- Lepidurus packardii - vernal pool tadpole shrimp (E)
- Pacifastacus fortis - Shasta crayfish (E)

Fish

- Hypomesus transpacificus - delta smelt (T)
- Oncorhynchus mykiss - Central Valley steelhead (T) (NMFS)
- Oncorhynchus tshawytscha - Central Valley spring-run chinook salmon (T) (NMFS)
- Pogonichthys macrolepidotus - Sacramento splittail (T)

Amphibians

- Rana aurora draytonii - California red-legged frog (T)

Birds

- Haliaeetus leucocephalus - bald eagle (T)
- Strix occidentalis caurina - northern spotted owl (T)

Plants

- Orcuttia tenuis - slender Orcutt grass (T)
- Tuctoria greenei - Greene's tuctoria (=Orcutt grass) (E)

Candidate Species

Fish

- Acipenser medirostris - green sturgeon (C)
- Oncorhynchus tshawytscha - Central Valley fall/late fall-run chinook salmon (C) (NMFS)

Birds

- Coccyzus americanus occidentalis - western yellow-billed cuckoo (C)

Species of Concern

Invertebrates

- Anthicus antiochensis - Antioch Dunes anthicid beetle (SC)
- Anthicus sacramento - Sacramento anthicid beetle (SC)

USFWS County Species List

Cryptochia shasta - confusion caddisfly (SC)
Ecclisomyia bilera - King's Creek ecclisomyian caddisfly (SC)
Linderiella occidentalis - California linderiella fairy shrimp (SC)
Monadenia setosa - Trinity (=California) bristlesnail (CA)
Monadenia troglodytes - Shasta sideband snail (SC)
Nebria gebleri siskiyouensis - Siskiyou ground beetle (SC)
Nebria sahlbergii triad - Trinity Alps ground beetle (SC)
Parapsyche extensa - King's Creek parapsyche caddisfly (SC)
Rhyacophila lineata - Castle Crags rhyacophilan caddisfly (SC)
Rhyacophila mosana - bilobed rhyacophilan caddisfly (SC)

Fish

Cottus asperimus - rough sculpin (CA)
Lampetra ayresi - river lamprey (SC)
Lavinia symmetricus mitrulus - Pit roach (SC)
Oncorhynchus (=Salmo) *mykiss* ssp. - McCloud River redband trout (SC)
Spirinchus thaleichthys - longfin smelt (SC)

Amphibians

Ascaphus truei - tailed frog (SC)
Hydromantes shastae - Shasta salamander (CA)
Rana boylei - foothill yellow-legged frog (SC)
Rana cascadae - Cascades frog (SC)
Spea hammondi - western spadefoot toad (SC)

Reptiles

Clemmys marmorata marmorata - northwestern pond turtle (SC)
Phrynosoma coronatum frontale - California horned lizard (SC)

Birds

Accipiter gentilis - northern goshawk (SC)
Agelaius tricolor - tricolored blackbird (SC)
Amphispiza belli belli - Bell's sage sparrow (SC)
Athene cucularia hypugaea - western burrowing owl (SC)
Baeolophus inornatus - oak titmouse (SLC)
Botaurus lentiginosus - American bittern (SC)
Branta canadensis leucopareia - Aleutian Canada goose (D)
Buteo regalis - ferruginous hawk (SC)
Carduelis lawrencei - Lawrence's goldfinch (SC)
Chaetura vauxi - Vaux's swift (SC)
Contopus cooperi - olive-sided flycatcher (SC)
Cypseloides niger - black swift (SC)
Empidonax traillii brewsteri - little willow flycatcher (CA)
Falco peregrinus anatum - American peregrine falcon (D)
Grus canadensis tabida - greater sandhill crane (CA)
Lanius ludovicianus - loggerhead shrike (SC)
Melanerpes lewis - Lewis' woodpecker (SC)
Numenius americanus - long-billed curlew (SC)
Otus flammeolus - flammulated owl (SC)
Picoides nuttallii - Nuttall's woodpecker (SLC)
Plegadis chihi - white-faced ibis (SC)
Riparia riparia - bank swallow (CA)
Selasphorus rufus - rufous hummingbird (SC)
Sphyrapicus ruber - red-breasted sapsucker (SC)
Strix occidentalis occidentalis - California spotted owl (SC)
Toxostoma redivivum - California thrasher (SC)

Mammals

USFWS County Species List

Brachylagus idahoensis - pygmy rabbit (SC)
 Corynorhinus (=Plecotus) townsendii pallescens - pale Townsend's
 big-eared bat (SC)
 Corynorhinus (=Plecotus) townsendii townsendii - Pacific western
 big-eared bat (SC)
 Euderma maculatum - spotted bat (SC)
 Gulo gulo luteus - California wolverine (CA)
 Lepus americanus tahoensis - Sierra Nevada snowshoe hare (SC)
 Martes americana - American (=pine) marten (SC)
 Martes pennanti - fisher (SC)
 Myotis ciliolabrum - small-footed myotis bat (SC)
 Myotis evotis - long-eared myotis bat (SC)
 Myotis thysanodes - fringed myotis bat (SC)
 Myotis volans - long-legged myotis bat (SC)
 Myotis yumanensis - Yuma myotis bat (SC)
 Perognathus inornatus - San Joaquin pocket mouse (SC)
 vulpes vulpes necator - Sierra Nevada red fox (CA)

Plants

Agrostis hendersonii - Henderson's bent grass (SC)
 Amsinckia lunaris - bent-flowered fiddleneck (SLC)
 Arctostaphylos klamathensis - Klamath manzanita (SC)
 Astragalus pulsiferus var. suksdorfii - Suksdorf's milk-vetch (SC)
 Calochortus longebarbatus var. longebarbatus - long-haired star-tulip
 (SC)
 Calochortus syntrophus - Callahan's mariposa lily (SC)
 Calystegia atriplicifolia ssp. buttensis - Butte County morning-glory
 (SC)
 Campanula wilkinsiana - wilkin's harebell (SC)
 Clarkia borealis ssp. arida - arid northern clarkia (SC)
 Cryptantha crinita - silky cryptantha (SC)
 Cypripedium fasciculatum - clustered lady's-slipper (SC)
 Epilobium oregonum - Grants Pass willowherb (SC)
 Eriogonum libertini - Dubakella Mountain buckwheat (SLC)
 Fritillaria eastwoodiae - Butte fritillary (SC)
 Gratiola heterosepala - Boggs Lake hedge-hyssop (CA)
 Iliamna bakeri - Baker's globe mallow (=Baker's wild hollyhock) (SLC)
 Legenere limosa - legenere (SC)
 Lewisia cantelowii - Cantelow's lewisia (SC)
 Lewisia cotyledon var. howellii - Howell's lewisia (SC)
 Limnanthes floccosa ssp. bellingeriana - Bellinger's meadowfoam (SC)
 Madia stebbinsii (=Harmonia stebbinsii) - Stebbins's madia
 (=Stebbins's harmonia) (SC)
 Minuartia decumbens - The Lassics sandwort (SC)
 Neviusia cliftonii - Shasta snow wreath (SC)
 Paronychia ahartii - Ahart's whitlow-wort (=Ahart's paronychia)^v(SC)
 Penstemon filiformis - thread-leaved penstemon (=beardtongue) (SLC)
 Phacelia dalesiana - Trinity (Scott Mountain) phacelia (SC)
 Pogogyne floribunda - propuse-flowering (=Devil's Garden) pogogyne (SC)

 Puccinellia howellii - Howell's alkali grass (SC)
 Sagittaria sanfordii - valley sagittaria (=Sanford's arrowhead) (SC)
 Sedum paradisum - Canyon Creek stonecrop (SC)
 Silene campanulata ssp. campanulata - Red Mountain catchfly (=campion)
 (CA)
 Silene occidentalis ssp. longistipitata - Butte County catchfly
 (=long-stiped campion) (SC)
 Smelowskia ovalis ssp. congesta - Mt. Lassen (=Lassen Peak) smelowskia
 (SC)
 Streptanthus sp. nov. /ined. (Shasta Co.) - Pit River jewelflower (SC)
 Thelypodium howellii ssp. howellii - Howell's thelypodium (SLC)
 Trillium ovatum ssp. oettingeri - Salmon Mountains wakerobin (SLC)

USFWS County Species List

Species with Critical Habitat Proposed or Designated in this County

Central Valley fall/late fall-run chinook (C)
northern spotted owl (T)
vernal pool invertebrates (PX)
vernal pool plants (PX)
winter-run chinook salmon (E)

Key:

- (E) Endangered - Listed (in the Federal Register) as being in danger of extinction.
(T) Threatened - Listed as likely to become endangered within the foreseeable future.
(P) Proposed - Officially proposed (in the Federal Register) for listing as endangered or threatened.
(NMFS) Species under the Jurisdiction of the National Marine Fisheries Service. Consult with them directly about these species.
Critical Habitat - Area essential to the conservation of a species.
(PX) Proposed Critical Habitat - The species is already listed. Critical habitat is being proposed for it.
(C) Candidate - Candidate to become a proposed species.
(CA) Listed by the State of California but not by the Fish & Wildlife Service.
(D) Delisted - Species will be monitored for 5 years.
(SC) Species of Concern/(SLC) Species of Local Concern - Other species of concern to the Sacramento Fish & Wildlife Office.

Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area and also ones that may be affected by projects in the area. For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

This is not an official list for formal consultation under the Endangered Species Act. However, it may be used to update official lists.

If you have a project that may affect endangered species, please contact the Endangered Species Division, Sacramento Fish and Wildlife Office, U.S. Fish and Wildlife Service.

ATTACHMENT A
Endangered and Threatened Species that May Occur in or be Affected by
PROJECTS IN SHASTA COUNTY
Reference File No. 00-SP-2414
July 18, 2000

Listed Species

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (T)
bald eagle, *Haliaeetus leucocephalus* (T)
Critical habitat, northern spotted owl, *Strix occidentalis caurina* (T)
northern spotted owl, *Strix occidentalis caurina* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Critical habitat, winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)
winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)
delta smelt, *Hypomesus transpacificus* (T)
Central Valley steelhead, *Oncorhynchus mykiss* (T)
Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T)
Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

vernal pool tadpole shrimp, *Lepidurus packardii* (E)
Shasta crayfish, *Pacifastacus fortis* (E)
vernal pool fairy shrimp, *Branchinecta lynchi* (T)
valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

Plants

Greene's tuctoria, *Tuctoria greenei* (E)
slender Orcutt grass, *Orcuttia tenuis* (T)

Proposed Species

Fish

Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (PX)

Candidate Species

Fish

McCloud River redband trout, *Oncorhynchus (=Salmo) mykiss* ssp. (C)
Klamath Mts. Province steelhead, *Oncorhynchus mykiss* (C)
Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

Species of Concern

Mammals

California wolverine, *Gulo gulo luteus* (CA)

pygmy rabbit, *Brachylagus idahoensis* (SC)
pale Townsend's big-eared bat, *Corynorhinus (=Plecotus) townsendii pallescens* (SC)
Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)
spotted bat, *Euderma maculatum* (SC)
Sierra Nevada snowshoe hare, *Lepus americanus tahoensis* (SC)
American (=pine) marten, *Martes americana* (SC)
Pacific fisher, *Martes pennanti pacifica* (SC)
small-footed myotis bat, *Myotis ciliolabrum* (SC)
long-eared myotis bat, *Myotis evotis* (SC)
fringed myotis bat, *Myotis thysanodes* (SC)
long-legged myotis bat, *Myotis volans* (SC)
Yuma myotis bat, *Myotis yumanensis* (SC)
San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Birds

little willow flycatcher, *Empidonax traillii brewsteri* (CA)
greater sandhill crane, *Grus canadensis tabida* (CA)
bank swallow, *Riparia riparia* (CA)
American peregrine falcon, *Falco peregrinus anatum* (D)
Black-Crowned Night Heron, *Nycticorax nycticorax* (MB)
northern goshawk, *Accipiter gentilis* (SC)
tricolored blackbird, *Agelaius tricolor* (SC)
grasshopper sparrow, *Ammodramus savannarum* (SC)
Bell's sage sparrow, *Amphispiza belli belli* (SC)
short-eared owl, *Asio flammeus* (SC)
western burrowing owl, *Athene cunicularia hypugea* (SC)
American bittern, *Botaurus lentiginosus* (SC)
ferruginous hawk, *Buteo regalis* (SC)
Lawrence's goldfinch, *Carduelis lawrencei* (SC)
Vaux's swift, *Chaetura vauxi* (SC)
black tern, *Chlidonias niger* (SC)
lark sparrow, *Chondestes grammacus* (SC)
olive-sided flycatcher, *Contopus cooperi* (SC)
black swift, *Cypseloides niger* (SC)
hermit warbler, *Dendroica occidentalis* (SC)
common loon, *Gavia immer* (SC)
loggerhead shrike, *Lanius ludovicianus* (SC)
Lewis' woodpecker, *Melanerpes lewis* (SC)
long-billed curlew, *Numenius americanus* (SC)
white-faced ibis, *Plegadis chihi* (SC)
rufous hummingbird, *Selasphorus rufus* (SC)

red-breasted sapsucker, *Sphyrapicus ruber* (SC)
Brewer's sparrow, *Spizella breweri* (SC)
California spotted owl, *Strix occidentalis occidentalis* (SC)
Bewick's wren, *Thryomanes bewickii* (SC)

Reptiles

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

Shasta salamander, *Hydromantes shastae* (CA)
talled frog, *Ascaphus truei* (SC)
foothill yellow-legged frog, *Rana boylei* (SC)
Cascades frog, *Rana cascadae* (SC)
western spadefoot toad, *Scaphiopus hammondii* (SC)

Fish

rough sculpin, *Cottus asperimus* (CA)
green sturgeon, *Acipenser medirostris* (SC)
river lamprey, *Lampetra ayresi* (SC)
Pit roach, *Lavinia symmetricus mitrulus* (SC)
longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

Trinity (=California) bristlenail, *Monadenia setosa* (CA)
Antioch Dunes anthicid beetle, *Anthicus antiochensis* (SC)
Sacramento anthicid beetle, *Anthicus sacramento* (SC)
confusion caddisfly, *Cryptochia shasta* (SC)
King's Creek ecclisomyian caddisfly, *Ecclisomyia bilera* (SC)
California linderiella fairy shrimp, *Linderiella occidentalis* (SC)
Shasta sideband snail, *Monadenia troglodytes* (SC)
Siskiyou ground beetle, *Nebria gebleri siskiyouensis* (SC)
Trinity Alps ground beetle, *Nebria sahlbergii triad* (SC)
King's Creek parapsyche caddisfly, *Parapsyche extensa* (SC)
Castle Crags rhyacophilan caddisfly, *Rhyacophila lineata* (SC)
bilobed rhyacophilan caddisfly, *Rhyacophila mosana* (SC)

Plants

Klamath manzanita, *Arctostaphylos klamathensis* (SC)
Suksdorf's milk-vetch, *Astragalus pulsiferae* var. *suksdorfii* (SC)
long-haired star-tulip, *Calochortus longebarbatus* var. *longebarbatus* (SC)
Wilkins' harebell, *Campanula wilkinsiana* (SC)
arid northern clarkia, *Clarkia borealis* ssp. *arida* (SC)
silky cryptantha, *Cryptantha crinita* (SC)

clustered lady's-slipper, *Cypripedium fasciculatum* (SC)
Oregon fireweed, *Epilobium oregonum* (SC)
Butte fritillary, *Fritillaria eastwoodiae* (SC)
Howell's lewisia, *Lewisia cotyledon* var. *howellii* (SC)
Bellinger's meadowfoam, *Limnanthes floccosa* ssp. *bellingiana* (SC)
Stebbins' madia, *Madia stebbinsii* (SC)
The Lassics sandwort, *Minuartia decumbens* (SC)
Ahart's whillow-wort, *Paronychia aharlii* (SC)
thread-leaved penstemon, *Penstemon filiformis* (SC)
Trinity (Scott Mountain) phacelia, *Phacelia dalesiana* (SC)
Devil's Garden pogogyne, *Pogogyne floribunda* (SC)
Howell's alkali grass, *Puccinellia howellii* (SC)
valley sagittaria, *Sagittaria sanfordii* (SC)
Canyon Creek stonecrop, *Sedum paradisum* (SC)
Butte County (western) catchfly, *Silene occidentalis* ssp. *longistipitata* (SC)
Mt. Lassen smelowskia, *Smelowskia ovalis* ssp. *congesta* (SC)
Pit River jewelflower, *Streptanthus* sp. nov. *ined.* (Shasta Co.) (SC)

KEY:

- | | |
|--------------------------|--|
| (E) <i>Endangered</i> | Listed (in the Federal Register) as being in danger of extinction. |
| (T) <i>Threatened</i> | Listed as likely to become endangered within the foreseeable future. |
| (P) <i>Proposed</i> | Officially proposed (in the Federal Register) for listing as endangered or threatened. |
| (PX) <i>Proposed</i> | Proposed as an area essential to the conservation of the species. |
| | <i>Critical Habitat</i> |
| (C) <i>Candidate</i> | Candidate to become a <i>proposed</i> species. |
| (SC) <i>Species of</i> | Other species of concern to the Service. |
| | <i>Concern</i> |
| (D) <i>Delisted</i> | Delisted. Status to be monitored for 5 years. |
| (CA) <i>State-Listed</i> | Listed as threatened or endangered by the State of California. |
| * <i>Extirpated</i> | Possibly extirpated from the area. |
| ** <i>Extinct</i> | Possibly extinct |
| | <i>Critical Habitat</i> Area essential to the conservation of a species. |

APPENDIX E

**Technical Memorandum-Economic Analysis (October
2000)**

Economic Analysis of November 1999 Tiered Pricing Proposal for PEIS Preferred Alternative**Date: October 2, 2000**

This submittal presents the results of an Economic Analysis of the application to the PEIS Preferred Alternative of the November 1999 unit rates for CVP water and Tiered Pricing Proposal.

The PEIS Preferred Alternative included assumptions for the tiered pricing of CVP water that were developed during the preparation of the Draft PEIS. Subsequent to completion of the Final PEIS, a different tiered pricing proposal was developed. In addition, the PEIS assumed 1992 CVP water rates. This analysis includes the 1999 water rates. This submittal applies the new water rates and the November 1999 proposal to the Preferred Alternative and compares the results to the impact analysis of the PEIS Preferred Alternative. The level of detail presented in this submittal is consistent with the level of detail presented in the main PEIS document and the technical appendices. Tables are presented in the same format as used in the PEIS.

The economic analysis includes an evaluation of agricultural economics using Central Valley Production Model (CVPM), municipal and industrial water use economics for CVP water using the spreadsheet presented with the PEIS, and regional economics using IMPLAN. This memorandum discusses the new assumptions in the November 1999 proposal. However, this memorandum does not discuss the basic assumptions used in the PEIS models and analytical tools. This memorandum must be used in conjunction with the Draft PEIS and Final PEIS, including the methodology and modeling technical appendices, to explain the overall assumptions for evaluating the Preferred Alternative in the PEIS.

For the Agricultural Land Use and Economics analysis, the methodology used for applying CVP water rates was modified to allow for the new tiered pricing and the use of blended rates to determine a total water rate for all CVP water applied by an irrigation district or agency. These changes result in changes in water use due to the affordability of CVP water supplies, not a change in reliability.

For the Municipal and Industrial Water Use Economics analysis, blended rates had been used in the PEIS analysis. In addition, this analysis assumes that the municipal and industrial users will be able to afford the calculated water costs, as described in the PEIS. Therefore, CVP water deliveries do not change for the municipal and industrial analysis. The Regional Economics analysis reflects only changes to agricultural and municipal and industrial sectors, but not recreation sectors.

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SECTION 1
AGRICULTURAL LAND USE AND ECONOMICS

AGRICULTURAL LAND USE AND ECONOMICS

CONTRACT RENEWAL PROPOSAL WITH BLENDED WATER RATES

In the November 1999 proposal, Reclamation has proposed that water sold to CVP water service contractors be sold according to tiered water rates as required by CVPIA section 3404.

Reclamation has also proposed that two categories of water be identified. Category 1 water would be calculated as the average delivery of the previous five years, and would be split into three tiers according to the 80-10-10 quantities defined in the CVPIA. Category 2 water would be any water available in excess of the 5-year rolling average, up to the total contract amount as defined by the Needs Analysis.

Tier 1 water rates include the cost-of-service component and any applicable Restoration charges and surcharges. Both the Restoration Charge and the capital component of the cost-of-service rate are subject to ability-to-pay limits. These limits are in effect for Bella Vista WD and Clear Creek CSD, contractors on the Corning and Tehama-Colusa Canals, and contractors receiving water from New Melones.

Tier 3 water rates include the full-cost rate (as defined in the Reclamation Reform Act) and any applicable Restoration Charges. No ability-to-pay relief is provided in this Tier. The Tier 2 water rate is the average of the applicable Tier 1 and Tier 3 rates. Category 2 water has the same rate as Tier 3.

For this proposal, it is assumed that water conservation guidelines allow contractors to blend the rate of CVP water delivered in any tier or Category, and that they do blend the rates. This is different from the assumption used to assess alternatives in the PEIS, in which contractors were assumed to sell CVP water to growers at tiered rates. Differences between PEIS pricing assumptions and this analysis are:

- This analysis assumes that contractors blend the price of all CVP water received at tiered rates into a single rate. Tiered rates to growers are assumed in the PEIS.
- The project water portion of Sacramento River water rights settlement contracts are not subject to the new pricing policy in this analysis. In the PEIS it was assumed that it was subject to tiered rates.
- Rates are based on the Irrigation Water Rates spreadsheets provided by Reclamation in November 1999. PEIS rates used the 1994 Irrigation Water Rates manual.
- Ability-to-pay relief is incorporated using the current payment capacity studies for Shasta County irrigation contractors, Corning Canal contractors, Tehama Colusa Canal contractors, and New Melones contractors. In the PEIS, payment capacity was based on a 1992 regional study (PEIS, 1999).

- In this analysis, ability to pay relief is provided in Tier 1, with none in Tier 3 - Tier 2 is the average of Tiers 1 and 3, and so provides 50% relief. In the PEIS, the same dollar amount of ability to pay relief is applied in all pricing tiers.
- A \$7.00 per acre-foot Restoration Charge is assumed in this analysis. A \$6.50 per acre-foot charge was used in the PEIS. The Friant surcharge was \$7.00 per acre-foot in both studies.
- There is no lower bound on the usage of CVP water. In the PEIS each subregion was restricted to using at least the Tier 1 quantity of CVP supplies.

METHODOLOGY

Other than the differences listed above, the modeling approach and underlying data were the same as used for the PEIS. The Central Valley Production Model (CVPM) was used in this analysis, with modifications needed to assess the specific water pricing conditions proposed. Table 1 shows the regions of the CVPM and the corresponding service areas. Groundwater hydrology was not assessed as it was in the PEIS alternatives. Therefore, for purposes of analysis, most regions were assumed to have access to replacement groundwater if needed. Based on groundwater hydrology as described in the PEIS, the following subregions are assumed to be unable to replace any CVP water with groundwater on a long term basis: Shasta County irrigation contractors (subregion 1), Corning Canal contractors (subregion 2), and the Tehama-Colusa service area (subregion 3B).

Water deliveries from the CVPIA Preferred Alternative were used (Reclamation CVPIA PEIS, 1999). These deliveries were allocated on a yearly basis into pricing tiers and categories according to the rules described above. Weighted average (i.e., blended) prices were calculated for each year, with quantities in each tier and category based on the previous five years of delivery. In any given year, the quantity and blended price of water depends on the 6-year sequence leading up to and including the current year. Throughout this report the following conventions are used: an Average year represents the average 1922-1990 water delivery from the CVPIA Preferred Alternative (Reclamation CVPIA PEIS, 1999); a Wet year represents the average delivery for the period of 1967-1971 from the CVPIA Preferred Alternative; and a Dry year is the average 1928-1934 delivery from The CVPIA Preferred Alternative.

A total of nine water supply sequences are assessed in this analysis and compared to the CVPIA Preferred Alternative:

Average-Average:	An average water year following a 5-year sequence of average years.
Wet-Average:	An average water year following a 5-year sequence of wet years.
Dry-Average:	An average water year following a 5-year sequence of dry years.
Average-Wet:	A wet water year following a 5-year sequence of average years.
Wet-Wet:	A wet water year following a 5-year sequence of wet years.
Dry-Wet:	A wet water year following a 5-year sequence of dry years.
Average-Dry:	A dry water year following a 5-year sequence of average years.
Wet-Dry:	A dry water year following a 5-year sequence of wet years.
Dry-Dry:	A dry water year following a 5-year sequence of dry years.

The CVP water rates used for each of the nine sequences described above and the CVPIA Preferred Alternative tiered prices are shown in Table 3. Tables 4-12 show the available CVP water service contract supplies by tier and the blended price for each of the 22 subregions under the nine sequences proposed for the Long-Term Contract Renewal analysis.

Results are shown for each of the nine sequences presented as differences compared to the CVPIA Preferred Alternative. When calculating differences from the CVPIA Preferred Alternative, sequences ending in an Average, Wet and Dry years are compared to the Average, Wet and Dry year CVPIA Preferred Alternative results respectively.

IRRIGATED ACRES

Changes in irrigated acres from the Preferred Alternative are summarized by region in Table 13. A complete list of changes by crop and subregion is provided as Table 17.

Both the Average-Average and Wet-Average scenarios show little difference from the Preferred Alternative under the Average hydrology conditions. The Dry-Average sequence shows a larger reduction in irrigated acres almost all of which comes from the Sacramento River region. Compared to the Wet year Preferred Alternative results, there is a similar pattern for the three Long-Term Contract Renewal sequences ending with Wet years. For all three of the Long Term Contract Renewal Sequences ending in a dry year there minimal increases in irrigated acreage compared to the Dry year CPVIA Preferred Alternative results. Irrigated acres remain unchanged under all nine sequences in the San Felipe Division.

The reduction in acreage in Average and Wet years preceded by a series of Dry years is a result of higher CVP water costs. Since the quantity of Category 1 water is based on the average deliveries of the preceding five years, the quantity of water eligible for Category 1 classification shrinks when a sustained drought is experienced. In an average or wet year follows a drought period, water becomes available however a large portion is classified as Category 2 and is priced at the full cost rate. This can be seen in Tables 6 and 9. When this relatively large block of full cost water is incorporated into the blended water price, all CVP supplies become more expensive, and sometimes unaffordable. This result is not seen in the dry-dry sequence because there is not excess water that gets classified as Category 2.

GROSS AND NET REVENUE

Gross revenue (value of production) impacts follow acreage impacts quite closely, and are shown by region in Table 14. Compared to the Average Preferred Alternative, a small reduction of less than \$1 million is estimated for the Average-Average and Wet-Average scenarios, and a \$39 million reduction is estimated in Dry-Average scenario. Gross revenue also declines compared to the Wet Preferred Alternative with approximately \$5 million reductions in Average and Wet years and a larger reduction of \$29 million in the Dry-Wet scenario. In dry years preceded by all three hydrologic conditions, gross revenue is slightly higher when compared to the Preferred Alternative Dry year results. There were no changes in gross revenue for the San Felipe Division since there were no changes in irrigated acres compared to the CVPIA preferred Alternative. A complete list of changes in gross revenue by crop and subregion is provided as Table 18.

Net revenue impacts are separated into five components; Fallowed land, Groundwater pumping costs, Irrigation Costs, CVP water costs and higher crop prices. The CVP water cost component represents the impact to net revenue from changes in both the quantity of CVP water used and the price of CVP water. Therefore when the blended CVP water price increases, farmers frequently use less, and the net impact to the CVP water cost component can be positive even when the water price is higher. Table 15 summarizes the net income impacts by component. A negative entry in the table indicates a reduction in net revenue. A complete list of changes in net income by component for each subregion is provided as Table 19.

Relatively small net income impacts are seen in all water supply sequences at the State level. The Average-Average sequence compared to the Average year Preferred Alternative shows a decline of \$2 million in net revenue for all of California. The Wet-Average scenario is estimated to have a net increase of approximately \$4 million and the Dry-Average sequence a decrease of \$12 million.

The net revenue impact in wet years relative to the Preferred Alternative wet results show a pattern similar to the Average year results. Dry years preceded by a series of Average and Wet years both show net decrease in revenue of about \$12 million while the Dry-Dry sequence results in a \$15 million decrease in State wide net revenue relative the Preferred Alternative Dry results.

Notice that following a series of dry years, the net revenue component associated with crop prices often results in a positive impact to net revenue. This occurs because some subregions are forced to reduce acreage because of higher blended CVP water prices, resulting in higher crop prices received for acreage that remains in production.

There is a negative impact to net revenue from irrigation costs in the Sacramento and San Joaquin River regions in each of the nine Long-Term Contract Renewal sequences. This impact is derived from the irrigation efficiency improvements induced by higher CVP water prices in the Average year sequences. The change in irrigation efficiency is carried through to the Wet and dry year sequences because they are short run analyses and irrigation technology is fixed in the short run. The increase in irrigation efficiency results in a reduction in the total water used in some subregions while irrigated acreage remains constant.

WATER USE

Table 16 summarizes water use changes by region. A complete list of changes in CVP water use and groundwater use by subregion is provided as Table 20. Water supplies other than CVP project water and groundwater are unaffected and not shown. The San Joaquin River region and most of the sequences for the Sacramento River region show the typical response represented by a shift away from CVP supplies to groundwater as CVP water becomes more expensive under the new pricing schemes. The Tulare Lake region and the Sacramento River region during wet years preceded by a series of Average and Wet years show what would be considered an atypical response.

In the Sacramento River region when five years of Wet and Average conditions are followed by a wet year, the model predicts that both groundwater and CVP water use will decline relative to the Preferred Alternative Wet condition. The decrease in groundwater use is mostly attributed to subregion 3b. In this subregion in a wet year coming out of a series of Average or Wet years the blended price is cheaper than the Preferred Alternative Tier 2 water cost as well as the cost of pumping groundwater. Therefore there is a shift away from groundwater to CVP supplies. In Average years preceded by Average or Wet years, the subregion is prevented from shifting to CVP because they are already using their full CVP supply.

In the Tulare Lake region there is a pattern of shifting from groundwater to CVP water that can be attributed to subregions 17. This subregion shifts because under the blended pricing scheme the CVP water becomes cheaper than pumping groundwater; therefore they maximize their CVP water use.

In average and wet years preceded by a series of dry years, there is a large decrease in CVP water use in both the Sacramento and San Joaquin River regions. This is driven by the relatively high cost of CVP supplies under these conditions. Since many subregions receive less water in dry years, or the water falls into the higher tiers and it becomes unaffordable, and the base from which the blended price tier quantities is calculated shrinks. This sets up a condition where when an Average or Wet year comes along, the additional water is classified as Category 2 and assessed the full cost price. The CVP blended price is a weighted average of all CVP supplies therefore the cost for all CVP water increases and the supplies often become unaffordable.

LOCALIZED IMPACTS

Certain subregions are substantially affected by the proposed water pricing.

- The Tehama-Colusa service area is the most-affected region. Limited groundwater availability and very high full-cost price relative to the value of water in agricultural production result in almost 60,000 acres out of production in the Dry-Average sequence and substantially higher cost for lands remaining in production. This analysis shows a one-year snapshot. Because water pricing is based on historic delivery, a region (such as the Tehama-Colusa region) may never be able to "buy its way" back out from a drought. Looked at over a sequence of dry years such as 1928-34 or 1987-92, many or most of the districts in this area could not survive as CVP contractors.
- The analysis predicts that the Delta subregion will make a complete switch to groundwater supplies in all nine hydrologic sequences, assuming groundwater is available in all parts of the service area.
- The analysis estimates that the once an extended drought is experienced the Delta-Mendota service area would switch from its CVP water service supply to groundwater, assuming groundwater is available in all parts of the service area.
- Westlands Water District and many of the Friant Unit contractors would likely continue purchasing CVP water. Since these areas continue to purchase CVP supplies in all years coming out of drought conditions, they would eventually build their base deliveries up or "buy their way" back to pre-drought tier quantities and prices.

TABLE 1

CVPM SUBREGIONS AND DESCRIPTIONS

CVPM Subregion	Description of Major Water Users
1	CVP Users: Anderson Cottonwood, Clear Creek, Bella Vista, Sacramento River miscellaneous users.
2	CVP Users: Corning Canal, Kirkwood, Tehema, Sacramento River, miscellaneous users.
3	CVP Users: Glenn Colusa ID, Provident, Princeton-Codora, Maxwell, and Colusa Basin Drain MWC.
3B	Tehama Colusa Canal Service Area. CVP Users: Orland-Artois WD, most of County of Colusa, Davis, Dunnigan, Glide Kanawha, La Grande, Westside WD.
4	CVP Users: Princeton-Codora-Glenn, Colusa Irrigation Co., Meridian Farm WC, Pelger Mutual WC, Recl. Dist. 1004, Recl. Dist. 108, Robers Ditch, Sartain M.D., Sutter MWC, Swinford Tract IC, Tisdale Irrigation, Sacramento River miscellaneous users.
5	Most Feather River Region riparian and appropriative users.
6	Yolo, Solano Counties. CVP Users: Conaway Ranch, Sacramento River miscellaneous users.
7	Sacramento Co. north of American River. CVP Users: Natomas Central MWC, Sacramento River miscellaneous users, Pheasant Grove-Verona, San Juan Suburban.
8	Sacramento Co. south of American River, San Joaquin Co.
9	Delta Regions. CVP Users: Banta Carbona, West Side, Plainview.
10	Delta Mendota Canal. CVP Users: Pacheco, Del Puerto, Hospital, Sunflower, West Stanislaus, Mustang, Orestimba, Patterson, Foothill, San Luis WD, Broadview, Eagle Field, Mercy Springs, Pool Exchange Contractors, Schedule II water rights, more.
11	Stanislaus River water rights: Modesto ID, Oakdale ID, South San Joaquin ID.
12	Turlock ID.
13	Merced ID. CVP Users: Madera, Chowchilla, Gravely Ford.
14	CVP Users: Westlands WD.
15	Tulare Lake Bed. CVP Users: Fresno Slough, James, Tranquility, Traction Ranch, Laguna, Real. Dist. 1606.
16	Eastern Fresno Co. CVP Users: Friant-Kern Canal. Fresno ID, Garfield, International.
17	CVP Users: Friant-Kern Canal. Hills Valley, Tri-Valley Orange Cove.
18	CVP Users: Friant-Kern Canal, County of Fresno, Lower Tule River ID, Pixley ID, portion of Rag Gulch, Ducor, County of Tulare, most of Delano Earlimart, Exeter, Ivanhoe, Lewis Cr., Lindmore, Lindsay-Strathmore, Porterville, Sausalito, Stone Corral, Tea Pot Dome, Terra Bella, Tulare.
19	Kern Co. SWP Service Area.
20	CVP Users: Friant-Kern Canal. Shafter-Wasco, S. San Joaquin.
21	CVP Users: Cross Valley Canal, Friant-Kern Canal. Arvin Edison.

TABLE 2

CVP WATER RATES USED FOR LONG TERM CONTRACT RENEWAL ANALYSIS (\$)

CVP Subregion	Tiered Water Rates Used for LTCR analysis			Proposed Blended Water Rates for Water Service Contracts																	
	Tier 1	Tier 2	Tier 3	Average			Wet			Dry			Average			Wet			Dry		
				Followed by Average	Followed by Wet	Followed by Dry	Followed by Average	Followed by Wet	Followed by Dry	Followed by Average	Followed by Wet	Followed by Dry	Followed by Average	Followed by Wet	Followed by Dry						
1	12.01	37.56	63.12	19.67	14.98	14.14	23.91	19.67	18.20	18.20	25.19	21.09	19.67	18.20	18.20	25.19	21.09	19.67			
2	10.71	36.40	62.09	18.42	10.71	49.66	29.55	18.42	52.83	52.83	10.71	10.71	18.42	52.83	52.83	10.71	10.71	18.42			
3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			
3B	10.25	40.73	71.21	19.39	10.25	58.15	32.35	19.39	61.42	61.42	10.25	10.25	19.39	61.42	61.42	10.25	10.25	19.39			
4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			
5	20.65	23.01	25.36	21.35	21.18	21.77	21.52	21.35	21.92	21.92	20.90	20.81	21.35	21.92	21.92	20.90	20.81	21.35			
6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			
7	11.77	12.07	12.37	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86			
8	10.00	27.46	44.92	15.24	10.00	30.36	25.64	15.24	35.47	35.47	10.00	10.00	15.24	35.47	35.47	10.00	10.00	15.24			
9	24.79	55.14	85.50	33.89	24.79	64.53	55.27	33.89	73.22	73.22	24.79	24.79	33.89	73.22	73.22	24.79	24.79	33.89			
10	31.15	40.16	49.16	33.85	31.15	42.94	38.01	33.85	44.63	44.63	31.15	31.15	33.85	44.63	44.63	31.15	31.15	33.85			
11	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			
12	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			
13	32.16	38.41	44.65	34.04	33.25	37.44	34.77	34.04	37.94	37.94	32.16	32.16	34.04	37.94	37.94	32.16	32.16	34.04			
14	32.62	46.48	60.33	36.78	32.62	50.76	43.17	36.78	53.36	53.36	32.62	32.62	36.78	53.36	53.36	32.62	32.62	36.78			
15	32.71	41.91	51.10	35.47	34.55	38.10	36.34	35.47	38.82	38.82	32.71	32.71	35.47	38.82	38.82	32.71	32.71	35.47			
16	40.48	46.78	53.08	42.37	41.22	45.32	43.40	42.37	46.07	46.07	40.48	40.48	42.37	46.07	46.07	40.48	40.48	42.37			
17	34.18	40.49	46.79	36.07	35.15	39.28	36.92	36.07	39.88	39.88	34.18	34.18	36.07	39.88	39.88	34.18	34.18	36.07			
18	33.63	40.48	47.33	35.69	34.73	39.16	36.57	35.69	39.78	39.78	33.63	33.63	35.69	39.78	39.78	33.63	33.63	35.69			
19	34.58	42.16	49.73	36.86	35.00	41.21	38.84	36.86	42.52	42.52	34.58	34.58	36.86	42.52	42.52	34.58	34.58	36.86			
20	34.58	42.16	49.73	36.86	35.70	40.85	37.92	36.86	41.58	41.58	34.58	34.58	36.86	41.58	41.58	34.58	34.58	36.86			
21	32.70	39.00	45.31	34.59	32.98	39.01	36.33	34.59	40.03	40.03	32.70	32.70	34.59	40.03	40.03	32.70	32.70	34.59			

NOTES:

1. Blended rates used pricing components from the November, 1999 Irrigation Water Rates spreadsheets, Restoration Charge of \$7.00
2. PEIS rates used regional estimates of payment capacity and allowed the same ATP relief in all tiers.
3. Blended rates use most recent available payment capacity studies from Reclamation, and allow ATP relief in Tier 1 but not in Tier 3.
4. Only Class 1 rates are shown for Friant Division. Friant surcharge is \$7.00 in all rates.

TABLE 3

CVP WATER RATES USED IN PREFERRED ALTERNATIVE (\$)

CVPM Subregion	Tiered Water Rates Used in the PEIS Preferred Alternative (\$)		
	Tier 1	Tier 2	Tier 3
1	5.91	14.63	23.35
2	11.83	24.7	37.57
3	2.83	5.27	7.71
3B	17.16	36.225	55.29
4	5.32	7.625	9.93
5	4.53	6.965	9.4
6	4.53	6.82	9.11
7	6.63	8.83	11.03
8	4.53	7.095	9.66
9	28.54	35.245	41.95
10	33.46	40.015	46.57
11	0	0	0
12	0	0	0
13	33.65	39.395	45.14
14	39.31	54.385	69.46
15	28.16	34.875	41.59
16	38.25	44.255	50.26
17	35.58	41.905	48.23
18	35.01	41.255	47.5
19	36.68	42.885	49.09
20	36.68	42.885	49.09
21	35.4	42.01	48.62

NOTES:

1. PEIS rates used pricing components from the 1994 Irrigation Water Rates Manual, Restoration Charge of \$6.50
2. PEIS rates used regional estimates of payment capacity and allowed the same ATP relief in all tiers.
3. Only Class 1 rates are shown for Friant Division. Friant surcharge is \$7.00 in all rates.

TABLE 4

PROJECT WATER APPLIED BY PRICING TIERS
 AVERAGE YEAR FOLLOWING AVERAGE 5-YEAR BASE CONDITION

CVPM Subregion	Tier 1	Tier 2	Tier 3	Category 2	Blended Price (\$/AF)
	(1000 AF)				
1	9.4	1.2	1.2	-	\$ 19.67
2	21.9	2.7	2.7	-	\$ 18.42
3	-	-	-	-	NA
3B	159.7	20.0	20.0	-	\$ 19.39
4	-	-	-	-	NA
5	16.0	2.0	2.0	-	\$ 21.35
6	-	-	-	-	NA
7	12.0	1.5	1.5	-	\$ 11.86
8	41.3	5.2	5.2	-	\$ 15.24
9	22.5	2.8	2.8	-	\$ 33.89
10	231.4	28.9	28.9	-	\$ 33.85
11	-	-	-	-	
12	-	-	-	-	
13	153.6	19.2	19.2	-	\$ 34.04
14	539.1	67.4	67.4	-	\$ 36.78
15	32.3	4.0	4.0	-	\$ 35.47
16	18.9	2.4	2.4	-	\$ 42.37
17	34.9	4.4	4.4	-	\$ 36.07
18	484.2	60.5	60.5	-	\$ 35.69
19	13.1	1.6	1.6	-	\$ 36.86
20	194.2	24.3	24.3	-	\$ 36.86
21	129.7	16.2	16.2	-	\$ 34.59

Table 5

**PROJECT WATER APPLIED BY PRICING TIERS
AVERAGE YEAR FOLLOWING WET 5-YEAR BASE CONDITION**

CVPM Subregion	Tier 1	Tier 2	Tier 3	Category 2	Blended Price (\$/AF)
	(1000 AF)				
1	10.4	1.3	0.0	-	\$ 14.98
2	27.3	-	-	-	\$ 10.71
3	-	-	-	-	NA
3B	199.6	-	-	-	\$ 10.25
4	-	-	-	-	NA
5	16.6	2.1	1.2	-	\$ 21.18
6	-	-	-	-	NA
7	12.0	1.5	1.5	-	\$ 11.86
8	51.6	-	-	-	\$ 10.00
9	28.2	-	-	-	\$ 24.79
10	289.2	-	-	-	\$ 31.15
11	-	-	-	-	NA
12	-	-	-	-	NA
13	165.0	20.6	6.3	-	\$ 33.25
14	673.8	-	-	-	\$ 32.62
15	34.2	4.3	1.9	-	\$ 34.55
16	21.0	2.6	0.1	-	\$ 41.22
17	37.9	4.7	1.0	-	\$ 35.15
18	523.8	65.5	15.9	-	\$ 34.73
19	15.5	0.9	-	-	\$ 35.00
20	211.7	26.5	4.6	-	\$ 35.70
21	154.9	7.2	-	-	\$ 32.98

Table 6

**PROJECT WATER APPLIED BY PRICING TIERS
AVERAGE YEAR FOLLOWING DRY 5-YEAR BASE CONDITION**

CVPM Subregion	Tier 1	Tier 2	Tier 3	Category 2	Blended Price (\$/AF)
	(1000 AF)				
1	10.8	1.0	-	-	\$ 14.14
2	6.2	0.8	0.8	19.6	\$ 49.66
3	-	-	-	-	NA
3B	40.2	5.0	5.0	149.3	\$ 58.15
4	-	-	-	-	NA
5	14.3	1.8	1.8	2.1	\$ 21.77
6	-	-	-	-	NA
7	12.0	1.5	1.5	-	\$ 11.86
8	20.2	2.5	2.5	26.3	\$ 30.36
9	9.2	1.1	1.1	16.7	\$ 64.53
10	94.0	11.8	11.8	171.7	\$ 42.94
11	-	-	-	-	NA
12	-	-	-	-	NA
13	104.4	13.0	13.0	61.6	\$ 37.44
14	219.1	27.4	27.4	400.0	\$ 50.76
15	26.8	3.4	3.4	6.8	\$ 38.10
16	13.7	1.7	1.7	6.5	\$ 45.32
17	24.5	3.1	3.1	13.1	\$ 39.28
18	339.7	42.5	42.5	180.6	\$ 39.16
19	8.7	1.1	1.1	5.6	\$ 41.21
20	133.9	16.7	16.7	75.3	\$ 40.85
21	76.2	9.5	9.5	66.8	\$ 39.01

Table 7

**PROJECT WATER APPLIED BY PRICING TIERS
WET YEAR FOLLOWING AVERAGE 5-YEAR BASE CONDITION**

CVPM Subregion	Tier 1	Tier 2	Tier 3	Category 2	Blended Price (\$/AF)
	(1000 AF)				
1	9.4	1.2	1.2	1.3	\$ 23.91
2	21.9	2.7	2.7	9.4	\$ 29.55
3	-	-	-	-	NA
3B	159.7	20.0	20.0	66.6	\$ 32.35
4	-	-	-	-	NA
5	16.0	2.0	2.0	0.9	\$ 21.52
6	-	-	-	-	NA
7	12.0	1.5	1.5	-	\$ 11.86
8	41.3	5.2	5.2	27.8	\$ 25.64
9	22.5	2.8	2.8	19.9	\$ 55.27
10	231.4	28.9	28.9	107.8	\$ 38.01
11	-	-	-	-	NA
12	-	-	-	-	NA
13	153.6	19.2	19.2	14.3	\$ 34.77
14	539.1	67.4	67.4	251.2	\$ 43.17
15	32.3	4.0	4.0	2.4	\$ 36.34
16	18.9	2.4	2.4	2.5	\$ 43.40
17	34.9	4.4	4.4	3.8	\$ 36.92
18	484.2	60.5	60.5	49.6	\$ 36.57
19	13.1	1.6	1.6	3.0	\$ 38.84
20	194.2	24.3	24.3	21.9	\$ 37.92
21	129.7	16.2	16.2	31.5	\$ 36.33

Table 8

PROJECT WATER BY PRICING TIERS
WET YEAR FOLLOWING WET 5-YEAR BASE CONDITION

CVPM Subregion	Tier 1	Tier 2	Tier 3	Category 2	Blended Price (\$/AF)
	(1000 AF)				
1	10.4	1.3	1.3	-	\$ 19.67
2	29.4	3.7	3.7	-	\$ 18.42
3	-	-	-	-	NA
3B	212.9	26.6	26.6	-	\$ 19.39
4	-	-	-	-	NA
5	16.6	2.1	2.1	-	\$ 21.35
6	-	-	-	-	NA
7	12.0	1.5	1.5	-	\$ 11.86
8	63.5	7.9	7.9	-	\$ 15.24
9	38.5	4.8	4.8	-	\$ 33.89
10	317.6	39.7	39.7	-	\$ 33.85
11	-	-	-	-	NA
12	-	-	-	-	NA
13	165.0	20.6	20.6	-	\$ 34.04
14	740.0	92.5	92.5	-	\$ 36.78
15	34.2	4.3	4.3	-	\$ 35.47
16	21.0	2.6	2.6	-	\$ 42.37
17	37.9	4.7	4.7	-	\$ 36.07
18	523.8	65.5	65.5	-	\$ 35.69
19	15.5	1.9	1.9	-	\$ 36.86
20	211.7	26.5	26.5	-	\$ 36.86
21	154.9	19.4	19.4	-	\$ 34.59

Table 9

**PROJECT WATER APPLIED BY PRICING TIERS
WET YEAR FOLLOWING DRY 5-YEAR BASE CONDITION**

CVPM Subregion	Tier 1	Tier 2	Tier 3	Category 2	Blended Price (\$/AF)
	(1000 AF)				
1	10.8	1.3	0.9	-	\$ 18.20
2	6.2	0.8	0.8	28.9	\$ 52.83
3	-	-	-	-	NA
3B	40.2	5.0	5.0	215.9	\$ 61.42
4	-	-	-	-	NA
5	14.3	1.8	1.8	2.9	\$ 21.92
6	-	-	-	-	NA
7	12.0	1.5	1.5	-	\$ 11.86
8	20.2	2.5	2.5	54.1	\$ 35.47
9	9.2	1.1	1.1	36.7	\$ 73.22
10	94.0	11.8	11.8	279.5	\$ 44.63
11	-	-	-	-	NA
12	-	-	-	-	NA
13	104.4	13.0	13.0	75.9	\$ 37.94
14	219.1	27.4	27.4	651.1	\$ 53.36
15	26.8	3.4	3.4	9.1	\$ 38.82
16	13.7	1.7	1.7	9.1	\$ 46.07
17	24.5	3.1	3.1	16.8	\$ 39.88
18	339.7	42.5	42.5	230.2	\$ 39.78
19	8.7	1.1	1.1	8.5	\$ 42.52
20	133.9	16.7	16.7	97.2	\$ 41.58
21	76.2	9.5	9.5	98.3	\$ 40.03

Table 10

PROJECT WATER APPLIED BY PRICING TIERS
 DRY YEAR FOLLOWING AVERAGE 5-YEAR BASE CONDITION

CVPM Subregion	Tier 1	Tier 2	Tier 3	Category 2	Blended Price (\$/AF)
	(1000 AF)				
1	9.4	1.2	1.2	1.7	\$ 25.19
2	7.8	-	-	-	\$ 10.71
3	-	-	-	-	NA
3B	50.3	-	-	-	\$ 10.25
4	-	-	-	-	NA
5	16.0	1.9	-	-	\$ 20.90
6	-	-	-	-	NA
7	12.0	1.5	1.5	-	\$ 11.86
8	25.3	-	-	-	\$ 10.00
9	11.5	-	-	-	\$ 24.79
10	117.5	-	-	-	\$ 31.15
11	-	-	-	-	NA
12	-	-	-	-	NA
13	130.4	-	-	-	\$ 32.16
14	273.9	-	-	-	\$ 32.62
15	32.3	1.3	-	-	\$ 33.07
16	17.1	-	-	-	\$ 40.48
17	30.6	-	-	-	\$ 34.18
18	424.6	-	-	-	\$ 33.63
19	10.9	-	-	-	\$ 34.58
20	167.4	-	-	-	\$ 34.58
21	95.3	-	-	-	\$ 32.70

Table 11

**PROJECT WATER APPLIED BY PRICING TIERS
 DRY YEAR FOLLOWING WET 5-YEAR BASE CONDITION**

CVPM Subregion	Tier 1	Tier 2	Tier 3	Category 2	Blended Price (\$/AF)
	(1000 AF)				
1	10.4	1.3	1.3	0.4	\$ 21.09
2	7.8	-	-	-	\$ 10.71
3	-	-	-	-	NA
3B	50.3	-	-	-	\$ 10.25
4	-	-	-	-	NA
5	16.6	1.2	-	-	\$ 20.81
6	-	-	-	-	NA
7	12.0	1.5	1.5	-	\$ 11.86
8	25.3	-	-	-	\$ 10.00
9	11.5	-	-	-	\$ 24.79
10	117.5	-	-	-	\$ 31.15
11	-	-	-	-	NA
12	-	-	-	-	NA
13	130.4	-	-	-	\$ 32.16
14	273.9	-	-	-	\$ 32.62
15	33.6	-	-	-	\$ 32.71
16	17.1	-	-	-	\$ 40.48
17	30.6	-	-	-	\$ 34.18
18	424.6	-	-	-	\$ 33.63
19	10.9	-	-	-	\$ 34.58
20	167.4	-	-	-	\$ 34.58
21	95.3	-	-	-	\$ 32.70

Table 12

PROJECT WATER BY PRICING TIERS
 DRY YEAR FOLLOWING DRY 5-YEAR BASE CONDITION

CVPM Subregion	Tier 1	Tier 2	Tier 3	Category 2	Blended Price (\$/AF)
	(1000 AF)				
1	10.8	1.3	1.3	-	\$ 19.67
2	6.2	0.8	0.8	-	\$ 18.42
3	-	-	-	-	NA
3B	40.2	5.0	5.0	-	\$ 19.39
4	-	-	-	-	NA
5	14.3	1.8	1.8	-	\$ 21.35
6	-	-	-	-	NA
7	12.0	1.5	1.5	-	\$ 11.86
8	20.2	2.5	2.5	-	\$ 15.24
9	9.2	1.1	1.1	-	\$ 33.89
10	94.0	11.8	11.8	-	\$ 33.85
11	-	-	-	-	NA
12	-	-	-	-	NA
13	104.4	13.0	13.0	-	\$ 34.04
14	219.1	27.4	27.4	-	\$ 36.78
15	26.8	3.4	3.4	-	\$ 35.47
16	13.7	1.7	1.7	-	\$ 42.37
17	24.5	3.1	3.1	-	\$ 36.07
18	339.7	42.5	42.5	-	\$ 35.69
19	8.7	1.1	1.1	-	\$ 36.86
20	133.9	16.7	16.7	-	\$ 36.86
21	76.2	9.5	9.5	-	\$ 34.59

TABLE 13
IRRIGATED ACRES BY SUBREGION (1000 ACRES)

CVP Subregion	Average Preferred Alternative	Change Compared to			Wet Preferred Alternative	Change Compared to			Dry Preferred Alternative	Change Compared to		
		Average	Wet	Dry		Average	Wet	Dry		Average	Wet	Dry
Sacramento River	2015.5	-1.7	-0.8	-65.3	2020.0	-4.4	-4.4	1984.8	0.1	0.1	0.0	
San Joaquin River	2526.6	-0.2	-0.2	-1.2	2529.1	-1.7	-1.6	2505.9	-0.1	-0.1	-0.1	
Tulare Lake	1992.4	0.0	0.0	-0.2	1996.2	-1.2	-1.2	1953.7	0.1	0.1	0.1	
San Felipe	50.7	0.0	0.0	0.0	69.5	0.0	0.0	22.2	0.0	0.0	0.0	
California Total	6585.2	-1.9	-1.0	-66.7	6614.8	-7.3	-7.3	6466.6	0.1	0.1	0.1	

TABLE 14
 VALUE OF PRODUCTION BY SUBREGION (Million \$)

CVPM Subregion	Average Preferred Alternative	Change Compared to Average		Wet Preferred Alternative	Change Compared to Wet PA		Dry Preferred Alternative	Change Compared to Dry PA	
		Average	Dry		Average	Dry		Average	Dry
Sacramento River	1,825.3	-0.4	-37.6	1,828.0	-1.6	-26.8	1,810.0	0.4	0.3
San Joaquin River	4,402.3	-0.1	-1.0	4,403.8	-0.9	-1.1	4,384.2	-0.2	-0.2
Tulare Lake	3,876.3	0.0	-0.3	3,879.4	-1.0	-1.1	3,842.7	0.1	0.1
San Felipe	68.0	0.0	0.0	70.0	0.0	0.0	44.0	0.0	0.0
California Total	10,172.0	-0.5	-38.8	10,181.2	-3.6	-28.9	10,080.8	0.3	0.3

TABLE 15

NET REVENUE CHANGES BY REGION (Million \$)

Cause of Net Revenue Change	Compared to Average Year PA			Compared to Wet Year PA			Compared to Dry Year PA		
	Average	Wet	Dry	Average	Wet	Dry	Average	Wet	Dry
	followed by Average			followed by Wet			followed by Dry		
Sacramento River									
Failed Land	-0.1	0.0	-6.7	-0.3	-0.3	-4.6	0.0	0.0	0.0
Groundwater Pumping Cost	-0.3	-0.3	-0.4	1.0	1.0	-4.5	-0.2	-0.2	-0.2
Irrigation Cost	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4
CVP Water Cost	-0.3	1.7	3.6	-5.1	-1.0	4.6	-0.1	-0.1	-0.7
Higher Crop Prices	0.0	0.0	1.9	0.1	0.1	1.0	0.0	0.0	0.0
Net Change	-1.0	1.0	-1.9	-4.6	-0.5	-3.8	-0.6	-0.6	-1.2
San Joaquin River									
Failed Land	0.0	0.0	-0.1	-0.2	-0.2	-0.2	0.0	0.0	0.0
Groundwater Pumping Cost	0.0	0.0	-10.3	-7.4	0.2	-14.1	-1.0	-1.0	-1.0
Irrigation Cost	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
CVP Water Cost	1.0	4.0	2.3	7.9	6.1	6.2	-5.9	-5.9	-7.5
Higher Crop Prices	0.1	0.0	2.5	0.2	0.2	1.0	0.0	0.0	0.0
Net Change	0.9	3.9	-5.7	0.4	6.1	-7.3	-7.0	-7.0	-8.6
Tulare Lake									
Failed Land	0.0	0.0	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0
Groundwater Pumping Cost	0.1	0.1	0.1	1.0	1.0	1.0	-3.2	-3.2	-3.2
Irrigation Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVP Water Cost	-2.3	-1.2	-5.7	-3.1	-2.1	-6.4	-0.9	-0.9	-2.3
Higher Crop Prices	0.0	0.0	1.4	0.1	0.1	0.4	0.0	0.0	0.0
Net Change	-2.1	-1.1	-4.2	-2.1	-1.1	-5.1	-4.1	-4.1	-5.5
San Felipe									
Failed Land	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Groundwater Pumping Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Irrigation Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVP Water Cost	-0.2	0.0	-0.6	-0.5	-0.2	-0.9	0.0	0.0	-0.1
Higher Crop Prices	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net Change	-0.2	0.0	-0.6	-0.5	-0.2	-0.9	0.0	0.0	-0.1
Total									
Failed Land	-0.1	-0.1	-6.9	-0.6	-0.6	-4.9	0.0	0.0	0.0
Groundwater Pumping Cost	-0.2	-0.2	-10.5	-5.3	2.2	-17.6	-4.4	-4.4	-4.4
Irrigation Cost	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
CVP Water Cost	-1.6	4.5	0.2	-0.3	3.1	4.5	-6.9	-6.8	-10.5
Higher Crop Prices	0.1	0.1	5.8	0.4	0.4	2.3	0.0	0.0	0.0
Net Change	-2.3	3.7	-11.9	-6.3	4.6	-16.1	-11.7	-11.7	-15.3

Note: A negative value in a cost category represents an increase in cost that produces a decrease in net revenue

TABLE 16
IRRIGATION WATER APPLIED BY REGION (1000 AF)

Region	Average Preferred Alternative	Change Compared to Average PA followed by Average		Wet Preferred Alternative		Change Compared to Wet PA followed by Wet		Dry Preferred Alternative		Change Compared to Dry PA followed by Dry			
		Average	Wet	Dry	Preferred	Alternative	Average	Wet	Dry	Preferred	Alternative	Average	Wet
Sacramento River													
CVP Water*	625.9	-27.6	-23.4	-243.5	694.3	-2.4	-2.6	-305.5	402.1	-20.3	-20.3	-20.3	-20.4
Groundwater	2,621.3	10.5	10.7	11.2	2,456.9	-24.5	-24.3	114.7	3,261.6	4.1	4.2	4.2	4.0
San Joaquin River													
CVP Water*	960.2	-8.7	-9.0	-269.0	1,226.6	-226.3	-21.0	-378.7	506	-17.5	-17.5	-17.5	-17.5
Groundwater	3,606.2	3.3	3.5	260.0	2,974.2	215.1	10.3	366.8	4723	12.0	12.0	12.0	12.0
Tulare Lake													
CVP Water*	919.5	1.9	2.0	2.0	967.3	3.7	3.8	3.6	685.3	0.1	0.1	0.1	0.0
Groundwater	3,369.0	-1.8	-2.0	-2.0	2,683.5	-7.7	-7.7	-7.5	4,542.9	0.0	0.0	0.0	0.0
San Felipe													
CVP Water*	71.0	0.0	0.0	0.0	71.0	0.0	0.0	0.0	71.0	0.0	0.0	0.0	0.0
Groundwater	na	na	na	na	na	na	na	na	na	na	na	na	na
Total													
CVP Water*	2,505.5	-34.4	-30.4	-510.5	2,886.2	-224.9	-19.9	-680.6	1,593.9	-37.7	-37.8	-37.8	-37.8
Groundwater	9,596.5	11.9	12.3	269.2	8,114.6	182.8	-21.6	474.0	12,527.1	16.1	16.2	16.2	16.1

*CVP water applied is project water only. It excludes exchange contract delivery and the base supply portion of settlement contracts.

TABLE 17 IRRIGATED ACREAGE BY SUBREGION

CVP Subregion	Crop Category	Preferred Alternative Average			Changes Compared to Average PA			Preferred Alternative Average			Changes Compared to Wet PA			Preferred Alternative Average			Changes Compared to Dry PA					
		18.3	0.9	1.2	-0.3	0.0	0.0	-0.1	18.3	0.9	1.2	-1.5	0.0	0.0	-1.5	18.1	0.9	1.2	-1.8	0.0	0.0	-1.8
1	Pasture	18.3	0.9	1.2	-0.3	0.0	0.0	-0.1	18.3	0.9	1.2	-1.5	0.0	0.0	18.1	0.9	1.2	-1.8	0.0	0.0	-1.8	
	Alfalfa	0.9	1.2	0.0	0.0	0.0	0.0	0.0	0.9	1.2	0.0	0.0	0.0	0.9	1.2	0.0	0.0	0.0	0.0	0.0		
	Other Field Crops	1.2	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0		
	Deciduous Orchard	3.8	0.0	0.0	0.0	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0		
	Small Grain	2.4	0.0	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0		
	Subtotal	26.6	-1.3	-0.3	-0.3	-0.1	-0.1	26.5	-1.6	-1.6	-1.6	-1.6	-1.6	26.3	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9		
2	Pasture	34.1	9.5	4.0	0.0	0.0	0.0	-3.6	33.9	9.5	4.0	0.0	0.0	33.1	9.4	4.0	0.0	0.0	0.0	0.0		
	Alfalfa	9.5	4.0	0.0	0.0	0.0	0.0	-0.3	9.5	4.0	0.0	0.0	0.0	9.4	4.0	0.0	0.0	0.0	0.0	0.0		
	Sugar Beets	4.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Other Field Crops	17.3	0.0	0.0	0.0	0.0	0.0	-0.5	17.2	0.0	0.0	0.0	0.0	17.1	0.0	0.0	0.0	0.0	0.0	0.0		
	Rice	4.5	0.0	0.0	0.0	0.0	0.0	-0.2	4.5	0.0	0.0	0.0	0.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0		
3	Truck Crops	15.5	0.0	0.0	0.0	0.0	0.0	0.0	15.5	0.0	0.0	0.0	0.0	15.5	0.0	0.0	0.0	0.0	0.0	0.0		
	Deciduous Orchard	86.0	0.0	0.0	0.0	0.0	-0.1	86.0	0.0	0.0	0.0	0.0	86.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Small Grain	14.0	0.0	0.0	0.0	0.0	-0.2	13.9	0.0	0.0	0.0	0.0	13.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Subtropical Orchard	10.2	0.0	0.0	0.0	0.0	0.0	0.0	10.2	0.0	0.0	0.0	0.0	10.2	0.0	0.0	0.0	0.0	0.0	0.0		
	Subtotal	195.0	0.0	0.0	0.0	-4.9	0.0	194.7	0.0	0.0	0.0	0.0	-8.2	193.5	0.0	0.0	0.0	0.0	0.0	0.0		
3B	Pasture	7.8	18.2	15.7	0.0	0.0	0.0	0.0	7.9	18.3	15.8	0.0	0.0	7.5	18.0	15.5	0.0	0.0	0.0	0.0		
	Alfalfa	18.2	15.7	138.9	0.0	0.0	0.0	0.0	18.3	15.8	139.5	0.0	0.0	18.0	15.5	136.7	0.0	0.0	0.0	0.0		
	Sugar Beets	9.9	25.2	25.9	0.0	0.0	0.0	0.0	9.9	25.2	25.9	0.0	0.0	9.8	25.2	25.8	0.0	0.0	0.0	0.0		
	Other Field Crops	15.7	17.8	17.8	0.0	0.0	0.0	0.0	15.8	17.8	17.8	0.0	0.0	15.5	17.8	17.8	0.0	0.0	0.0	0.0		
	Rice	138.9	17.8	30.5	0.0	0.0	0.0	0.0	139.5	17.8	30.5	0.0	0.0	136.7	17.8	29.8	0.0	0.0	0.0	0.0		
	Subtotal	289.8	0.0	0.0	0.0	0.0	0.0	290.7	0.0	0.0	0.0	0.0	286.2	0.0	0.0	0.0	0.0	0.0	0.0			
3B	Pasture	5.7	10.1	13.4	0.0	0.0	0.0	-5.7	5.8	10.2	13.5	0.1	0.1	4.3	7.6	10.4	0.0	0.0	0.0	0.0		
	Alfalfa	10.1	13.4	9.6	0.0	0.0	0.0	-10.1	10.2	13.5	9.7	0.1	0.1	7.6	10.4	6.2	0.0	0.0	0.0	0.0		
	Sugar Beets	5.6	9.6	6.1	0.0	0.0	0.0	-5.3	5.6	9.7	6.1	0.0	0.0	5.1	6.2	5.7	0.0	0.0	0.0	0.0		
	Other Field Crops	13.4	9.6	26.9	0.0	0.0	0.0	-13.4	13.5	9.7	26.9	0.0	0.0	10.4	6.2	26.9	0.0	0.0	0.0	0.0		
	Rice	9.6	26.9	8.5	0.0	0.0	0.0	-9.6	9.7	26.9	8.5	0.0	0.0	6.2	5.7	6.2	0.0	0.0	0.0	0.0		
	Subtotal	87.6	0.0	0.0	0.0	-59.9	87.9	0.3	87.9	0.3	-40.4	0.0	0.0	74.0	0.0	0.0	0.0	0.0	0.0			

TABLE 17 IRRIGATED ACREAGE BY SUBREGION

CVP Subregion	Crop Category	Preferred Alternative Average			Changes Compared to Average PA			Preferred Alternative Average			Changes Compared to Wet PA			Preferred Alternative Average			Changes Compared to Dry PA		
		Average	Followed by Average		Average	Followed by Wet		Average	Followed by Wet		Average	Followed by Dry		Average	Followed by Dry				
			Wet	Dry		Wet	Dry		Wet	Dry		Wet	Dry						
4	Pasture	1.2	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0			
	Alfalfa	6.8	0.0	0.0	0.0	0.0	0.0	6.8	0.0	0.0	0.0	0.0	6.8	0.0	0.0				
	Sugar Beets	10.3	0.0	0.0	0.0	0.0	0.0	10.3	0.0	0.0	0.0	0.0	10.3	0.0	0.0				
	Other Field Crops	40.1	0.0	0.0	0.0	0.0	0.0	40.1	0.0	0.0	0.0	0.0	39.8	0.0	0.0				
	Rice	87.8	0.0	0.0	0.0	0.0	0.0	87.9	0.0	0.0	0.0	0.0	87.1	0.0	0.0				
	Truck Crops	17.1	0.0	0.0	0.0	0.0	0.0	17.1	0.0	0.0	0.0	0.0	17.1	0.0	0.0				
	Tomatoes	34.1	0.0	0.0	0.0	0.0	0.0	34.1	0.0	0.0	0.0	0.0	34.0	0.0	0.0				
	Deciduous Orchard	30.6	0.0	0.0	0.0	0.0	0.0	30.6	0.0	0.0	0.0	0.0	30.6	0.0	0.0				
Small Grain	47.5	0.0	0.0	0.0	0.0	0.0	47.6	0.0	0.0	0.0	0.0	46.8	0.0	0.0					
Subtotal		275.3	0.0	0.0	0.0	0.0	275.7	0.0	0.0	-0.1	0.0	273.6	0.0	0.0					
5	Pasture	21.4	0.0	0.0	0.0	0.0	0.0	21.5	0.0	0.0	0.0	0.0	21.0	0.0	0.0				
	Alfalfa	4.7	0.0	0.0	0.0	0.0	4.7	0.0	0.0	0.0	0.0	4.7	0.0	0.0					
	Sugar Beets	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0					
	Other Field Crops	15.4	0.0	0.0	0.0	0.0	15.4	0.0	0.0	0.0	0.0	15.4	0.0	0.0					
	Rice	166.0	0.0	0.0	0.0	0.0	166.6	-0.1	-0.1	-0.1	-0.1	165.2	-0.1	-0.1					
	Truck Crops	6.6	0.0	0.0	0.0	0.0	6.6	0.0	0.0	0.0	0.0	6.6	0.0	0.0					
	Tomatoes	1.6	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	1.6	0.0	0.0					
	Deciduous Orchard	121.6	0.0	0.0	0.0	0.0	121.6	0.0	0.0	0.0	0.0	121.6	0.0	0.0					
Small Grain	22.3	0.0	0.0	0.0	0.0	22.4	0.0	0.0	0.0	0.0	21.9	0.0	0.0						
Subtropical Orchard	2.5	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0	2.5	0.0	0.0						
Subtotal		364.1	0.0	0.0	0.0	364.9	-0.2	-0.2	-0.1	-0.1	362.4	-0.2	-0.2						
6	Pasture	12.1	0.0	0.0	0.0	0.0	12.5	-0.4	-0.4	-0.4	11.8	0.0	0.0						
	Alfalfa	28.7	0.0	0.0	0.1	0.0	29.0	-0.3	-0.3	-0.3	28.6	0.0	0.0						
	Sugar Beets	21.2	0.0	0.0	0.0	0.0	21.2	-0.1	-0.1	-0.1	21.1	0.0	0.0						
	Other Field Crops	59.4	0.0	0.0	0.0	0.0	59.9	-0.5	-0.5	-0.5	59.1	0.0	0.0						
	Rice	12.9	0.0	0.0	0.0	0.0	13.1	-0.2	-0.2	-0.2	12.8	0.0	0.0						
	Truck Crops	3.4	0.0	0.0	0.0	0.0	3.4	0.0	0.0	0.0	3.4	0.0	0.0						
	Tomatoes	45.8	0.0	0.0	0.0	0.0	45.9	-0.1	-0.1	-0.1	45.7	0.0	0.0						
	Deciduous Orchard	24.6	0.0	0.0	0.0	0.0	24.6	0.0	0.0	0.0	24.6	0.0	0.0						
Small Grain	64.3	0.0	0.0	0.0	0.0	64.6	-0.4	-0.4	-0.4	63.3	0.2	0.2							
Grapes	8.0	0.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0	8.0	0.0	0.0							
Subtotal		280.2	0.0	0.0	0.0	282.2	-1.9	-1.9	-1.8	278.4	0.2	0.2							
7	Pasture	14.5	0.0	0.0	0.0	0.0	14.5	0.0	0.0	0.0	14.2	0.0	0.0						
	Alfalfa	3.1	0.0	0.0	0.0	0.0	3.1	0.0	0.0	0.0	3.1	0.0	0.0						
	Sugar Beets	2.5	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	2.5	0.0	0.0						
	Other Field Crops	3.8	0.0	0.0	0.0	0.0	3.8	0.0	0.0	0.0	3.8	0.0	0.0						
	Rice	48.3	0.0	0.0	0.0	0.0	48.3	0.0	0.0	0.0	47.9	0.0	0.0						
	Truck Crops	0.3	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.0						
	Tomatoes	0.5	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.5	0.0	0.0						
	Deciduous Orchard	8.9	0.0	0.0	0.0	0.0	8.9	0.0	0.0	0.0	8.9	0.0	0.0						
Small Grain	9.4	0.0	0.0	0.0	0.0	9.3	0.0	0.0	0.0	9.2	0.0	0.0							
Grapes	0.2	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0							
Subtotal		91.4	0.0	0.0	0.0	91.5	0.0	0.0	0.0	90.5	0.0	0.0							

TABLE 17 IRRIGATED ACREAGE BY SUBREGION

CVPM Subregion	Crop Category	Preferred Alternative Average		Changes Compared to Average PA				Preferred Alternative Wet		Changes Compared to Wet PA				Preferred Alternative Dry		Changes Compared to Dry PA			
		Average	47.7	Average	Wet	Dry	Average	Wet	Dry	Average	Wet	Dry	Average	Wet	Dry	Average	Wet	Dry	
																			Followed by Average
8	Pasture	47.7	0.0	0.0	0.0	0.0	47.6	0.0	0.0	0.0	0.0	46.9	0.0	0.0	0.0	0.0	0.0		
	Alfalfa	12.3	0.0	0.0	0.0	0.0	12.3	0.0	0.0	0.0	12.2	0.0	0.0	0.0	0.0	0.0	0.0		
	Sugar Beets	12.8	0.0	0.0	0.0	0.0	12.8	0.0	0.0	0.0	12.8	0.0	0.0	0.0	0.0	0.0	0.0		
	Other Field Crops	42.7	0.0	0.0	0.0	0.0	42.7	0.0	0.0	0.0	42.5	0.0	0.0	0.0	0.0	0.0	0.0		
	Rice	4.5	0.0	0.0	0.0	0.0	4.5	0.0	0.0	0.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0		
	Truck Crops	17.1	0.0	0.0	0.0	0.0	17.1	0.0	0.0	0.0	17.1	0.0	0.0	0.0	0.0	0.0	0.0		
	Tomatoes	12.9	0.0	0.0	0.0	0.0	12.9	0.0	0.0	0.0	12.9	0.0	0.0	0.0	0.0	0.0	0.0		
	Deciduous Orchard	46.9	0.0	0.0	0.0	0.0	46.9	0.0	0.0	0.0	46.9	0.0	0.0	0.0	0.0	0.0	0.0		
	Small Grain	29.0	0.0	0.0	0.0	0.0	29.1	0.0	0.0	0.0	28.2	0.0	0.0	0.0	0.0	0.0	0.0		
	Grapes	58.9	0.0	0.0	0.0	0.0	58.9	0.0	0.0	0.0	58.9	0.0	0.0	0.0	0.0	0.0	0.0		
	Subtotal	284.8	0.0	0.0	0.0	284.9	0.0	0.0	0.0	282.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
9	Pasture	24.6	-0.2	-0.1	-0.1	24.6	-0.4	-0.4	-0.4	23.4	0.7	0.7	0.4	0.4	0.4	0.4	0.4		
	Alfalfa	43.8	-0.1	0.0	0.0	43.8	-0.2	-0.2	-0.2	43.1	0.4	0.4	0.1	0.1	0.1	0.1	0.1		
	Sugar Beets	28.6	0.0	0.0	0.0	28.6	-0.1	-0.1	-0.1	28.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
	Other Field Crops	114.9	-0.2	-0.2	-0.2	115.0	-0.4	-0.4	-0.4	113.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7		
	Rice	0.9	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Truck Crops	46.0	0.0	0.0	0.0	46.0	0.0	0.0	0.0	46.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Tomatoes	42.5	0.0	0.0	0.0	42.5	0.0	0.0	0.0	42.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
	Deciduous Orchard	21.3	0.0	0.0	0.0	21.3	0.0	0.0	0.0	21.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Small Grain	96.8	-0.1	-0.1	-0.1	97.5	-0.3	-0.3	-0.3	93.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0		
	Grapes	5.8	0.0	0.0	0.0	5.8	0.0	0.0	0.0	5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Subtotal	425.0	-0.6	-0.4	-0.4	425.9	-1.5	-1.5	-1.4	418.4	3.0	3.0	3.0	3.0	3.0	3.0	3.0		
10	Pasture	13.3	0.0	0.0	0.0	13.3	0.0	0.0	0.0	13.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Alfalfa	40.8	0.0	0.0	-0.3	40.9	-0.1	-0.1	-0.1	40.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Sugar Beets	13.9	0.0	0.0	0.0	13.9	0.0	0.0	0.0	13.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Other Field Crops	48.2	0.0	0.0	-0.1	48.2	0.1	0.1	0.1	48.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Rice	2.9	0.0	0.0	0.0	2.9	0.0	0.0	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Truck Crops	112.9	0.0	0.0	0.0	112.9	0.0	0.0	0.0	113.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Tomatoes	40.2	0.0	0.0	0.0	40.2	0.0	0.0	0.0	40.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Deciduous Orchard	36.6	0.0	0.0	0.0	36.6	0.0	0.0	0.0	36.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Small Grain	14.0	0.0	0.0	0.0	14.0	0.1	0.1	0.1	14.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Grapes	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Subtotal	427.1	0.0	0.0	-1.1	427.2	-0.1	-0.1	-0.1	427.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0		

TABLE 17 IRRIGATED ACREAGE BY SUBREGION

CVP Subregion	Crop Category	Preferred Alternative Average		Changes Compared to Average PA			Preferred Alternative Average			Changes Compared to Wet PA			Preferred Alternative Average			Changes Compared to Dry PA			
		42.9	8.4	0.0	0.0	0.0	43.0	174.2	18.0	0.0	0.0	0.0	42.7	173.7	18.0	0.0	0.0	42.7	8.3
11	Pasture	42.9	8.4	0.0	0.0	0.0	43.0	174.2	18.0	0.0	0.0	42.7	173.7	18.0	0.0	0.0	42.7	8.3	
	Alfalfa	8.4	0.4	0.0	0.0	0.0	8.4	0.4	0.0	0.0	0.0	8.3	0.4	0.0	0.0	0.0	8.3	0.4	
	Sugar Beets	17.8	4.4	0.0	0.0	0.0	17.9	4.4	0.0	0.0	0.0	17.8	4.4	0.0	0.0	0.0	17.8	4.4	
	Other Field Crops	4.4	6.3	0.0	0.0	0.0	4.4	6.3	0.0	0.0	0.0	4.4	6.3	0.0	0.0	0.0	4.4	6.3	
	Rice	6.3	0.8	0.0	0.0	0.0	6.3	0.8	0.0	0.0	0.0	6.3	0.8	0.0	0.0	0.0	6.3	0.8	
	Truck Crops	0.8	80.8	0.0	0.0	0.0	0.8	80.8	0.0	0.0	0.0	0.8	80.8	0.0	0.0	0.0	0.8	80.8	
	Tomatoes	80.8	1.8	0.0	0.0	0.0	80.8	1.8	0.0	0.0	0.0	80.8	1.8	0.0	0.0	0.0	80.8	1.8	
	Deciduous Orchard	1.8	10.4	0.0	0.0	0.0	1.8	10.4	0.0	0.0	0.0	1.8	10.4	0.0	0.0	0.0	1.8	10.4	
	Small Grain	10.4	0.0	0.0	0.0	0.0	10.4	0.0	0.0	0.0	0.0	10.4	0.0	0.0	0.0	0.0	10.4	0.0	
	Grapes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Subtotal	174.0	18.3	0.0	0.0	0.0	174.2	18.0	0.0	0.0	0.0	173.7	18.0	0.0	0.0	0.0	173.7	18.0	
12	Pasture	18.2	0.1	0.0	0.0	0.0	18.1	0.1	0.0	0.0	0.0	18.0	0.1	0.0	0.0	0.0	18.0	0.1	
	Alfalfa	0.1	41.2	0.0	0.0	0.0	0.1	41.0	0.0	0.0	0.0	0.1	41.0	0.0	0.0	0.0	0.1	41.0	
	Sugar Beets	41.2	3.0	0.0	0.0	0.0	41.0	3.0	0.0	0.0	0.0	41.0	3.0	0.0	0.0	0.0	41.0	3.0	
	Other Field Crops	3.0	94.0	0.0	0.0	0.0	3.0	94.0	0.0	0.0	0.0	3.0	94.0	0.0	0.0	0.0	3.0	94.0	
	Truck Crops	94.0	10.0	0.0	0.0	0.0	94.0	10.0	0.0	0.0	0.0	94.0	10.0	0.0	0.0	0.0	94.0	10.0	
	Deciduous Orchard	10.0	14.0	0.0	0.0	0.0	10.0	14.0	0.0	0.0	0.0	10.0	14.0	0.0	0.0	0.0	10.0	14.0	
	Small Grain	14.0	1.0	0.0	0.0	0.0	14.0	1.0	0.0	0.0	0.0	14.0	1.0	0.0	0.0	0.0	14.0	1.0	
	Grapes	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	
	Cotton	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Subtropical Orchard	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Subtotal	200.8	39.6	0.0	0.0	200.2	39.9	200.2	0.0	0.0	200.1	39.5	200.1	0.0	0.0	0.0	200.1	39.5	
13	Pasture	41.8	5.0	0.0	0.0	0.0	42.1	5.0	0.0	0.0	0.0	41.8	5.0	0.0	0.0	0.0	41.8	5.0	
	Alfalfa	5.0	54.8	0.0	0.0	0.0	5.0	54.8	0.0	0.0	0.0	5.0	54.8	0.0	0.0	0.0	5.0	54.8	
	Sugar Beets	54.8	3.9	0.0	0.0	0.0	55.0	3.9	0.0	0.0	0.0	54.6	3.9	0.0	0.0	0.0	54.6	3.9	
	Other Field Crops	3.9	18.0	0.0	0.0	0.0	3.9	18.0	0.0	0.0	0.0	3.9	18.0	0.0	0.0	0.0	3.9	18.0	
	Rice	18.0	7.0	0.0	0.0	0.0	18.0	7.0	0.0	0.0	0.0	18.0	7.0	0.0	0.0	0.0	18.0	7.0	
	Truck Crops	7.0	135.0	0.0	0.0	0.0	7.0	135.0	0.0	0.0	0.0	7.0	135.0	0.0	0.0	0.0	7.0	135.0	
	Tomatoes	135.0	46.9	0.0	0.0	0.0	135.0	46.9	0.0	0.0	0.0	135.0	46.4	0.0	0.0	0.0	135.0	46.4	
	Deciduous Orchard	46.9	99.0	0.0	0.0	0.0	47.2	99.0	0.0	0.0	0.0	46.4	99.0	0.0	0.0	0.0	46.4	99.0	
	Small Grain	99.0	71.8	0.0	0.0	0.0	99.0	72.1	0.0	0.0	0.0	99.0	71.6	0.0	0.0	0.0	99.0	71.6	
	Grapes	71.8	9.9	0.0	0.0	0.0	72.1	9.9	0.0	0.0	0.0	71.6	9.9	0.0	0.0	0.0	71.6	9.9	
Cotton	9.9	0.0	0.0	0.0	0.0	9.9	0.0	0.0	0.0	0.0	9.9	0.0	0.0	0.0	0.0	9.9	0.0		
Subtropical Orchard	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Subtotal	532.5	39.6	0.0	0.0	534.1	39.9	534.1	0.0	0.0	531.5	39.5	531.5	0.0	0.0	0.0	531.5	39.5	

TABLE 17 IRRIGATED ACREAGE BY SUBREGION

CVPM Subregion	Crop Category	Preferred Alternative Average				Changes Compared to Average PA				Preferred Alternative Wet				Changes Compared to Wet PA				Preferred Alternative Dry				Changes Compared to Dry PA			
		Wet		Dry		Wet		Dry		Wet		Dry		Wet		Dry		Wet		Dry		Wet		Dry	
		Average	Followed by	Average	Followed by	Average	Followed by	Average	Followed by	Average	Followed by	Average	Followed by	Average	Followed by	Average	Followed by	Average	Followed by	Average	Followed by	Average	Followed by	Average	Followed by
14	Pasture	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Alfalfa	14.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Sugar Beets	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other Field Crops	18.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Truck Crops	136.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	136.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Tomatoes	77.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	77.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Deciduous Orchard	24.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Small Grain	10.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Grapes	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Cotton	206.5	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	206.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtropical Orchard	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Subtotal		500.4	0.0	0.0	0.0	0.0	0.0	0.0	500.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
15	Pasture	3.9	0.0	0.0	0.0	0.0	0.0	0.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Alfalfa	83.1	0.0	0.0	0.2	0.0	0.0	0.0	83.4	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Sugar Beets	5.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Other Field Crops	86.0	0.0	0.0	0.0	0.0	0.0	0.0	86.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Rice	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Truck Crops	12.0	0.0	0.0	0.0	0.0	0.0	0.0	12.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Tomatoes	2.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Deciduous Orchard	38.0	0.0	0.0	0.0	0.0	0.0	0.0	38.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Small Grain	71.0	0.0	0.0	0.0	0.0	0.0	0.0	71.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Grapes	56.0	0.0	0.0	0.0	0.0	0.0	0.0	56.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Cotton	242.1	0.0	0.0	-0.2	0.0	0.0	0.0	242.7	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Subtropical Orchard	1.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Subtotal		600.1	0.0	0.0	-0.1	0.0	0.0	601.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
16	Pasture	6.2	0.0	0.0	0.0	0.0	0.0	6.3	0.0	-0.2	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Alfalfa	5.1	0.0	0.0	0.0	0.0	0.0	5.2	0.0	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Other Field Crops	6.1	0.0	0.0	0.0	0.0	0.0	6.1	0.0	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Truck Crops	5.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Deciduous Orchard	16.0	0.0	0.0	0.0	0.0	0.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Small Grain	4.0	0.0	0.0	0.0	0.0	0.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Grapes	55.0	0.0	0.0	0.0	0.0	0.0	55.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Cotton	5.0	0.0	0.0	0.0	0.0	0.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Subtropical Orchard	9.0	0.0	0.0	0.0	0.0	0.0	9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Subtotal		111.4	-0.1	0.0	-0.1	0.0	111.8	-0.4	0.0	-0.4	-0.4	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1

TABLE 17 IRRIGATED ACREAGE BY SUBREGION

CVP Subregion	Crop Category	Preferred Alternative Average		Changes Compared to Average PA			Preferred Alternative Average			Changes Compared to Wet PA			Preferred Alternative Average			Changes Compared to Dry PA			
		Average	Wet	Dry	Wet	Wet	Dry	Wet	Wet	Dry	Wet	Wet	Dry	Wet	Wet	Dry	Wet	Wet	Dry
17	Pasture	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Alfalfa	5.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Sugar Beets	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other Field Crops	8.0	0.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Truck Crops	10.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Tomatoes	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Deciduous Orchard	73.0	0.0	0.0	0.0	0.0	73.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Small Grain	6.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Grapes	109.0	0.0	0.0	0.0	0.0	109.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Cotton	10.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	35.0	0.0	0.0	0.0	0.0	35.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
18	Subtotal	260.1	0.0	0.0	0.0	0.0	260.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Pasture	4.0	0.0	0.0	0.0	0.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Alfalfa	62.2	0.0	0.0	0.1	0.0	62.8	-0.3	-0.3	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
	Sugar Beets	1.9	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other Field Crops	78.1	0.0	0.0	-0.1	0.0	78.5	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
	Truck Crops	13.0	0.0	0.0	0.0	0.0	13.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Tomatoes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Deciduous Orchard	69.0	0.0	0.0	0.0	0.0	69.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Small Grain	41.0	0.0	0.0	0.0	0.0	41.4	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
	Grapes	56.0	0.0	0.0	0.0	0.0	56.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cotton	170.3	0.0	0.0	-0.1	0.0	171.2	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	
Subtotal	97.0	0.0	0.0	0.0	0.0	97.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
19	Subtotal	592.5	0.0	0.0	-0.1	0.0	594.9	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2
	Pasture	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Alfalfa	25.8	0.0	0.0	0.0	0.0	25.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Sugar Beets	4.9	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other Field Crops	6.7	0.0	0.0	0.0	0.0	6.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Truck Crops	24.0	0.0	0.0	0.0	0.0	24.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Tomatoes	1.7	0.0	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Deciduous Orchard	50.9	0.0	0.0	0.0	0.0	50.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Small Grain	7.6	0.0	0.0	0.0	0.0	7.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Grapes	10.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cotton	117.9	0.0	0.0	-0.1	0.0	117.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Subtotal	4.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Subtotal	253.6	0.0	0.0	0.0	0.0	253.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TABLE 17 IRRIGATED ACREAGE BY SUBREGION

CVPM Subregion	Crop Category	Preferred Alternative Average			Changes Compared to Average PA			Preferred Alternative Wet			Changes Compared to Wet PA			Preferred Alternative Dry			Changes Compared to Dry PA		
		Preferred Alternative Average	Followed by Average		Preferred Alternative Wet	Followed by Wet		Preferred Alternative Dry	Followed by Dry		Preferred Alternative Average	Followed by Wet		Preferred Alternative Dry	Followed by Dry				
			Average	Wet		Dry	Average		Wet	Dry		Average	Wet		Dry				
20	Pasture	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Alfalfa	12.0	0.0	0.0	0.0	0.0	12.1	0.0	0.0	0.0	0.0	0.0	11.0	0.0	0.0	0.0	0.0		
	Sugar Beets	0.5	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0		
	Other Field Crops	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	2.9	0.0	0.0	0.0	0.0		
	Truck Crops	41.0	0.0	0.0	0.0	0.0	41.0	0.0	0.0	0.0	0.0	0.0	40.9	0.0	0.0	0.0	0.0		
	Tomatoes	0.3	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0		
	Deciduous Orchard	52.0	0.0	0.0	0.0	0.0	52.0	0.0	0.0	0.0	0.0	0.0	52.0	0.0	0.0	0.0	0.0		
	Small Grain	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0		
	Grapes	33.0	0.0	0.0	0.0	0.0	33.0	0.0	0.0	0.0	0.0	0.0	33.0	0.0	0.0	0.0	0.0		
	Cotton	33.0	0.0	0.0	0.0	0.0	33.1	0.0	0.0	0.0	0.0	0.0	30.8	0.0	0.0	0.0	0.0		
Subtotal	27.0	0.0	0.0	0.0	0.0	27.0	0.0	0.0	0.0	0.0	0.0	27.0	0.0	0.0	0.0	0.0			
21	Subtotal	202.8	0.0	0.0	0.0	0.0	203.0	0.0	0.0	0.0	0.0	0.0	199.3	0.0	0.0	0.0	0.0		
	Pasture	0.8	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0		
	Alfalfa	27.6	0.0	0.0	0.0	0.0	27.7	0.0	0.0	0.0	0.0	0.0	27.3	0.0	0.0	0.0	0.0		
	Sugar Beets	7.4	0.0	0.0	0.0	0.0	7.4	0.0	0.0	0.0	0.0	0.0	7.4	0.0	0.0	0.0	0.0		
	Other Field Crops	16.1	0.0	0.0	0.0	0.0	16.0	0.0	0.0	0.0	0.0	0.0	16.0	0.0	0.0	0.0	0.0		
	Rice	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Truck Crops	107.8	0.0	0.0	0.0	0.0	107.8	0.0	0.0	0.0	0.0	0.0	107.8	0.0	0.0	0.0	0.0		
	Tomatoes	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0		
	Deciduous Orchard	25.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0		
	Small Grain	1.8	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0		
Grapes	36.9	0.0	0.0	0.0	0.0	36.9	0.0	0.0	0.0	0.0	0.0	36.9	0.0	0.0	0.0	0.0			
Cotton	120.8	0.0	0.0	0.0	0.0	120.8	0.0	0.0	0.0	0.0	0.0	119.3	0.0	0.0	0.0	0.0			
Subtotal	14.0	0.0	0.0	0.0	0.0	14.0	0.0	0.0	0.0	0.0	0.0	14.0	0.0	0.0	0.0	0.0			
Subtotal	359.2	0.0	0.0	0.0	0.0	359.2	0.0	0.0	0.0	0.0	0.0	357.2	0.0	0.0	0.0	0.0			

NOTES:

1. All acreage values in thousands.
2. A negative value represents a lower acreage in an alternative than in the Preferred Alternative.
3. Not all 12 crops are grown in all subregions.
4. Subregions 3 and 3B should be added together to get the complete subregion 3. 3B represents the area within this subregion served by the Tehama Colusa Canal.

TABLE 18 VALUE OF PRODUCTION BY SUBREGION (Million \$)

CVPM Subregion	Crop Category	Preferred Alternative Average	Changes Compared to Average PA			Preferred Alternative Wet			Changes Compared to Wet PA			Preferred Alternative Dry			Changes Compared to Dry PA		
			Average	Wet	Dry	Alternative	Followed by Wet		Average	Wet	Dry	Alternative	Followed by Dry		Average	Wet	Dry
							-0.2	0.0					-0.3	-0.3			
1	Pasture	2.7	-0.2	0.0	0.0	2.6	-0.2	-0.2	-0.2	2.6	-0.2	2.6	-0.3	-0.3	0.0	-0.3	
	Alfalfa	0.5	0.0	0.0	0.5	0.0	0.0	0.0	0.5	0.0	0.5	0.0	0.0	0.0	0.0		
	Other Field Crops	0.5	0.0	0.0	0.5	0.0	0.0	0.0	0.5	0.0	0.5	0.0	0.0	0.0	0.0		
	Deciduous Orchard	4.0	0.0	0.0	4.0	0.0	0.0	0.0	4.0	0.0	4.0	0.0	0.0	0.0	0.0		
	Small Grain	0.7	0.0	0.0	0.7	0.0	0.0	0.0	0.7	0.0	0.7	0.0	0.0	0.0	0.0		
	Subtotal	8.4	-0.2	-0.1	8.3	-0.3	-0.3	-0.3	8.3	-0.3	8.3	-0.3	-0.3	-0.3	0.0	-0.3	
2	Pasture	4.9	0.0	0.0	4.9	0.0	0.0	4.9	0.0	4.9	0.0	4.8	0.0	0.0	0.0		
	Alfalfa	5.1	0.0	-0.2	5.1	0.0	-0.2	5.0	0.0	5.0	0.0	5.0	0.0	0.0	0.0		
	Sugar Beets	2.9	0.0	0.0	2.9	0.0	0.0	2.9	0.0	2.9	0.0	2.9	0.0	0.0	0.0		
	Other Field Crops	7.8	0.0	-0.2	7.8	0.0	-0.2	7.7	0.0	7.7	0.0	7.7	0.0	0.0	0.0		
	Rice	3.8	0.0	-0.1	3.8	0.0	-0.1	3.8	0.0	3.8	0.0	3.8	0.0	0.0	0.0		
	Truck Crops	55.1	0.0	-0.1	55.1	0.0	-0.1	55.1	0.0	55.1	0.0	55.1	0.0	0.0	0.0		
	Deciduous Orchard	91.3	0.0	-0.1	91.3	0.0	-0.1	91.3	0.0	91.3	0.0	91.3	0.0	0.0	0.0		
	Small Grain	4.0	0.0	-0.1	3.9	0.0	-0.2	3.9	0.0	3.9	0.0	3.9	0.0	0.0	0.0		
	Subtropical Orchard	14.6	0.0	0.0	14.6	0.0	0.0	14.6	0.0	14.6	0.0	14.6	0.0	0.0	0.0		
	Subtotal	189.5	0.0	-1.3	189.4	0.0	-2.1	189.1	0.0	189.1	0.0	189.1	0.0	0.0	0.0		
3	Pasture	1.1	0.0	0.0	1.1	0.0	0.0	1.1	0.0	1.1	0.0	1.1	0.0	0.0	0.0		
	Alfalfa	9.7	0.0	0.0	9.7	0.0	0.0	9.6	0.0	9.6	0.0	9.6	0.0	0.0	0.0		
	Sugar Beets	7.3	0.0	0.0	7.3	0.0	0.0	7.2	0.0	7.2	0.0	7.2	0.0	0.0	0.0		
	Other Field Crops	7.1	0.0	0.0	7.1	0.0	0.0	7.0	0.0	7.0	0.0	7.0	0.0	0.0	0.0		
	Rice	118.1	0.0	0.0	118.6	0.0	0.0	116.2	0.0	116.2	0.0	116.2	0.0	0.0	0.0		
	Truck Crops	89.6	0.0	0.0	89.6	0.0	0.0	89.6	0.0	89.6	0.0	89.6	0.0	0.0	0.0		
	Tomatoes	37.9	0.0	0.0	38.0	0.0	0.0	37.9	0.0	37.9	0.0	37.9	0.0	0.0	0.0		
	Deciduous Orchard	18.9	0.0	0.0	18.9	0.0	0.0	18.9	0.0	18.9	0.0	18.9	0.0	0.0	0.0		
	Small Grain	8.7	0.0	0.0	8.7	0.0	0.0	8.5	0.0	8.5	0.0	8.5	0.0	0.0	0.0		
	Subtotal	298.4	0.0	-0.8	299.0	0.0	-1.4	295.9	0.0	295.9	0.0	295.9	0.0	0.0	0.0		
3B	Pasture	0.8	0.0	-0.8	0.8	0.0	-1.4	0.6	0.0	0.6	0.0	0.6	0.0	0.0	0.0		
	Alfalfa	5.4	0.0	-5.4	5.4	0.0	-2.0	4.1	0.0	4.1	0.0	4.1	0.0	0.0	0.0		
	Sugar Beets	4.1	0.0	-6.0	4.1	0.0	-8.2	3.8	0.0	3.8	0.0	3.8	0.0	0.0	0.0		
	Other Field Crops	6.1	0.0	-3.9	6.1	0.0	-6.1	4.7	0.0	4.7	0.0	4.7	0.0	0.0	0.0		
	Rice	8.2	0.0	-8.2	8.2	0.0	-8.2	5.2	0.0	5.2	0.0	5.2	0.0	0.0	0.0		
	Truck Crops	2.0	0.0	-0.2	2.0	0.0	-0.1	2.0	0.0	2.0	0.0	2.0	0.0	0.0	0.0		
	Tomatoes	8.9	0.0	-5.6	8.9	0.0	-2.7	8.4	0.0	8.4	0.0	8.4	0.0	0.0	0.0		
	Deciduous Orchard	28.6	0.0	-3.5	28.6	0.0	-2.4	28.6	0.0	28.6	0.0	28.6	0.0	0.0	0.0		
	Small Grain	2.4	0.0	-2.4	2.4	0.0	-2.4	1.8	0.0	1.8	0.0	1.8	0.0	0.0	0.0		
	Subtropical Orchard	1.4	0.0	-0.1	1.4	0.0	-0.1	1.4	0.0	1.4	0.0	1.4	0.0	0.0	0.0		
Subtotal	67.9	0.0	-36.2	68.1	0.1	-23.1	60.5	0.0	60.5	0.0	60.5	0.0	0.0	0.0			

TABLE 18 VALUE OF PRODUCTION BY SUBREGION (Million \$)

CVPM Subregion	Crop Category	Preferred Alternative Average		Changes Compared to Average PA				Preferred Alternative Wet		Changes Compared to Wet PA				Preferred Alternative Dry		Changes Compared to Dry PA			
		Average	0.0	Followed by Average		Average	Followed by Wet		Wet	Dry	Average	Followed by Wet		Wet	Dry	Average	Followed by Dry		
				Wet	Dry		Wet	Dry				Wet	Dry						
4	Pasture	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	
	Alfalfa	3.6	0.0	0.0	0.0	0.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0	3.6	0.0	0.0	0.0		
	Sugar Beets	7.5	0.0	0.0	0.0	0.0	0.0	7.5	0.0	0.0	0.0	0.0	0.0	7.5	0.0	0.0	0.0		
	Other Field Crops	18.0	0.0	0.0	0.0	0.0	0.0	18.1	0.0	0.0	0.0	0.0	0.0	17.9	0.0	0.0	0.0		
	Rice	74.6	0.0	0.0	0.0	0.0	0.0	74.8	0.0	0.0	0.0	0.0	0.0	74.1	0.0	0.0	0.0		
	Truck Crops	60.8	0.0	0.0	0.0	0.0	0.0	60.8	0.0	0.0	0.0	0.0	0.0	60.8	0.0	0.0	0.0		
	Tomatoes	49.9	0.0	0.0	0.0	0.0	0.0	49.9	0.0	0.0	0.0	0.0	0.0	49.9	0.0	0.0	0.0		
	Deciduous Orchard	32.5	0.0	0.0	0.0	0.0	0.0	32.5	0.0	0.0	0.0	0.0	0.0	32.5	0.0	0.0	0.0		
	Small Grain	13.5	0.0	0.0	0.0	0.0	0.0	13.5	0.0	0.0	0.0	0.0	0.0	13.3	0.0	0.0	0.0		
	Subtotal	260.7	0.0	0.0	0.0	0.0	0.0	260.9	0.0	0.0	0.0	0.0	0.0	259.7	0.0	0.0	0.0		
5	Pasture	3.1	0.0	0.0	0.0	0.0	3.1	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0			
	Alfalfa	2.5	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0			
	Sugar Beets	1.5	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0			
	Other Field Crops	6.9	0.0	0.0	0.0	0.0	6.9	0.0	0.0	0.0	0.0	0.0	6.9	0.0	0.0	0.0			
	Rice	141.2	0.0	0.0	0.0	0.0	141.7	0.0	0.0	0.0	0.0	0.0	140.5	0.0	0.0	-0.1			
	Truck Crops	23.5	0.0	0.0	0.0	0.0	23.5	0.0	0.0	0.0	0.0	0.0	23.5	0.0	0.0	0.0			
	Tomatoes	2.3	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.0			
	Deciduous Orchard	129.1	0.0	0.0	0.0	0.0	129.1	0.0	0.0	0.0	0.0	0.0	129.1	0.0	0.0	0.0			
	Small Grain	6.3	0.0	0.0	0.0	0.0	6.3	0.0	0.0	0.0	0.0	0.0	6.2	0.0	0.0	0.0			
	Subtotal	320.0	0.0	0.0	0.0	0.0	320.5	0.0	0.0	0.0	0.0	0.0	319.1	0.0	0.0	0.0			
6	Pasture	1.7	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	0.0			
	Alfalfa	16.8	0.0	0.0	0.0	0.0	17.0	0.0	0.0	0.0	0.0	0.0	16.8	0.0	0.0	0.0			
	Sugar Beets	16.2	0.0	0.0	0.0	0.0	16.3	0.0	0.0	0.0	0.0	0.0	16.2	0.0	0.0	0.0			
	Other Field Crops	28.9	0.0	0.0	0.0	0.0	29.2	0.0	0.0	0.0	0.0	0.0	28.8	0.0	0.0	0.0			
	Rice	10.6	0.0	0.0	0.0	0.0	10.8	0.0	0.0	0.0	0.0	0.0	10.5	0.0	0.0	0.0			
	Truck Crops	14.1	0.0	0.0	0.0	0.0	14.1	0.0	0.0	0.0	0.0	0.0	14.1	0.0	0.0	0.0			
	Tomatoes	70.0	0.0	0.0	0.0	0.0	70.2	0.0	0.0	0.0	0.0	0.0	70.0	0.0	0.0	0.0			
	Deciduous Orchard	26.2	0.0	0.0	0.0	0.0	26.2	0.0	0.0	0.0	0.0	0.0	26.2	0.0	0.0	0.0			
	Small Grain	21.9	0.0	0.0	0.0	0.0	22.0	0.0	0.0	0.0	0.0	0.0	21.5	0.0	0.0	0.1			
	Grapes	13.8	0.0	0.0	0.0	0.0	13.8	0.0	0.0	0.0	0.0	0.0	13.8	0.0	0.0	0.0			
Subtotal	220.3	0.0	0.0	0.0	0.0	221.2	0.0	0.0	0.0	0.0	0.0	219.6	0.0	0.0	0.0				
7	Pasture	2.1	0.0	0.0	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0	0.0			
	Alfalfa	1.8	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0			
	Sugar Beets	1.9	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0			
	Other Field Crops	1.8	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0			
	Rice	39.6	0.0	0.0	0.0	0.0	39.7	0.0	0.0	0.0	0.0	0.0	39.3	0.0	0.0	0.0			
	Truck Crops	1.2	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0			
	Tomatoes	0.8	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0			
	Deciduous Orchard	9.5	0.0	0.0	0.0	0.0	9.5	0.0	0.0	0.0	0.0	0.0	9.5	0.0	0.0	0.0			
	Small Grain	3.2	0.0	0.0	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0	3.1	0.0	0.0	0.0			
	Grapes	0.3	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0			
Subtotal	62.3	0.0	0.0	0.0	0.0	62.4	0.0	0.0	0.0	0.0	0.0	61.9	0.0	0.0	0.0				

TABLE 18 VALUE OF PRODUCTION BY SUBREGION (Million \$)

CVPM Subregion	Crop Category	Preferred Alternative Average			Changes Compared to Average PA			Preferred Alternative Wet			Changes Compared to Wet PA			Preferred Alternative Dry			Changes Compared to Dry PA		
		Average	Followed by Average		Average	Followed by Wet		Average	Followed by Wet		Average	Followed by Dry		Average	Followed by Dry				
			Wet	Dry		Wet	Dry		Wet	Dry		Wet	Dry						
8	Pasture	6.9	0.0	0.0	0.0	6.9	0.0	0.0	0.0	6.9	0.0	0.0	0.0	6.8	0.0	0.0	0.0		
	Alfalfa	7.2	0.0	0.0	0.0	7.2	0.0	0.0	0.0	7.2	0.0	0.0	0.0	7.2	0.0	0.0	0.0		
	Sugar Beets	9.8	0.0	0.0	0.0	9.8	0.0	0.0	0.0	9.8	0.0	0.0	0.0	9.8	0.0	0.0	0.0		
	Other Field Crops	20.8	0.0	0.0	0.0	20.8	0.0	0.0	0.0	20.8	0.0	0.0	0.0	20.7	0.0	0.0	0.0		
	Rice	3.7	0.0	0.0	0.0	3.7	0.0	0.0	0.0	3.7	0.0	0.0	0.0	3.7	0.0	0.0	0.0		
	Truck Crops	70.9	0.0	0.0	0.0	70.9	0.0	0.0	0.0	70.9	0.0	0.0	0.0	70.9	0.0	0.0	0.0		
	Tomatoes	19.8	0.0	0.0	0.0	19.8	0.0	0.0	0.0	19.8	0.0	0.0	0.0	19.7	0.0	0.0	0.0		
	Deciduous Orchard	49.9	0.0	0.0	0.0	49.9	0.0	0.0	0.0	49.9	0.0	0.0	0.0	49.9	0.0	0.0	0.0		
	Small Grain	9.2	0.0	0.0	0.0	9.2	0.0	0.0	0.0	9.2	0.0	0.0	0.0	8.9	0.0	0.0	0.0		
	Grapes	101.7	0.0	0.0	0.0	101.7	0.0	0.0	0.0	101.7	0.0	0.0	0.0	101.7	0.0	0.0	0.0		
Subtotal		299.9	0.0	0.0	0.0	300.0	0.0	0.0	0.0	299.3	0.0	0.0	0.0	299.3	0.0	0.0	0.0		
9	Pasture	3.6	0.0	0.0	0.0	3.6	0.0	0.0	-0.1	3.4	0.0	0.0	-0.1	3.4	0.0	0.0	0.1		
	Alfalfa	25.6	-0.1	-0.1	0.0	25.7	-0.1	-0.1	0.0	25.2	0.2	0.2	0.0	25.2	0.2	0.2	0.1		
	Sugar Beets	22.0	0.0	0.0	0.0	22.0	0.0	0.0	0.0	21.9	0.1	0.1	0.0	21.9	0.1	0.1	0.1		
	Other Field Crops	55.9	-0.1	-0.1	-0.1	56.0	-0.2	-0.2	-0.2	55.3	0.3	0.3	-0.2	55.3	0.3	0.3	0.3		
	Rice	0.7	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.7	0.0	0.0	0.0		
	Truck Crops	190.8	0.0	0.0	0.0	190.8	0.0	0.0	0.0	190.6	0.1	0.1	0.0	190.6	0.1	0.1	0.1		
	Tomatoes	64.9	0.0	0.0	0.0	65.0	-0.1	-0.1	-0.1	64.8	0.1	0.1	0.0	64.8	0.1	0.1	0.1		
	Deciduous Orchard	22.7	0.0	0.0	0.0	22.7	0.0	0.0	0.0	22.7	0.0	0.0	0.0	22.7	0.0	0.0	0.0		
	Small Grain	30.7	0.0	0.0	0.0	30.9	-0.1	-0.1	-0.1	29.7	0.3	0.3	-0.1	29.7	0.3	0.3	0.3		
	Grapes	10.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0		
Subtotal		426.8	-0.3	-0.3	-0.1	427.2	-0.6	-0.6	-0.6	424.2	1.2	1.2	-0.6	424.2	1.2	1.2	1.2		
10	Pasture	3.1	0.0	0.0	0.0	3.1	0.0	0.0	0.0	3.1	0.0	0.0	0.0	3.1	0.0	0.0	0.0		
	Alfalfa	23.6	0.0	0.0	-0.2	23.6	-0.1	-0.1	0.0	23.6	0.0	0.0	-0.1	23.6	0.0	0.0	0.0		
	Sugar Beets	12.2	0.0	0.0	0.0	12.2	0.0	0.0	0.0	12.2	0.0	0.0	0.0	12.2	0.0	0.0	0.0		
	Other Field Crops	31.0	0.0	0.0	-0.1	31.0	0.0	0.0	0.0	31.0	0.0	0.0	0.0	31.0	0.0	0.0	0.0		
	Rice	2.3	0.0	0.0	0.0	2.3	0.0	0.0	0.0	2.3	0.0	0.0	0.0	2.3	0.0	0.0	0.0		
	Truck Crops	718.0	0.0	0.0	0.0	717.9	0.1	0.0	0.0	718.1	0.0	0.0	0.1	718.1	0.0	0.0	0.0		
	Tomatoes	60.1	0.0	0.0	0.0	60.1	0.0	0.0	0.0	60.1	0.0	0.0	0.0	60.1	0.0	0.0	0.0		
	Deciduous Orchard	52.4	0.0	0.0	0.0	52.4	0.0	0.0	0.0	52.4	0.0	0.0	0.0	52.4	0.0	0.0	0.0		
	Small Grain	7.6	0.0	0.0	0.0	7.5	0.1	0.0	0.0	7.6	0.0	0.0	0.1	7.6	0.0	0.0	0.0		
	Grapes	1.9	0.0	0.0	0.0	1.9	0.0	0.0	0.0	1.9	0.0	0.0	0.0	1.9	0.0	0.0	0.0		
Cotton	102.6	0.0	0.0	-0.5	102.7	-0.1	-0.1	0.0	102.6	0.0	0.0	-0.1	102.6	0.0	0.0	0.0			
Subtotal		1015.1	0.0	0.0	-0.8	1015.1	0.0	0.0	0.0	1015.2	0.0	0.0	0.0	1015.2	0.0	0.0	0.0		

TABLE 18 VALUE OF PRODUCTION BY SUBREGION (Million \$)

CVPM Subregion	Crop Category	Preferred Alternative Average		Changes Compared to Average PA		Preferred Alternative		Changes Compared to Wet PA		Preferred Alternative		Changes Compared to Dry PA	
		10.0	4.8	0.0	0.0	10.0	4.8	0.0	0.0	9.9	4.8	0.0	0.0
11	Pasture	10.0	4.8	0.0	0.0	10.0	4.8	0.0	0.0	9.9	4.8	0.0	0.0
	Alfalfa	4.8	0.3	0.0	0.0	4.8	0.3	0.0	0.0	4.8	0.3	0.0	0.0
	Sugar Beets	0.3	11.5	0.0	0.0	0.3	11.5	0.0	0.0	0.3	11.4	0.0	0.0
	Other Field Crops	11.5	3.5	0.0	0.0	11.5	3.5	0.0	0.0	11.4	3.5	0.0	0.0
	Rice	3.5	40.1	0.0	0.0	3.6	40.1	0.0	0.0	3.5	40.0	0.0	0.0
	Truck Crops	40.1	1.2	0.0	0.0	40.1	1.2	0.0	0.0	40.0	1.2	0.0	0.0
	Tomatoes	1.2	115.8	0.0	0.0	1.2	115.8	0.0	0.0	1.2	115.8	0.0	0.0
	Deciduous Orchard	115.8	1.0	0.0	0.0	115.8	1.0	0.0	0.0	115.8	1.0	0.0	0.0
	Small Grain	1.0	19.4	0.0	0.0	1.0	19.4	0.0	0.0	1.0	19.4	0.0	0.0
	Grapes	19.4	207.6	0.0	0.0	19.4	207.6	0.0	0.0	19.4	207.5	0.0	0.0
Subtotal		207.6	4.2	0.0	0.0	207.6	4.2	0.0	0.0	207.5	4.2	0.0	0.0
12	Pasture	4.2	10.5	0.0	0.0	4.2	10.4	0.0	0.0	4.2	10.5	0.0	0.0
	Alfalfa	10.5	0.1	0.0	0.0	10.4	0.1	0.0	0.0	10.5	0.1	0.0	0.0
	Sugar Beets	0.1	26.5	0.0	0.0	0.1	26.4	0.0	0.0	0.1	26.3	0.0	0.0
	Other Field Crops	26.5	19.1	0.0	0.0	26.4	19.1	0.0	0.0	26.3	19.1	0.0	0.0
	Truck Crops	19.1	134.7	0.0	0.0	19.1	134.7	0.0	0.0	19.1	134.7	0.0	0.0
	Deciduous Orchard	134.7	5.4	0.0	0.0	134.7	5.4	0.0	0.0	134.7	5.3	0.0	0.0
	Small Grain	5.4	26.2	0.0	0.0	5.4	26.2	0.0	0.0	5.3	26.2	0.0	0.0
	Grapes	26.2	1.0	0.0	0.0	26.2	1.0	0.0	0.0	26.2	1.0	0.0	0.0
	Cotton	1.0	3.5	0.0	0.0	1.0	3.5	0.0	0.0	1.0	3.5	0.0	0.0
	Subtropical Orchard	3.5	231.2	0.0	0.0	3.5	230.9	0.0	0.0	3.5	230.8	0.0	0.0
Subtotal		231.2	9.2	0.0	0.0	230.9	9.3	0.0	0.0	230.8	9.2	0.0	0.0
13	Pasture	9.2	24.2	0.0	0.0	9.3	24.3	0.0	0.0	9.2	24.2	0.0	0.0
	Alfalfa	24.2	4.4	0.0	0.0	24.3	4.4	0.0	0.0	24.2	4.4	0.0	0.0
	Sugar Beets	4.4	35.2	0.0	0.0	4.4	35.4	0.0	0.0	4.4	35.1	0.0	0.0
	Other Field Crops	35.2	3.1	0.0	0.0	35.4	3.1	0.0	0.0	35.1	3.1	0.0	0.0
	Rice	3.1	114.4	0.0	0.0	3.1	114.4	0.0	0.0	3.1	114.4	0.0	0.0
	Truck Crops	114.4	10.5	0.0	0.0	114.4	10.5	0.0	0.0	114.4	10.5	0.0	0.0
	Tomatoes	10.5	193.4	0.0	0.0	10.5	193.4	0.0	0.0	10.5	193.4	0.0	0.0
	Deciduous Orchard	193.4	25.3	0.0	0.0	193.4	25.4	0.0	0.0	193.4	25.0	0.0	0.0
	Small Grain	25.3	184.9	0.0	0.0	25.4	184.9	0.0	0.0	25.0	184.9	0.0	0.0
	Grapes	184.9	71.4	0.0	0.0	184.9	71.8	0.0	0.0	184.9	71.2	0.0	0.0
Cotton	71.4	34.7	0.0	0.0	71.8	34.7	0.0	0.0	71.2	34.7	0.0	0.0	
Subtropical Orchard	34.7	710.6	0.0	0.0	34.7	711.5	0.0	0.0	34.7	709.9	0.0	0.0	
Subtotal		710.6	9.2	0.0	0.0	711.5	9.3	0.0	0.0	709.9	9.2	0.0	0.0

TABLE 18 VALUE OF PRODUCTION BY SUBREGION (Million \$)

CVPM Subregion	Crop Category	Preferred Alternative Average	Changes Compared to Average PA			Preferred Alternative Wet			Changes Compared to Wet PA			Preferred Alternative Dry			Changes Compared to Dry PA		
			Average	Followed by Average		Wet	Alternative	Average	Followed by Wet		Dry	Alternative	Average	Followed by Dry		Wet	Dry
				Wet	Dry				Wet	Dry				Wet	Dry		
14	Pasture	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Alfalfa	8.6	0.0	0.0	8.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Sugar Beets	3.9	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Other Field Crops	11.0	0.0	0.0	10.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Truck Crops	817.9	0.0	0.0	817.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Tomatoes	114.6	0.0	0.1	114.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Deciduous Orchard	38.5	0.0	0.0	38.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Small Grain	5.2	0.0	0.0	5.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Grapes	15.1	0.0	0.0	15.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Cotton	234.6	0.0	-0.1	234.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Subtotal	3.7	0.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
15	Subtotal	1253.1	0.0	0.0	1253.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Pasture	0.9	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Alfalfa	51.3	0.0	0.1	51.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Sugar Beets	4.1	0.0	0.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Other Field Crops	51.2	0.0	0.0	51.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Rice	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Truck Crops	72.0	0.0	0.0	72.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Tomatoes	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Deciduous Orchard	58.7	0.0	0.0	58.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Small Grain	41.6	0.0	0.0	41.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Grapes	121.7	0.0	0.0	121.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Cotton	275.0	0.0	0.0	275.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Subtotal	3.7	0.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
16	Subtotal	683.2	0.0	-0.1	684.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Pasture	1.4	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Alfalfa	3.1	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Other Field Crops	3.6	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Truck Crops	30.0	0.0	0.0	30.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Deciduous Orchard	24.7	0.0	0.0	24.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Small Grain	2.4	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Grapes	119.6	0.0	0.0	119.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Cotton	5.7	0.0	0.0	5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Subtotal	33.7	0.0	0.0	33.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Subtotal	224.3	0.0	0.0	224.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		

TABLE 18 VALUE OF PRODUCTION BY SUBREGION (Million \$)

CVPM Subregion	Crop Category	Preferred Alternative Average		Changes Compared to Average PA				Preferred Alternative		Changes Compared to Wet PA				Preferred Alternative		Changes Compared to Dry PA				
		Average	0.7	Wet	Followed by Average	Dry	Wet	Average	Wet	Dry	Wet	Average	Wet	Dry	Wet	Average	Wet	Dry	Wet	Dry
17	Pasture	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Alfalfa	3.1	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Sugar Beets	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other Field Crops	4.8	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Truck Crops	60.0	60.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Tomatoes	1.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Deciduous Orchard	112.8	112.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Small Grain	3.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Grapes	236.9	236.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Cotton	11.4	11.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtropical Orchard	131.0	131.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Subtotal	565.7	565.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
18	Pasture	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Alfalfa	38.4	38.7	0.0	0.1	0.0	0.0	0.0	0.0	0.0	-0.2	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Sugar Beets	1.6	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other Field Crops	46.5	46.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Truck Crops	78.0	78.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Tomatoes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Deciduous Orchard	106.6	106.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Small Grain	24.0	24.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Grapes	121.7	121.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Cotton	193.5	194.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtropical Orchard	363.1	363.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Subtotal	974.2	976.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	-1.0	-1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
19	Pasture	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Alfalfa	15.7	15.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Sugar Beets	4.3	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other Field Crops	4.5	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Truck Crops	147.1	147.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Tomatoes	2.7	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Deciduous Orchard	80.2	80.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Small Grain	3.6	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Grapes	33.0	33.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Cotton	125.2	125.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtropical Orchard	17.1	17.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Subtotal	433.3	433.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

TABLE 18 VALUE OF PRODUCTION BY SUBREGION (Million \$)

CVP Subregion	Crop Category	Preferred Alternative		Changes Compared to Average PA		Preferred Alternative		Changes Compared to Wet PA		Preferred Alternative		Changes Compared to Dry PA	
		Average	Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry
20	Pasture	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Alfalfa	7.3	0.0	0.0	0.0	7.3	0.0	0.0	0.0	0.0	6.7	0.0	0.0
	Sugar Beets	0.4	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.4	0.0	0.0	0.0
	Other Field Crops	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0
	Truck Crops	251.6	0.0	0.0	0.0	251.6	0.0	0.0	0.0	251.2	0.0	0.0	0.0
	Tomatoes	0.5	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.5	0.0	0.0	0.0
	Deciduous Orchard	81.8	0.0	0.0	0.0	81.8	0.0	0.0	0.0	81.8	0.0	0.0	0.0
	Small Grain	0.5	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.4	0.0	0.0	0.0
	Grapes	109.1	0.0	0.0	0.0	109.1	0.0	0.0	0.0	109.1	0.0	0.0	0.0
	Cotton	35.0	0.0	0.0	0.0	35.2	0.0	0.0	0.0	32.7	0.0	0.0	0.0
	Subtropical Orchard	115.6	0.0	0.0	0.0	115.6	0.0	0.0	0.0	115.6	0.0	0.0	0.0
	Subtotal	603.9	0.0	0.0	0.0	604.1	0.0	0.0	0.0	600.4	0.0	0.0	0.0
21	Pasture	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0
	Alfalfa	16.8	0.0	0.0	0.0	16.8	0.0	0.0	0.0	16.6	0.0	0.0	0.0
	Sugar Beets	6.4	0.0	0.0	0.0	6.4	0.0	0.0	0.0	6.3	0.0	0.0	0.0
	Other Field Crops	10.8	0.0	0.0	0.0	10.8	0.0	0.0	0.0	10.8	0.0	0.0	0.0
	Rice	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Truck Crops	661.4	0.0	0.0	0.0	661.3	0.0	0.0	0.0	661.3	0.0	0.0	0.0
	Tomatoes	1.6	0.0	0.0	0.0	1.6	0.0	0.0	0.0	1.6	0.0	0.0	0.0
	Deciduous Orchard	39.3	0.0	0.0	0.0	39.3	0.0	0.0	0.0	39.3	0.0	0.0	0.0
	Small Grain	0.9	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.9	0.0	0.0	0.0
	Grapes	122.1	0.0	0.0	0.0	122.1	0.0	0.0	0.0	122.1	0.0	0.0	0.0
	Cotton	128.3	0.0	0.0	-0.1	128.3	0.0	0.0	0.0	126.7	0.0	0.0	0.0
	Subtropical Orchard	59.9	0.0	0.0	0.0	59.9	0.0	0.0	0.0	59.9	0.0	0.0	0.0
Subtotal	1047.6	0.0	0.0	0.0	1047.6	0.0	0.0	0.0	1045.7	0.0	0.0	0.0	

NOTES:

1. All values in millions of 1992 dollars.
2. A negative value represents a lower gross revenue in an alternative than in the Preferred Alternative.
3. Not all 12 crops are grown in all subregions.
4. Subregions 3 and 3B should be added together to get the complete subregion 3. 3B represents the area within this subregion served by the Tehama Colusa Canal

TABLE 19 CHANGES IN NET REVENUE BY SUBREGION (Million \$)

CVPM Subregion	Cause of Net Revenue Change	Change Compared to Average PA			Change Compared to Wet PA			Change Compared to Dry PA		
		Followed By Average		Dry	Followed By Wet		Dry	Followed By Dry		Dry
		Average	Wet		Average	Wet		Average	Wet	
1	Fallowed Land	-0.1	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
	Groundwater Pumping Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
	Irrigation Cost	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
	CVP Water Cost	0.3	0.2	0.1	0.4	0.4	0.4	0.4	0.4	0.4
	Higher Crop Prices	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Net Change	0.1	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2
2	Fallowed Land	0.0	0.0	-0.3	0.0	0.0	-0.4	0.0	0.0	0.0
	Groundwater Pumping Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Irrigation Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CVP Water Cost	-0.2	0.0	0.1	-0.6	-0.2	0.5	0.0	0.0	-0.1
	Higher Crop Prices	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
	Net Change	-0.2	0.0	0.0	-0.6	-0.2	0.1	0.0	0.0	-0.1
3	Fallowed Land	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Groundwater Pumping Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Irrigation Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CVP Water Cost	0.0	0.0	0.0	-0.2	-0.2	-0.2	-0.3	-0.3	-0.3
	Higher Crop Prices	0.0	0.0	0.3	0.0	0.0	0.2	0.0	0.0	0.0
	Net Change	0.0	0.0	0.3	-0.2	-0.2	0.0	-0.3	-0.3	-0.3
3B	Fallowed Land	0.0	0.0	-6.4	0.0	0.0	-3.8	0.0	0.0	0.0
	Groundwater Pumping Cost	0.0	0.0	0.0	1.4	1.4	-4.1	0.0	0.0	0.0
	Irrigation Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CVP Water Cost	-0.4	1.4	3.7	-4.7	-1.2	4.2	0.2	0.2	-0.3
	Higher Crop Prices	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Net Change	-0.4	1.4	-2.8	-3.3	0.2	-3.7	0.2	0.2	-0.3
4	Fallowed Land	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Groundwater Pumping Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Irrigation Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CVP Water Cost	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2
	Higher Crop Prices	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.0
	Net Change	0.0	0.0	0.3	-0.1	-0.1	0.0	-0.2	-0.2	-0.2

TABLE 19 CHANGES IN NET REVENUE BY SUBREGION (Million \$)

CVPM Subregion	Cause of Net Revenue Change	Change Compared to Average PA			Change Compared to Wet PA			Change Compared to Dry PA		
		Average		Dry	Average		Dry	Average		Dry
		Wet	Followed By Average		Wet	Followed By Average		Wet	Followed By Average	
5	Fallowed Land	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Groundwater Pumping Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Irrigation Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CVP Water Cost	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
	Higher Crop Prices	0.0	0.0	0.3	0.0	0.1	0.0	0.0	0.0	0.0
	Net Change	-0.3	-0.3	0.0	-0.3	-0.3	-0.2	-0.3	-0.3	-0.3
6	Fallowed Land	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Groundwater Pumping Cost	0.0	0.0	0.0	0.0	0.3	0.3	0.0	0.0	-0.1
	Irrigation Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CVP Water Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Higher Crop Prices	0.0	0.0	0.4	0.0	0.0	0.0	0.2	0.0	0.0
	Net Change	0.0	0.0	0.4	0.1	0.1	0.3	-0.1	-0.1	-0.1
7	Fallowed Land	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Groundwater Pumping Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Irrigation Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CVP Water Cost	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
	Higher Crop Prices	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0
	Net Change	-0.1	-0.1	0.0	-0.1	-0.1	0.0	-0.1	-0.1	-0.1
8	Fallowed Land	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Groundwater Pumping Cost	0.0	0.0	0.0	0.0	0.1	0.1	0.0	-0.1	-0.1
	Irrigation Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CVP Water Cost	-0.8	-0.5	-1.6	-2.0	-1.2	-2.8	-0.3	-0.3	-0.4
	Higher Crop Prices	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0.0
	Net Change	-0.8	-0.5	-1.3	-1.9	-1.0	-2.5	-0.3	-0.3	-0.5
9	Fallowed Land	-0.1	-0.1	0.0	-0.1	-0.1	-0.1	0.2	0.2	0.2
	Groundwater Pumping Cost	-0.6	-0.6	-0.6	-1.2	-1.2	-1.2	-0.4	-0.4	-0.4
	Irrigation Cost	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
	CVP Water Cost	1.2	1.2	1.2	2.0	2.0	2.0	0.5	0.5	0.5
	Higher Crop Prices	0.0	0.0	0.5	0.0	0.0	0.2	0.0	0.0	0.0
	Net Change	0.3	0.3	0.7	0.5	0.5	0.7	0.0	0.0	0.0

TABLE 19 CHANGES IN NET REVENUE BY SUBREGION (Million \$)

CVPM Subregion	Cause of Net Revenue Change	Change Compared to Average PA			Change Compared to Wet PA			Change Compared to Dry PA		
		Followed By Average		Dry	Followed By Wet		Wet	Followed By Dry		Dry
		Average	Wet	Dry	Average	Wet	Dry	Average	Wet	Dry
10	Fallowed Land	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
	Groundwater Pumping Cost	0.0	0.0	-6.8	-8.3	-0.8	-8.6	0.0	0.0	0.0
	Irrigation Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CVP Water Cost	-0.1	0.4	6.3	7.9	0.7	8.1	0.2	0.2	-0.1
	Higher Crop Prices	0.0	0.0	0.4	0.0	0.0	0.2	0.0	0.0	0.0
	Net Change	-0.1	0.4	-0.1	-0.5	0.0	-0.3	0.2	0.2	-0.1
11	Fallowed Land	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Groundwater Pumping Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Irrigation Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CVP Water Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Higher Crop Prices	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.0
	Net Change	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.0
12	Fallowed Land	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Groundwater Pumping Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Irrigation Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CVP Water Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Higher Crop Prices	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.0
	Net Change	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.0
13	Fallowed Land	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
	Groundwater Pumping Cost	0.8	0.7	-2.7	1.6	1.6	-4.9	0.2	0.2	0.2
	Irrigation Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CVP Water Cost	-0.8	-0.6	2.1	-1.7	-1.5	4.3	-0.2	-0.2	-0.4
	Higher Crop Prices	0.0	0.0	0.5	0.0	0.0	0.2	0.0	0.0	0.0
	Net Change	0.0	0.1	-0.1	-0.1	0.0	-0.5	-0.1	-0.1	-0.3
14	Fallowed Land	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Groundwater Pumping Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Irrigation Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CVP Water Cost	1.3	3.5	-6.0	1.8	6.4	-5.5	-6.3	-6.3	-7.3
	Higher Crop Prices	0.0	0.0	0.5	0.0	0.0	0.2	0.0	0.0	0.0
	Net Change	1.3	3.5	-5.6	1.8	6.4	-5.3	-6.3	-6.3	-7.3

TABLE 19 CHANGES IN NET REVENUE BY SUBREGION (Million \$)

CVPM Subregion	Cause of Net Revenue Change	Change Compared to Average PA			Change Compared to Wet PA			Change Compared to Dry PA			
		Followed By Average		Dry	Followed By Wet		Wet	Dry	Followed By Dry		
		Average	Wet	Average	Average	Wet	Average	Wet	Average	Wet	Dry
15	Fallowed Land	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Groundwater Pumping Cost	0.0	0.0	0.0	0.3	0.3	0.0	0.3	-1.5	-1.5	-1.5
	Irrigation Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CVP Water Cost	-0.3	-0.2	-0.4	-0.2	-0.2	-0.3	-0.3	-0.4	-0.4	-0.5
	Higher Crop Prices	0.0	0.0	0.4	0.1	0.0	0.2	0.2	0.0	0.0	0.0
	Net Change	-0.3	-0.2	0.1	0.2	0.2	0.2	-1.9	-1.9	-1.9	-1.9
16	Fallowed Land	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Groundwater Pumping Cost	-0.6	-0.6	-0.6	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
	Irrigation Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CVP Water Cost	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.5	0.5	0.5
	Higher Crop Prices	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Net Change	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
17	Fallowed Land	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Groundwater Pumping Cost	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.0	0.0	0.0
	Irrigation Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CVP Water Cost	-0.1	-0.1	-0.3	-0.4	-0.3	-0.5	-0.5	0.0	0.0	-0.1
	Higher Crop Prices	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Net Change	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1
18	Fallowed Land	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	0.0	0.0	0.0
	Groundwater Pumping Cost	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0
	Irrigation Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CVP Water Cost	-1.5	-1.0	-3.3	-2.2	-1.7	-3.9	-3.9	0.8	0.8	0.0
	Higher Crop Prices	0.0	0.0	0.4	0.0	0.0	0.1	0.1	0.0	0.0	0.0
	Net Change	-1.5	-1.0	-2.9	-2.1	-1.6	-3.7	0.8	0.8	0.0	0.0
19	Fallowed Land	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Groundwater Pumping Cost	0.0	0.0	0.0	0.2	0.2	0.2	0.2	-1.2	-1.2	-1.2
	Irrigation Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CVP Water Cost	-0.5	-0.5	-0.6	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
	Higher Crop Prices	0.0	0.0	0.2	0.0	0.0	0.1	0.1	0.0	0.0	0.0
	Net Change	-0.5	-0.5	-0.3	-0.3	-0.3	-0.3	-1.8	-1.8	-1.8	-1.8

TABLE 19 CHANGES IN NET REVENUE BY SUBREGION (Million \$)

CVPM Subregion	Cause of Net Revenue Change	Change Compared to Average PA				Change Compared to Wet PA				Change Compared to Dry PA				
		Followed By Average		Followed By Wet		Followed By Average		Followed By Wet		Average		Followed By Dry		
		Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry	
20	Fallowed Land	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Groundwater Pumping Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.2	-0.2	-0.2	
	Irrigation Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	CVP Water Cost	-0.1	0.2	-0.9	-0.1	-0.3	-0.1	-1.1	-0.2	-0.2	-0.2	-0.2	-0.2	-0.5
	Higher Crop Prices	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Net Change	-0.1	0.2	-0.8	0.0	-0.3	0.0	-1.1	-0.3	-0.3	-0.3	-0.3	-0.7	
21	Fallowed Land	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Groundwater Pumping Cost	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.2	-0.8	-0.8	-0.8	-0.8	
	Irrigation Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	CVP Water Cost	0.1	0.3	-0.5	0.2	0.2	0.5	-0.4	0.5	-0.7	-0.7	-0.7	-0.9	
	Higher Crop Prices	0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	
	Net Change	0.1	0.3	-0.3	0.4	0.7	-0.1	-0.1	-1.5	-1.5	-1.5	-1.7		
Total	Fallowed Land	-0.1	0.0	-6.8	-0.4	-0.4	-0.3	-4.6	-0.2	-0.2	-0.2	-0.2	-0.2	
	Groundwater Pumping	0.4	0.4	-9.9	-4.4	3.1	-16.6	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	
	Irrigation Cost	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	
	CVP Water Cost	-1.3	4.3	2.3	0.0	2.9	6.5	-7.9	-8.0	-8.0	-8.0	-8.0	-10.7	
	Higher Crop Prices	0.1	0.0	4.7	0.4	0.4	1.9	0.0	0.0	0.0	0.0	0.0	0.0	
	Net Change	-1.1	4.4	-10.0	-4.6	5.8	-13.2	-12.4	-12.4	-12.4	-12.4	-15.1		

Notes:

1. All values in millions of 1992 dollars
2. A negative value represents a reduction in net revenue compared to the Preferred Alternative
3. Subregions 3 and 3B should be added together to get the complete subregion 3. 3B represents the area within this subregion served by the Tehama Colusa Canal
4. PA is the Preferred Alternative

TABLE 20 IRRIGATION WATER APPLIED BY SUBREGION

CVPM Subregion	Water Source	Preferred Alternative Average	Changes Compared to Average PA			Preferred Alternative	Changes Compared to Wet PA			Preferred Alternative	Changes Compared to Dry PA				
			Average	Followed by Average			Wet	Average	Followed by Wet		Dry	Average	Followed by Dry		
				Wet	Dry				Wet				Dry	Wet	Dry
1	CVP Water	19.3	-10.8	-6.4	-5.4	20.5	-13.0	-13.0	-13.0	21.0	-13.5	-13.5			
	Groundwater	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	-1.5	-1.5			
2	CVP Water	27.7	0.0	0.0	-21.6	37.1	0.0	0.1	-36.7	8.2	0.0	0.0			
	Groundwater	512.1	0.0	0.0	0.0	506.4	0.0	-0.1	0.0	584.7	0.0	0.0			
3	CVP Water	170.4	0.0	0.0	0.0	174.2	0.0	0.0	0.0	154.3	0.0	0.0			
	Groundwater	248.9	0.0	0.0	0.0	227.0	0.0	0.0	0.0	355.3	0.0	0.0			
3B	CVP Water	199.6	0.1	0.0	-199.6	227.0	39.3	39.1	-227.0	50.3	0.0	0.0			
	Groundwater	78.7	-0.1	0.0	0.0	50.4	-38.4	-38.2	99.6	191.9	0.0	0.0			
4	CVP Water	129.8	0.0	0.0	0.0	133.1	0.0	0.0	0.0	113.9	0.0	0.0			
	Groundwater	326.6	0.0	0.0	0.0	305.1	0.0	0.0	0.0	442.8	0.0	0.0			
5	CVP Water	19.9	0.1	0.0	0.1	20.8	0.1	0.0	0.0	17.9	0.0	0.0			
	Groundwater	492.6	-0.1	0.0	-0.1	449.3	-1.1	-1.0	-0.4	588.7	-1.1	-1.1			
6	CVP Water	2.2	0.0	0.0	0.0	2.4	0.0	0.0	0.0	1.8	0.0	0.0			
	Groundwater	452.8	0.0	0.0	0.0	447.6	-6.4	-6.4	-6.0	521.0	0.0	0.0			
7	CVP Water	22.0	0.0	0.0	0.0	22.6	0.0	0.0	0.0	19.1	0.0	0.0			
	Groundwater	193.2	0.0	0.0	0.0	177.9	0.0	0.0	0.0	217.5	0.0	0.0			
8	CVP Water	51.6	0.1	0.0	-0.1	79.4	0.1	-0.1	-0.1	25.3	0.0	0.0			
	Groundwater	756.4	-0.1	0.0	0.1	717.3	0.0	0.0	0.0	851.3	-0.2	-0.2			
9	CVP Water	28.2	-28.2	-28.2	-28.2	48.1	-48.1	-48.1	-48.1	11.5	-11.5	-11.5			
	Groundwater	80.3	17.9	17.9	18.7	70.2	35.6	35.6	36.0	100.1	11.5	11.5			
10	CVP Water	183.4	0.0	0.0	-183.4	234.4	-228.4	-22.8	-234.4	92.1	0.0	0.0			
	Groundwater	496.2	0.0	0.0	179.4	414.4	227.7	22.7	233.7	632.4	0.0	0.0			
11	CVP Water	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
	Groundwater	34.1	0.0	0.0	0.0	26.8	0.0	0.0	0.0	34.5	0.0	0.0			
12	CVP Water	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
	Groundwater	173.1	0.0	0.0	0.0	141.8	0.0	0.0	0.0	228.2	0.0	0.0			
13	CVP Water	163.6	16.7	16.6	-60.2	159.0	33.2	33.1	-113.1	128.2	0.0	0.0			
	Groundwater	912.5	-16.7	-16.6	60.2	812.0	-36.2	-36.2	109.1	1,181.4	-3.8	-3.8			
14	CVP Water	524.4	0.1	0.0	0.1	719.0	0.1	0.0	0.0	230.2	0.0	0.0			
	Groundwater	826.3	-0.1	0.0	-0.1	603.6	-0.1	0.0	0.0	1,176.4	0.0	0.0			

TABLE 20 IRRIGATION WATER APPLIED BY SUBREGION

CVP Subregion	Water Source	Preferred Alternative Average	Changes Compared to Average PA			Preferred Alternative Wet	Changes Compared to Wet PA			Preferred Alternative Dry	Changes Compared to Dry PA		
			Followed by Average				Followed by Wet				Followed by Dry		
			Average	Wet	Dry		Average	Wet	Dry		Average	Wet	Dry
15	CVP Water	35.1	0.0	0.1	0.1	38.1	0.0	0.1	0.0	28.6	0.0	0.0	
	Groundwater	1,276.6	0.0	-0.1	-0.1	1,099.1	0.0	0.0	0.0	1,600.7	0.0	0.0	
16	CVP Water	16.2	-16.2	-16.2	-16.2	15.7	-15.7	-15.7	-15.7	12.9	-12.9	-12.9	
	Groundwater	49.6	14.9	14.8	15.0	0.0	13.2	13.2	13.2	107.3	11.5	11.5	
17	CVP Water	34.6	3.9	3.8	4.0	32.5	7.4	7.3	7.4	27.1	0.0	0.1	
	Groundwater	415.1	-3.8	-3.8	-3.9	303.2	-7.4	-7.2	-7.4	577.4	0.0	0.0	
18	CVP Water	517.3	0.0	0.0	0.1	526.3	0.0	0.0	0.1	399.0	0.0	0.1	
	Groundwater	1,018.0	0.0	0.0	-0.1	821.8	-4.0	-4.0	-3.8	1,394.9	0.0	0.0	
19	CVP Water	13.3	-0.1	0.0	0.1	15.4	-0.1	-0.1	0.0	9.4	0.0	0.0	
	Groundwater	366.8	0.1	0.0	-0.1	250.7	0.0	0.0	0.0	578.4	0.0	0.0	
20	CVP Water	208.7	0.1	0.1	-0.2	219.8	0.1	0.1	-0.1	154.1	0.0	-0.1	
	Groundwater	303.6	-0.1	-0.1	0.1	244.8	0.0	0.0	0.0	437.3	0.0	0.0	
21	CVP Water	138.3	0.0	0.0	-0.1	163.0	0.0	0.1	-0.1	89.3	0.0	-0.1	
	Groundwater	579.4	0.0	0.0	0.1	445.2	0.0	-0.1	0.0	783.1	0.0	0.0	
Total	CVP Water	2,505.5	-34.4	-30.4	-510.5	2,888.2	-224.9	-19.8	-680.6	1,593.9	-37.7	-37.8	
	Groundwater	9,596.5	11.9	12.3	269.2	8,114.6	182.8	-21.6	474.0	12,527.1	16.1	16.2	

Notes:
 1. All quantities in thousands of acre-feet
 2. A negative value represents a lower quantity than in the Preferred Alternative
 3. Subregions 3 and 3B should be added together to get the complete subregion 3. 3B represents the area within this subregion served by the Tehama Colusa Canal
 4. PA is the Preferred Alternative

TABLE 21 SUBREGION ANALYSIS OF SIGNIFICANT CHANGES IN WATER USE

Subregion	Outcome	Explanation
1	Decrease in CVP use and no GW substitution in all sequences	Less CVP water is used than in the Preferred Alternative because the blended price is 140% to 330% higher than the Preferred Alternative Tier 1 (the only tier of water that was used for this scenario). For hydrologic reasons, subregion 1 is restricted from switching to groundwater.
2	Decrease in CVP use and no GW substitution in Dry to Average and Dry to Wet sequences	Less CVP water is used than in the Preferred Alternative because the blended prices for the Dry to Average and Dry to Wet sequences are 320% and 345% higher than the Preferred Alternative Tier 1 price (the only water tier that was used for this scenario). For hydrologic reasons, subregion 2 is restricted from switching to groundwater.
3B	Decrease CVP and no GW substitution in Dry to Average sequence	Less CVP water is used than in the Preferred Alternative because the blended price is 240% higher than the Tier 1 price from the Preferred Alternative, which is the only tier of water that was used. For hydrologic reasons the region is restricted from switching to groundwater in this long-run scenario.
3B	Decrease in CVP use and GW substitution in Dry to Wet sequence	CVP water use decreases because the blended price is 260% higher than the Preferred Alternative Tier 1 price. The model allowed a shift to groundwater on a short run basis to provide water to permanent crops during the wet year when groundwater would have been recharged.
3B	Shift from Groundwater to CVP water in Average to Wet and Wet to Wet sequences	In the Preferred Alternative wet year analysis subregion 3B has 39 TAF of water that falls in Tiers 2 or 3. Under the LTCR blended pricing mechanism all of the subregions CVP water is priced at a level that is lower than the Preferred Alternative Tier 2. This additional affordable CVP water is used resulting in a less groundwater being pumped.
9	Shift from CVP to Groundwater in all sequences	The blended price of CVP water in subregion 9 is greater than the groundwater pumping cost resulting in the shift from CVP to groundwater.
10	Shift from CVP to Groundwater in Dry to Average and Average, Wet and Dry to Wet sequences	Due to an increase in the CVP price relative to the Preferred Alternative, the depth to which groundwater can be affordable pumped increases resulting in the shift from CVP supplies to groundwater.
13	Shift from groundwater to CVP in Average to Average, Wet to Average, Average to Wet and Wet to Wet sequences	In the Preferred Alternative Average and Wet conditions subregion 13 had water classified as Tier 2 or Tier 3 which was not affordable, and pumped groundwater to supplement it's Tier 1 supply down to a depth at which it was no longer affordable. In the LTCR sequences, the blended price is less expensive than the Preferred Alternative upper Tier price, therefore a shift is made from the deepest groundwater to the now affordable CVP supply.

TABLE 21 SUBREGION ANALYSIS OF SIGNIFICANT CHANGES IN WATER USE

Subregion	Outcome	Explanation
13	Shift from CVP to Groundwater in Dry to Average and Dry to Wet sequences	Under the LTCR blended price mechanism, when coming out of a drought into a Average or Wet year the blended price increases. In these situations, shallow groundwater is less expensive than the CVP blended price. As more groundwater is pumped the cost increases as the pump lift increases and the cost eventually becomes greater than the CVP blended price. When this happens the remainder of the subregions water supply is taken from the CVP supplies.
16	Shift from CVP to Groundwater in all sequences	The blended price of CVP water in subregion 16 is greater than the groundwater pumping cost resulting in the shift from CVP to groundwater.
17	Shift from groundwater to CVP	In the Preferred Alternative Average and Wet conditions this subregion had water classified as Tier 2 or Tier 3 which was not affordable. The subregion pumped groundwater down to a depth at which it was no longer affordable to supplement the CVP water is was able to afford. In the LTCR sequences, the blended price is less expensive than the least expensive CVP tier that was not used, therefore a shift is made from the deepest groundwater to the now affordable CVP supply.
19	Shift from CVP to Groundwater in Dry to Dry sequence	The blended pricing causes the Dry to Dry CVP water cost to rise higher than the groundwater pumping cost resulting in the shift from CVP to groundwater.



SECTION 2
REGIONAL ECONOMICS

REGIONAL ECONOMICS

This analysis identifies the regional economic impacts of two out of the nine total Long Term Contract Renewal sequences; an Average year following an Average 5-year base condition, and a Average year following a Dry 5-year base condition. The regional economic analysis is restricted to these sequences because they are the only sequences that represent long-run conditions. The Input-Output model used in the regional economic analysis assumes a long run equilibrium is reached, therefore it is inappropriate to model short run responses represented by the Wet and Dry year conditions. While the Average year following the Dry 5-year base condition is not strictly a long-run scenario, as described in the Agricultural and Land Use and Economics section, there are some regions that will be permanently impacted by a five year series of drought years. Because of this, the results can be considered long run.

The assumptions and baseline data used in this analysis are the same as what was used in the Preferred Alternative. Tables 23 and 24 show the results of the Average year following an Average 5-year base condition, Tables 25 and 26 the Average year following an Wet 5-year base condition, and Tables 27 and 28 the Average year following an Dry 5-year base condition. Tables 23, 25, and 27 present the impacts by economic sectors that are aggregations of SIC industries. Tables 24, 26, and 28 present the regional economic impacts broken out by the source of the impact including reduced agricultural output, changes in net farm income, and changes in M&I water costs. Note that regional economic impacts are not reported for the North Coast or the Central and South Coast regions because the rolling five year average tiered pricing mechanism has no impact on these regions.

AVERAGE YEAR FOLLOWING AVERAGE 5-YEAR BASE CONDITION

Table 23 shows the employment, output and income effects on all sectors in each regional economy of the long-term contract renewals. Most of the impacts are felt in the Manufacturing, Trade and Services sectors. These impacts are derived from the impact to net income. The economic impacts by region from each source can be seen in Table 24. Reduction in net income resulting from changes in CVP water cost, groundwater pumping, irrigation costs and changes in crop prices have the greatest impact at the statewide level.

AVERAGE YEAR FOLLOWING DRY 5-YEAR BASE CONDITION

Table 27 shows the employment, output and income effects for each regional economy and the State as a whole broken out by the impacted sectors. Table 28 shows how each of the impact sources contribute to the total impact. The reduction in agricultural output in the Sacramento River region relative to the Preferred Alternative dominates the Statewide impact.

TABLE 22

**REGIONAL ECONOMIC IMPACTS ON ALL SECTORS: AVERAGE YEAR FOLLOWING AVERAGE 5-YEAR
BASE CONDITION COMPARED TO THE PREFERRED ALTERNATIVE AVERAGE YEAR CONDITION**

Region Directly Impacted	Impacts on all Sectors					
	Employment (# of jobs)		Output (\$MM)		PoW Income (\$MM)	
	Direct	Total	Direct	Total	Direct	Total
Sacramento River						
Agriculture						
Reduced Output	-10	-20	-0.5	-1.2	-0.2	-0.6
Reduced Net Income	-20	-50	-0.9	-2.3	-0.5	-1.3
Total Agriculture	-30	-60	-1.4	-3.5	-0.7	-1.9
M&I Water Costs	-60	-130	-3.9	-8.5	-2.0	-4.7
TOTAL 1/	-90	-190	-5.3	-12.0	-2.8	-6.6
San Joaquin River						
Agriculture						
Reduced Output	0	0	-0.2	-0.3	-0.1	-0.2
Reduced Net Income	20	40	0.8	1.8	0.5	1.0
Total Agriculture	20	30	0.7	1.5	0.4	0.9
M&I Water Costs	-80	-150	-5.0	-9.4	-2.6	-5.1
TOTAL 1/	-60	-120	-4.3	-7.9	-2.2	-4.2
Tulare Lake						
Agriculture						
Reduced Output	0	0	0.0	0.0	0.0	0.0
Reduced Net Income	-50	-80	-2.1	-4.1	-1.1	-2.2
Total Agriculture	-50	-80	-2.1	-4.1	-1.1	-2.2
M&I Water Costs	0	0	0.0	0.0	0.0	0.0
TOTAL 1/	-50	-80	-2.1	-4.1	-1.1	-2.2
Bay Area						
Agriculture						
Reduced Output	0	0	0.0	0.0	0.0	0.0
Reduced Net Income	0	-10	-0.2	-0.4	-0.1	-0.2
Total Agriculture	0	-10	-0.2	-0.4	-0.1	-0.2
M&I Water Costs	-60	-130	-4.4	-9.4	-2.4	-5.4
TOTAL 1/	-60	-130	-4.6	-9.8	-2.5	-5.6
California Total						
Agriculture						
Reduced Output	-10	-20	-0.7	-1.5	-0.3	-0.8
Reduced Net Income	-50	-100	-2.3	-5.0	-1.2	-2.7
Total Agriculture	-60	-120	-3.0	-6.5	-1.6	-3.5
M&I Water Costs	-200	-410	-13.3	-27.4	-7.0	-15.1
TOTAL 1/	-260	-530	-16.3	-33.9	-8.6	-18.6

Note: (1) May differ from sum of elements due to rounding.

TABLE 23

**REGIONAL ECONOMIC IMPACT: AVERAGE YEAR FOLLOWING AVERAGE 5-YEAR BASE CONDITION
COMPARED TO THE PREFERRED ALTERNATIVE AVERAGE YEAR CONDITION**

Region and Affected Sector	Employment (# of jobs)		Output (\$MM)		PoW Income (\$MM)	
	Direct	Total	Direct	Total	Direct	Total
Sacramento River						
Agric., Frst., Fish.	-10	-10	-0.4	-0.5	-0.2	-0.3
Mining	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0.0	-0.2	0.0	-0.1
Manufacturing	-10	-20	-1.6	-2.2	-0.6	-0.8
TCU	0	-10	-0.2	-0.9	-0.1	-0.5
Trade	-40	-70	-1.1	-2.1	-0.7	-1.3
FIRE	-10	-20	-0.8	-2.6	-0.5	-1.7
Services	-20	-60	-0.9	-2.8	-0.6	-1.7
Government	0	-10	-0.2	-0.7	-0.1	-0.3
Misc	0	0	0.0	0.0	0.0	0.0
TOTAL/1	-90	-190	-5.3	-12.0	-2.8	-6.6
San Joaquin River						
Agric., Frst., Fish.	0	-10	-0.2	-0.3	-0.1	-0.1
Mining	0	0	-0.1	-0.1	0.0	0.0
Construction	0	0	0.0	-0.1	0.0	-0.1
Manufacturing	-10	-10	-0.8	-1.1	-0.2	-0.3
TCU	0	-10	-0.3	-0.6	-0.2	-0.3
Trade	-10	-30	-0.4	-1.1	-0.2	-0.6
FIRE	-10	-20	-1.1	-2.1	-0.7	-1.3
Services	-30	-50	-1.2	-2.2	-0.7	-1.3
Government	0	0	-0.2	-0.3	-0.1	-0.1
Misc	0	0	0.0	0.0	0.0	0.0
TOTAL/1	-60	-120	-4.3	-7.9	-2.2	-4.2
Tulare Lake						
Agric., Frst., Fish.	0	0	0.0	0.0	0.0	0.0
Mining	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0.0	0.0	0.0	0.0
Manufacturing	-10	-10	-1.0	-1.3	-0.4	-1.3
TCU	0	0	0.0	-0.2	0.0	-0.2
Trade	-40	-50	-1.0	-1.4	-0.7	-1.4
FIRE	0	0	0.0	-0.4	0.0	-0.4
Services	0	-10	0.0	-0.6	0.0	-0.6
Government	0	0	0.0	-0.1	0.0	-0.1
Misc	0	0	0.0	0.0	0.0	0.0
TOTAL/1	-50	-80	-2.1	-4.1	-1.1	-4.1
Bay Area						
Agric., Frst., Fish.	0	0	0.0	-0.1	0.0	0.0
Mining	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0.0	-0.1	0.0	-0.1
Manufacturing	-10	-10	-1.2	-1.9	-0.4	-0.7
TCU	0	-10	-0.3	-0.8	-0.2	-0.4
Trade	-20	-40	-0.9	-1.7	-0.5	-1.0
FIRE	-10	-20	-1.0	-2.3	-0.6	-1.5
Services	-20	-50	-1.1	-2.6	-0.7	-1.6
Government	0	0	-0.2	-0.3	-0.1	-0.1
Misc	0	0	0.0	0.0	0.0	0.0
TOTAL/1	-60	-130	-4.6	-9.8	-2.5	-5.6
California Total						
Agric., Frst., Fish.	-10	-20	-0.6	-0.9	-0.3	-0.5
Mining	0	0	-0.1	-0.1	0.0	0.0
Construction	0	-10	0.0	-0.5	0.0	-0.3
Manufacturing	-30	-50	-4.7	-6.5	-1.6	-3.1
TCU	-10	-20	-0.8	-2.5	-0.4	-1.4
Trade	-110	-190	-3.4	-6.3	-2.2	-4.4
FIRE	-20	-60	-2.9	-7.4	-1.8	-4.9
Services	-70	-180	-3.2	-8.1	-1.9	-5.2
Government	0	-10	-0.6	-1.4	-0.3	-0.7
Misc	0	0	-0.1	-0.1	-0.1	-0.1
TOTAL/1	-260	-530	-16.3	-33.9	-8.6	-20.5

Note: (1) May differ from sum of elements due to rounding.

Table 24

**REGIONAL ECONOMIC IMPACTS ON ALL SECTORS: AVERAGE YEAR FOLLOWING WET 5-YEAR
BASE CONDITION COMPARED TO THE PREFERRED ALTERNATIVE AVERAGE YEAR CONDITION**

Region Directly Impacted	Impacts on all Sectors					
	Employment (# of jobs)		Output (\$MM)		PoW Income (\$MM)	
	Direct	Total	Direct	Total	Direct	Total
Sacramento River						
Agriculture						
Reduced Output	0	-10	-0.4	-0.8	-0.2	-0.4
Reduced Net Income	30	50	1.0	2.6	0.5	1.4
Total Agriculture	20	40	0.6	1.8	0.4	1.0
M&I Water Costs	-60	-130	-3.9	-8.5	-2.0	-4.7
TOTAL 1/	-40	-90	-3.3	-6.7	-1.6	-3.6
San Joaquin River						
Agriculture						
Reduced Output	0	0	-0.2	-0.3	-0.1	-0.2
Reduced Net Income	100	170	3.7	8.1	2.1	4.5
Total Agriculture	90	160	3.6	7.8	2.0	4.4
M&I Water Costs	-80	-150	-5.0	-9.4	-2.6	-5.1
TOTAL 1/	20	10	-1.4	-1.6	-0.6	-0.7
Tulare Lake						
Agriculture						
Reduced Output	0	0	0.0	0.0	0.0	0.0
Reduced Net Income	-30	-40	-1.1	-2.1	-0.6	-1.1
Total Agriculture	-30	-40	-1.1	-2.1	-0.6	-1.1
M&I Water Costs	0	0	0.0	0.0	0.0	0.0
TOTAL 1/	-30	-40	-1.1	-2.1	-0.6	-1.1
Bay Area						
Agriculture						
Reduced Output	0	0	0.0	0.0	0.0	0.0
Reduced Net Income	0	0	-0.1	-0.2	0.0	-0.1
Total Agriculture	0	0	-0.1	-0.2	0.0	-0.1
M&I Water Costs	-60	-130	-4.4	-9.4	-2.4	-5.4
TOTAL 1/	-60	-130	-4.5	-9.6	-2.5	-5.5
California Total						
Agriculture						
Reduced Output	0	-10	-0.5	-1.1	-0.2	-0.6
Reduced Net Income	100	180	3.6	8.4	2.0	4.7
Total Agriculture	100	170	3.0	7.3	1.7	4.2
M&I Water Costs	-200	-410	-13.3	-27.4	-7.0	-15.1
TOTAL 1/	-100	-240	-10.3	-20.1	-5.3	-11.0

Note: (1) May differ from sum of elements due to rounding.

TABLE 25

REGIONAL ECONOMIC IMPACT: AVERAGE YEAR FOLLOWING WET 5-YEAR BASE CONDITION
 COMPARED TO THE PREFERRED ALTERNATIVE AVERAGE YEAR CONDITION

Region and Affected Sector	Employment (# of jobs)		Output (\$MM)		PoW Income (\$MM)	
	Direct	Total	Direct	Total	Direct	Total
Sacramento River						
Agric., Frst., Fish.	0	-10	-0.2	-0.3	-0.1	-0.2
Mining	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0.0	-0.1	0.0	-0.1
Manufacturing	0	-10	-0.7	-0.9	-0.2	-0.3
TCU	0	0	-0.2	-0.6	-0.1	-0.3
Trade	0	-10	-0.2	-0.7	0.0	-0.3
FIRE	-10	-20	-0.8	-1.8	-0.5	-1.1
Services	-20	-40	-0.9	-1.9	-0.6	-1.1
Government	0	0	-0.2	-0.5	-0.1	-0.2
Misc	0	0	0.0	0.0	0.0	0.0
TOTAL/1	-40	-90	-3.3	-6.7	-1.6	-3.6
San Joaquin River						
Agric., Frst., Fish.	0	0	-0.1	-0.2	-0.1	-0.1
Mining	0	0	-0.1	-0.1	0.0	0.0
Construction	0	0	0.0	-0.1	0.0	0.0
Manufacturing	10	10	0.6	0.8	0.3	0.4
TCU	0	0	-0.3	-0.4	-0.2	-0.2
Trade	60	60	1.0	1.1	0.8	0.9
FIRE	-10	-10	-1.1	-1.2	-0.7	-0.8
Services	-30	-30	-1.2	-1.2	-0.7	-0.7
Government	0	0	-0.2	-0.2	-0.1	-0.1
Misc	0	0	0.0	0.0	0.0	0.0
TOTAL/1	20	10	-1.4	-1.6	-0.6	-0.7
Tulare Lake						
Agric., Frst., Fish.	0	0	0.0	0.0	0.0	0.0
Mining	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0.0	0.0	0.0	0.0
Manufacturing	0	-10	-0.5	-0.7	-0.2	-0.7
TCU	0	0	0.0	-0.1	0.0	-0.1
Trade	-20	-30	-0.5	-0.7	-0.4	-0.7
FIRE	0	0	0.0	-0.2	0.0	-0.2
Services	0	-10	0.0	-0.3	0.0	-0.3
Government	0	0	0.0	0.0	0.0	0.0
Misc	0	0	0.0	0.0	0.0	0.0
TOTAL/1	-30	-40	-1.1	-2.1	-0.6	-2.1
Bay Area						
Agric., Frst., Fish.	0	0	0.0	-0.1	0.0	0.0
Mining	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0.0	-0.1	0.0	-0.1
Manufacturing	-10	-10	-1.2	-1.9	-0.4	-0.7
TCU	0	-10	-0.3	-0.8	-0.2	-0.4
Trade	-20	-40	-0.8	-1.6	-0.5	-1.0
FIRE	-10	-10	-1.0	-2.2	-0.6	-1.5
Services	-20	-50	-1.1	-2.6	-0.7	-1.6
Government	0	0	-0.2	-0.3	-0.1	-0.1
Misc	0	0	0.0	0.0	0.0	0.0
TOTAL/1	-60	-130	-4.5	-9.6	-2.5	-5.5
California Total						
Agric., Frst., Fish.	-10	-10	-0.4	-0.7	-0.2	-0.3
Mining	0	0	-0.1	-0.1	0.0	0.0
Construction	0	0	0.0	-0.3	0.0	-0.2
Manufacturing	-10	-10	-1.7	-2.7	-0.5	-1.2
TCU	-10	-10	-0.8	-1.8	-0.4	-1.0
Trade	20	-20	-0.5	-1.9	-0.1	-1.2
FIRE	-20	-40	-2.9	-5.5	-1.8	-3.6
Services	-70	-130	-3.2	-5.9	-1.9	-3.8
Government	0	-10	-0.6	-1.0	-0.3	-0.5
Misc	0	0	-0.1	-0.1	-0.1	-0.1
TOTAL/1	-100	-250	-10.3	-20.1	-5.3	-12.0

Note: (1) May differ from sum of elements due to rounding

TABLE 26

REGIONAL ECONOMIC IMPACTS ON ALL SECTORS: AVERAGE YEAR FOLLOWING DRY 5-YEAR
BASE CONDITION COMPARED TO THE PREFERRED ALTERNATIVE AVERAGE YEAR CONDITION

Region Directly Impacted	Impacts on all Sectors					
	Employment (# of jobs)		Output (\$MM)		PoW Income (\$MM)	
	Direct	Total	Direct	Total	Direct	Total
Sacramento River						
Agriculture						
Reduced Output	-700	-2240	-92.1	-194.5	-30.8	-86.9
Reduced Net Income	130	240	4.7	12.4	2.6	6.9
Total Agriculture	-570	-2000	-87.4	-182.1	-28.2	-80.0
M&I Water Costs	-60	-140	0.4	-0.9	-0.2	-0.5
TOTAL 1/	-630	-2140	-91.8	-191.6	-30.5	-85.2
San Joaquin River						
Agriculture						
Reduced Output	-10	-20	-0.7	-1.5	-0.3	-0.7
Reduced Net Income	-140	-240	-5.4	-11.7	-3.0	-6.5
Total Agriculture	-150	-270	-6.1	-13.2	-3.3	-7.3
M&I Water Costs	-80	-150	0.0	0.0	0.0	0.0
TOTAL 1/	-230	-420	-11.0	-22.7	-5.9	-12.4
Tulare Lake						
Agriculture						
Reduced Output	0	-10	-0.2	-0.5	-0.1	-0.2
Reduced Net Income	-100	-170	-3.6	-7.1	-1.9	-3.8
Total Agriculture	-100	-170	-3.8	-7.6	-2.0	-4.0
M&I Water Costs	0	0	0.0	0.0	0.0	0.0
TOTAL 1/	-100	-170	-4.4	-8.8	-2.3	-4.6
Bay Area						
Agriculture						
Reduced Output	0	0	0.0	0.0	0.0	0.0
Reduced Net Income	-10	-20	-0.6	-1.4	-0.3	-0.8
Total Agriculture	-10	-20	-0.6	-1.4	-0.3	-0.8
M&I Water Costs	-60	-130	-0.5	-1.1	-0.3	-0.6
TOTAL 1/	-70	-150	-5.0	-10.8	-2.8	-6.2
California Total						
Agriculture						
Reduced Output	-710	-2270	-93.0	-196.5	-31.2	-87.9
Reduced Net Income	-120	-190	-4.8	-7.8	-2.6	-4.1
Total Agriculture	-830	-2460	-97.8	-204.3	-33.8	-92.0
M&I Water Costs	-200	-420	-0.1	-1.9	-0.5	-1.1
TOTAL 1/	-1030	-2880	-112.2	-233.8	-41.4	-108.3

Note: (1) May differ from sum of elements due to rounding.

TABLE 27

**REGIONAL ECONOMIC IMPACT: AVERAGE YEAR FOLLOWING DRY 5-YEAR BASE CONDITION
COMPARED TO THE PREFERRED ALTERNATIVE AVERAGE YEAR CONDITION**

Region and Affected Sector	Employment (# of jobs)		Output (\$MM)		PoW Income (\$MM)	
	Direct	Total	Direct	Total	Direct	Total
Sacramento River						
Agric., Frst., Fish.	-450	-630	-26.1	-33.0	-13.4	-16.6
Mining	0	0	0.0	-0.1	0.0	0.0
Construction	0	-30	0.0	-2.1	0.0	-1.2
Manufacturing	-230	-290	-64.9	-73.1	-16.9	-19.8
TCU	0	-120	-0.2	-16.8	-0.1	-7.5
Trade	90	-310	1.6	-13.8	1.2	-8.1
FIRE	-10	-200	-0.9	-22.7	-0.5	-14.6
Services	-20	-500	-1.0	-22.8	-0.6	-13.8
Government	0	-50	-0.2	-7.2	-0.1	-3.5
Misc	0	0	0.0	0.0	0.0	0.0
TOTAL/1	-630	-2130	-91.8	-191.6	-30.5	-85.2
San Joaquin River						
Agric., Frst., Fish.	-10	-20	-0.8	-1.2	-0.4	-0.5
Mining	0	0	-0.1	-0.1	0.0	0.0
Construction	0	0	0.0	-0.3	0.0	-0.1
Manufacturing	-30	-40	-3.8	-5.1	-1.4	-1.9
TCU	0	-10	-0.3	-1.2	-0.2	-0.6
Trade	-140	-210	-3.6	-5.8	-2.4	-3.7
FIRE	-10	-30	-1.1	-4.2	-0.7	-2.7
Services	-30	-100	-1.2	-4.3	-0.7	-2.6
Government	0	-10	-0.2	-0.5	-0.1	-0.2
Misc	0	0	0.0	0.0	0.0	0.0
TOTAL/1	-230	-420	-11.0	-22.7	-5.9	-12.4
Tulare Lake						
Agric., Frst., Fish.	0	-10	-0.3	-0.4	-0.1	-0.4
Mining	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0.0	-0.1	0.0	-0.1
Manufacturing	-20	-20	-2.1	-2.7	-0.7	-2.7
TCU	0	0	0.0	-0.4	0.0	-0.4
Trade	-80	-110	-2.1	-2.9	-1.5	-2.9
FIRE	0	-10	0.0	-0.9	0.0	-0.9
Services	0	-30	0.0	-1.2	0.0	-1.2
Government	0	0	0.0	-0.2	0.0	-0.2
Misc	0	0	0.0	0.0	0.0	0.0
TOTAL/1	-100	-170	-4.4	-8.8	-2.3	-8.8
Bay Area						
Agric., Frst., Fish.	0	0	0.0	-0.1	0.0	0.0
Mining	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0.0	-0.1	0.0	-0.1
Manufacturing	-10	-10	-1.4	-2.2	-0.5	-0.8
TCU	0	-10	-0.3	-0.8	-0.2	-0.4
Trade	-30	-50	-1.1	-2.0	-0.7	-1.3
FIRE	-10	-20	-1.0	-2.4	-0.6	-1.6
Services	-20	-60	-1.1	-2.8	-0.7	-1.8
Government	0	0	-0.2	-0.3	-0.1	-0.2
Misc	0	0	0.0	0.0	0.0	0.0
TOTAL/1	-70	-150	-5.0	-10.8	-2.8	-6.2
California Total						
Agric., Frst., Fish.	-470	-660	-27.2	-34.6	-13.9	-17.5
Mining	0	0	-0.1	-0.2	0.0	-0.1
Construction	0	-40	0.0	-2.6	0.0	-1.5
Manufacturing	-290	-370	-72.2	-83.1	-19.6	-25.2
TCU	-10	-140	-0.8	-19.3	-0.4	-8.9
Trade	-170	-680	-5.0	-24.5	-3.3	-16.0
FIRE	-20	-260	-2.9	-30.2	-1.8	-19.8
Services	-70	-680	-3.3	-31.1	-2.0	-19.3
Government	0	-60	-0.6	-8.2	-0.3	-4.1
Misc	0	0	-0.1	-0.1	-0.1	-0.1
TOTAL/1	-1030	-2880	-112.2	-233.8	-41.4	-112.5

Note: (1) May differ from sum of elements due to rounding.

SECTION 3
MUNICIPAL AND INDUSTRIAL WATER USE ECONOMICS

MUNICIPAL AND INDUSTRIAL ECONOMICS

The municipal and industrial economics analysis is based upon the Average-Average tiered pricing scenario. This analysis is based upon the impacts to CVP contractors. This is different than the municipal and industrial economic analysis that was included in the PEIS.

The PEIS municipal and industrial water cost analysis primarily evaluated the impacts on the need and cost to transfer water to non-CVP municipalities. Therefore, the analysis included water costs for many non-CVP water users. For example, the municipality in the San Joaquin River Basin was based upon the Cities of Stockton and Fresno water costs which are not based on CVP water, as described in the Municipal Water Costs Methodology and Modeling Technical Appendix to the PEIS.

The analysis included in the following table is based only on CVP contractors in order to define the cost of CVP water under the Tiered Water Pricing proposal.

TABLE 28

SUMMARY OF M&I ECONOMICS ANALYSIS FOR AVERAGE YEAR CONDITIONS FOR REGIONAL ECONOMICS

Result	Preferred Alternative Average	Change from the Preferred Alternative Average		
		Average-Average	Dry-Average	Wet-Average
Average Condition				
Supplies, 1,000 acre-feet (1)				
Sacramento Valley	929.0	0.0	0.0	0.0
Bay Area	1024.0	0.0	0.0	0.0
San Joaquin Valley	704.0	0.0	0.0	0.0
Central and South Coast	5921.0	0.0	0.0	0.0
Average Condition				
Economic Costs, Million \$ (2)				
Sacramento Valley	1.1	4.1	4.3	4.1
Bay Area	3.5	4.6	4.6	4.6
San Joaquin Valley	0.3	5.2	5.2	5.2
Central and South Coast	649.0	0.0	0.0	0.0
<p>NOTES:</p> <p>Water transfers not considered as replacement supplies in this comparison.</p> <p>(1) After purchase or development of non-transfer replacement supplies to make supply equal demand.</p> <p>(2) Total costs include replacement supplies, restoration payments and metering. A negative cost means a net gain is estimated.</p>				

APPENDIX F

Comment Letters on EA and Responses to Comments

Comment Letters on EA and Responses to Comments

Letters commenting on the Draft EA and the Updated Draft EA are reproduced on the following pages. Each comment letter has been assigned a number (e.g., Comment Letter 7) and each specific comment has also been assigned a number (e.g., Comment 7-4), as shown in the margins of the letters. Immediately following each comment letter are Reclamation's responses to the comments in that letter. The responses are numbered to correspond to the numbers assigned to the comments. Where changes to the EA text result from the responses, those changes are indicated with revision marks in the text of the Final EA (underline for new text, ~~strike-out~~ for deleted text). Comments that present opinions about the project or that raise issues not directly related to the substance of the EA are noted without a detailed response.

The Draft EA was distributed in 2000. The Updated Draft EA was distributed in 2004 to those who submitted comments on the Draft EA. Most (15 out of 18) of the comment letters commented on the Draft EA. In 2003, the Biological Assessment/Essential Fish Habitat Assessment (BA/EFHA) was prepared for the Endangered Species Act consultation for these contract renewals.

No significant environmental issues beyond those already covered in the EA were raised during the 30-day comment period for the Draft EA and the 30-day comment period for the Updated Draft EA. Comments received on the EA did not indicate new significant impacts or significant new information that would require recirculation of the EA pursuant to the National Environmental Policy Act (NEPA).

clauses that are now off the table, while ignoring issues raised during negotiations which are now likely to be included in the final negotiated contract. The District proposes that the Environmental Assessment draft process be suspended until such time as the final negotiated agreement is reached between the parties.

2. Contrary to the statements made (page 6-3), Contractors were not adequately consulted prior to preparation of the Environmental Assessment. Issues critical to the contractors were not discussed, e.g., water quantity increases, and for others, only Reclamation's position is mentioned without analysis of a contract which mirrors the contractor's position (e.g., 2 to 5 acre minimums). This is an additional reason why the Environmental Assessment should not have been prepared prior to contract negotiations being completed.

3. The Environmental Assessment needs to be prepared in a manner which will be adequate for CEQA compliance. The cost for preparation of an entirely new set of environmental documents for CEQA compliance is prohibitive. Moreover, inconsistencies in the NEPA required analysis and CEQA analysis weakens both documents from a defense standpoint to potential environmental challenges. Consistency between the two documents is critical.

Supplies

4. While the Environmental Assessment proposes that alternatives would not increase contract quantities, the Contractors have not conceded that additional quantities should not be included. The contractors were not consulted about this foregone conclusion and vociferously voiced their opposition to that position when the proposed "bookends" were suggested months

ago. The Environmental Assessment totally ignores that issue and is per se inadequate for that reason.

5. During negotiations the Contractors have established, to the satisfaction of Reclamation, that additional water may, in fact, be available for delivery to Sacramento Valley contractors based on a scientific study. The results of that study were ignored and thus no increased deliveries are analyzed at all in the draft Environmental Assessment.

6. Contractors may also obtain additional supplies from other sources. The contractors' proposal for obtaining those supplies, the means and quantities identified in their needs analysis should be considered versus the blinders approach of the Environmental Assessment which ignores water supply issues other than CVP water. Specifically, analysis of the inability of the contractors to obtain supplies identified to be necessary in their needs analyses should be considered.

7. The Environmental Assessment presupposes that CVP water is a supplemental supply (page 2-2). For many, and perhaps most of the Sacramento Valley contractors, CVP water is the primary or sole source of supply and its continued beneficial use in this area is critical to economic survival. The Environmental Assessment tries to minimize the impacts of shortages in CVP supply by a characterization which does not reflect historical use. No analysis is made of contractors alternative supplies to make up for CVP shortfalls.

8. The Environmental Assessment fails to mention the impact of Area of Origin laws on Sacramento Valley CVP contractors. Those laws impact CVPLA implementation, transfers, and

contractor development of state water rights. Those issues are unique to Sacramento Valley contractors. The contractors were not consulted on what impacts those laws will have on contract renewal or water rights issues in the future and they should be considered.

1-8

Minimum Parcel Size

9. The Environmental Assessment adopts Reclamation's position that a change of minimum acreage for agricultural water eligibility from 2 to 5 acres will have "little or no effect on the cost of water for farmers with parcels between 2 and 5 acres . . ." (page 4.3-10). The contractors were not consulted about his issue and do not share Reclamation's opinion.

1-9

10. Small rural parcels are the mainstay of the two largest districts in the Shasta and Trinity Division. Most parcels bought and sold in the 2 to 5 acre size are dependent on irrigation water being available for pasture and agricultural production. The Environmental Assessment fails to analyze the effects of disqualification of those parcels for agricultural water rates and rather dismisses the impact as nominal.

1-10

11. Land values and marketability of affected parcels will be seriously impacted if agricultural water rates are no longer available. The consequences of that included not only reduction in land sales, but a lower property tax base which impacts the districts and the county in which they are located.

1-11

12. Contrary to the conclusion reached in the Environmental Assessment with regard to water rates, the increased costs for imposing M&I rates on smaller parcels will not necessarily be borne by each customer. Rather, districts often attempt to dull the impact by adopting blended rates

1-12

which, in effect, subsidize rural water rates with income from residential and commercial customers. Those impacts were not considered.

1-13

Transfers

13. The Environmental Assessment recognizes that transfers are a critical means for contractors to increase short supplies and improve water management. The Environmental Assessment fails to discuss at all the use of CVP facilities for those transfers and Reclamation's position for permitting such use. Contract negotiations have established that Reclamation, while theoretically agreeing that CVP facilities can be used for transfers and conveyance of non-project water, has proposed restrictions and conveyance rates on that use which renders it a practical and financial impossibility. Thus, the realization of water use benefits by transfer and conveyance of non-project water through CVP facilities may or may not be a factor when final contract negotiations are completed. The Environmental Assessment needs to address these issues, but cannot do so until the contract negotiations are concluded.

1-13

14. The Environmental Assessment fails to mention CVPIA application of Area of Origin laws on transfers.

1-14

15. Historic transfers that will continue into the future should be covered by the Environmental Assessment rather than simply deferring that to additional analysis, as suggested. There is ample data available to review historic transfers that are repeated annually and no additional analysis should be required beyond the Environmental Assessment for both NEPA and CEQA compliance.

1-15

Term

16. Other than a passing mention of 40 year renewal rights for M&I uses, the Environmental Assessment is based on a presupposed 25 year contract. The District and most other contractors in the Shasta and Trinity divisions have significant M&I deliveries in their contracts that will be subject to the 40 year perpetual renewal. The Environmental Assessment fails to analyze the impacts of that renewal right.

1-16

17. A tentative agreement has been reached that would permit agricultural contracts to be guaranteed a renewal for an additional 25 years, thus rendering the first contract term effectively 50 years. Absent conclusion of contract negotiations, the Environmental Assessment cannot properly analyze environmental impacts by guessing at contract terms which is a fundamental and critical component of the analysis.

1-17

Tiered Pricing and Payment Capacity

18. The Environmental Assessment improperly concludes that payment capacity vis-a-vis tiered pricing will apply only to the first 80% of water deliveries. This is contrary to Reclamation's rate setting policy.

1-18

19. Reclamation's proposal (Alternative 2) for Category 1 and 2 water is now off the table and the discussion and analysis of that issue in the Environmental Assessment should be deleted.

1-19

Needs Analysis

Page 2-2, Needs Analysis. The EA states that the CVP contract amount will be limited by the existing CVP contract quantity. Contractors and the Bureau have negotiated a provision which

allows for additional water to be delivered in certain years. This provision was the result of a study done by the contractors to determine whether this additional water could be delivered to the Sacramento Valley without affecting others in the CVP or fish & wildlife. The EA should address this additional water. During contract negotiations, contractors repeatedly requested that EA's for the long-term contract renewal address increased amounts so that contracting negotiations would not be limited by the environmental assessment.

1-20

Other

Table 2-2, page 2-15. The figures for crop water use and acres under irrigation in the year 2026 for the Bella Vista Water District are in error. They should be 11,635 and 2,807, respectively, to match the Bureau's Needs Analysis.

Table 4.1-1, Page 4.1-2. Indicates the service area boundary of Bella Vista as 3,395 acres. That figure should be 33,932 acres.

1-21

Page 4.2-1, second paragraph. Indicates that the Bella Vista Water District was formed in 1964. That figure should be 1957.

Page 4.3-3, Table 4.3-6 and Page 4.3-5, Table 4.3-9. Both show the CVP contract maximum for Bella Vista at 22,000 acre feet. That number should be 24,000 acre feet.

Page 4.4-4, second paragraph. Indicates that "agricultural water consumption decreased . . ." The decrease ". . ." is attributed to urbanization of the westerly portion of the Bella Vista Water District." It should also be noted that some of this shift is due to the unreliability of the Central

1-22

Valley Project water supply. Many agricultural users never recovered from the last drought when supplies to the District were cut by 75%.

Adopted by the Board of Directors November 14, 2000.

Responses to Comment Letter 1 – Bella Vista Water District (2000)

- 1-1: The bookends approach was used to provide a reasonable range of alternatives that meet the purpose and need for the proposed action and to allow analysis of the project impacts to move forward while contracts were being negotiated.
- The alternatives assessed in the EA represent a range of water service agreement provisions that meet the purpose and need. The No Action Alternative consists of renewing existing water service contracts, as described by the Preferred Alternative of the 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 the “bookends.” This EA considers these proposals as bookends in the environmental documentation to evaluate the impacts and benefits of renewing the long-term water service contracts.
- 1-2: Comment is noted. Public scoping meetings were held throughout the contractor service areas, including Redding, between October 1998 and January 1999. Contract provisions comprising Alternative 1 were developed by the Contractors and analyzed in the Draft EA.
- 1-3: Reclamation is not required to comply with CEQA. Reclamation is the lead agency for the proposed federal action. Other non-federal parties (contractors) may be required to consider the proposed action under CEQA.
- 1-4: Section 3404(c) of the CVPIA directed the Secretary of Interior to renew existing CVP water service contracts. Because a finite resource (CVP water) was involved and 800,000 acre-feet of that finite resource was committed to another use, Reclamation concluded with some degree of certainty that additional water beyond a Contractor’s current maximum quantity could not be obligated.
- 1-5: Comment is noted. The referenced study argued that small amounts of water might be available in some years. The potential availability of additional supplies would hold under all alternatives, including the No Action. Accordingly, there are no anticipated impacts of those additional supplies under the action alternatives relative to the No Action Alternative.
- 1-6: The analysis in the EA does not address the implications and costs for individual contractors to secure additional water supplies as a result of CVPIA because CVP water supplies and deliveries are presumed the same under all alternatives, including the No Action. The intent of the analysis of action alternatives is to assess their potential effects relative to the No Action alternative. In the case of water supply and deliveries there is no expected effect. While Alternative 2 does propose a change in water prices relative to the No Action, as discussed in Section 4.3 of this EA, it is reasonable to expect no material change in the demand for CVP M&I water under Alternative 2 due to the very low price sensitivity of M&I water users and the high price of alternative supplies relative to CVP water.
- 1-7: Reclamation realizes that shortages may occur in the future due to decisions of the Contractors and their clients. Under NEPA, the EA is required to evaluate the impacts of the alternatives for renewing the long-term water service contracts. Evaluating alternative supplies that would make up for CVP shortfalls that derive from growth decisions of the Contractors is beyond the scope of the EA. Also refer to response I.6.

- 1-8: The CVP water supplies are obtained under State law and, to the extent that area of origin laws are upheld by the courts, CVP operations will have to be amended to accommodate them. At this time, these laws have not been tested in the courts.
- 1-9: Although Reclamation proposes to change the threshold for presumption of agricultural use of water for purposes of billing from 2 acres to 5 acres, CVP Contractors will be allowed to request a modification from the Contracting Officer for a demonstrated need for agricultural use on parcels that are less than 5 acres. Therefore, this change will result in little or no effect on the cost of water for farmers with parcels that are less than 5 acres, although non-farmers would lose subsidies arising from the current presumption of agricultural use.
- 1-10: Refer to “Definition of Municipal and Industrial Users” on page 2-10 of the Final EA. CVP Contractors will be allowed to request a modification from the Contracting Officer for a demonstrated need for agricultural use on parcels that are less than 5 acres. Therefore, this change will result in little or no effect on the cost of water for farmers with parcels that are less than 5 acres. Only non-agricultural uses, such as pasturage to support equine recreation, would be affected.
- 1-11: Reclamation has been assured by Contractors that all recipients of water at agricultural rates are legitimate agricultural users. Thus, there will be no adverse impacts as the users will simply have to document their agricultural use of the water to get agricultural rates. BVWD will continue to receive irrigation water for a period of 25 years, provided contract provisions are met. These provisions include, but are not limited to, preparation of a water conservation plan, maintenance of water measuring devices/measurement methods, and continued beneficial use of Project water.
- 1-12: Comment is noted. Such subsidization actions are a matter of the District’s choice.
- 1-13: Project facilities were built for Project purposes, which take priority over non-Project uses. Such uses are permissible, however, when spare capacity is available and an equitable share of the Project costs is paid. The draft contracts allow non-Project water to be conveyed via CVP facilities, provided those uses are approved by the Contracting Officer, comply with appropriate environmental review and Reclamation policies/laws, and include payment to the United States at an appropriate rate.
- 1-14: Transfers are approved individually as separate actions. The contracts do not cover specific transfers; they merely provide for transfers under applicable law. Questions concerning area of origin issues will be addressed in reviews of specific transfers, as appropriate.
- 1-15: A history of short-term transfers does not guarantee future transfers. Specific future transfers are not addressed in this EA. Such transfers would require separate analysis before Reclamation could approve them.
- 1-16: Pure M&I contracts are for 40 years; irrigation contracts are for 25 years; and mixed irrigation and M&I contracts are for 25 years, with provision for extension of the M&I component to 40 years. Renewal of the contracts is currently expected, but further environmental analysis is anticipated upon any such renewal.
- Refer to page 1-8 and 1-9, Section 1.8 of the Final EA for the assumptions used in the 40-year impact analysis.

- 1-17: Reclamation and BVWD have negotiated a long-term renewal contract that will furnish irrigation water for 25 years. Further renewals would, under current law, require further environmental analysis.
- 1-18: The contract rates are defined by CVP rate-setting policies, P.L. 99-546, and the Reclamation Reform Act (RRA). The prices of CVP water used in the analysis of the No Action Alternative are based upon 1994 CVP irrigation and M&I water rates. All alternatives use tiered water pricing. Under the No Action Alternative, tiered water pricing is based upon use of an "80/10/10" Tiered Water Pricing from Contract Rate to Full Cost Rate," including appropriate Ability-To-Pay limitations. Under this approach, the first 80% of the maximum contract total would be priced at the applicable contract rate, and the next 10% would be priced at a rate equal to the average of the Contract Rate and Full Cost rate. The final 10% of the contract total would be priced at the Full Cost rate. For Alternative 1, tiered pricing was assumed in the analysis. Alternative 2 assumed tiered pricing with Categories 1 and 2 water.
- 1-19: The contract provision for Category 1 and Category 2 water was considered under Alternative 2, but was not included in the negotiated contract terms and conditions.
- 1-20: Comment is noted. Analysis of potential alternate water supplies is outside the scope of this EA. The subject of the EA is the renewal of existing contracts with financial and administrative changes but no changes in either the volumes of water under contract or the places of use. The analysis in the EA concerns Reclamation's delivery of CVP water to CVP contract areas. The comments regarding the effects that additional water would have on Contractors and their supplies is outside the scope of this document.
- 1-21: The comment regarding crop water use and acres under irrigation has been noted. The other corrections cited have been inserted into Final EA.
- 1-22: Comment is noted.

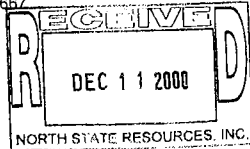


LETTER 2

SHASTA COUNTY

WATER AGENCY

COUNTY OFFICE BUILDING
1855 PLACER STREET
REDDING, CA 96001
(530) 225-5661
FAX (530) 225-5667



BUREAU OF RECLAMATION OFFICIAL FILE COPY RECEIVED DEC 9 5 2000

RONALD C. HILL
CHIEF ENGINEER

November 22, 2000

Al Candlish
2800 Cottage Way
Sacramento, CA 95825-1898

Subject: Long-Term Contract Renewal Draft Environmental Assessment
Shasta-Trinity Decision

Dear Mr. Candlish:

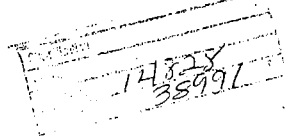
The Shasta County Water Agency (SCWA) appreciates this opportunity to comment on this region's Draft Environmental Assessment (EA). SCWA's goal is to facilitate regional solutions to local water problems and, as such, the SCWA finds the Draft EA to be deeply troubling.

Section 2.3.1 of the EA states that "...the CVP contract amount will be limited by the existing CVP contract quantity." These words would effectively thwart any potential use of "found," or 3(f), water. The SCWA has participated with other local contractors to fund a computer study of system operation and found that there are small amounts of water to be had without impacting downstream deliveries, imports or the environment. In Divisional negotiations, the Bureau of Reclamation agreed that, if 3(f) water is available, it ought to be delivered. The contractors and Bureau are further in agreement that 3(f) water ought first to be made available to contractors in need.

If the scope of the EA is limited to contract quantities, a contractor that has taken delivery of its entire contract amount and yet has additional beneficial needs, would have to go through the environmental process each time that 3(f) water becomes available. This would be impractical because 3(f) water is basically "slop" in the system, passively available on short notice. Limiting the scope of the Draft EA to contract quantities makes 3(f) water unviable.

Table 4.3-12 lightly explores the economic ramifications of the alternatives. However, it incorporates a flawed premise regarding the relationship between the Contractors' 1999 rates versus the 1994 rates. This flaw taints all subsequent comparisons with other alternatives that use more timely water

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DATE



Draft Environmental Assessment
November 22, 2000
Page 2

Another economic concern is that the consideration of Alternative 2 completely ignores the so-called "Death Spiral." Repeated drought years would change the five-year rolling average that would be used to calculate cost tier placement. During dry conditions lasting five years or more, a contractor using 100% of his contract allocation would see his usable contract amount diminished to 75% of the amount at the beginning of the drought. At the end of the dry spell, the contractor would have to pay premium rates on the water use above 60% of its contracted amount. Subsequent droughts would repeat this process, iteratively eroding the supply. The Draft EA only considers a single year of drought and suggests that overall economic impacts would be nominal. We disagree: existing and potential new municipal and industrial (M&I) users would be severely impacted. However, instead of constricting these existing and new M&I users, these users will forsake existing, developed areas served by CVP water, in favor of "greenfield" sites overlying the Redding Groundwater Basin. There is ample land available for development, overlying the high-yielding portions of the groundwater basin in the Cottonwood, Anderson, and Balls Ferry areas. These areas are presently in large private holdings, with habitat and scattered agriculture.

The final bullet point of Section 1.3 states that the right to renew is limited. In previous negotiating sessions, the Bureau has indicated that M & I contractors would enjoy an unlimited right to renew pursuant to their authorization language. If that has changed, then it is vitally important to inform all Californians dependant on the CVP water, so that they may plan accordingly.

The bullet point at the end of Section 1.2 notes that Long Term Contract Renewal is needed to "Allow the continued reimbursement of the Federal government for the costs related to the construction and operation of the CVP." We believe continued repayment was never in doubt. CVPIA, however, requires project capital to be paid off at a rate greater than that previously negotiated. The EA should reflect that the new long term contracts are meant to accelerate the repayment schedule.

Several more minor discrepancies are apparent:

- Section 3.3 states that the system is making deliveries at 337 TAF below 1994 levels, though CVPIA calls for and 800 TAF reduction and, when ESA is considered, 1.2 MAF is the number most commonly cited.
Section 5.11 notes that the yield increase study has been completed by the Bureau, though Table 2-1 notes that there is a need for such a study (the CVPIA 3408(j) study). SCWA is keenly interested in this study, as the Bureau has made a point of not binding the Secretary to it in the contract.
The "Vernal Pool/Wetland" row of Table 4.5-1 notes that seasonal wetlands are common "in the southeast portion of the STWD water service area." The Draft EA may mean the "Shasta-Trinity Water Division," but this is not apparent.
Section 4.2.1's treatment of the U.S.F.S. Centimudi Boat Ramp states that the marina is currently serviced by Shasta CSD. This is not the case.

Draft Environmental Assessment
November 22, 2000
Page 3

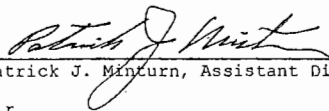
Two items of paramount concern are not dealt with at all: the Trinity Flow Decision and the Bureau's recent movement toward an M & I shortage policy. The Trinity Flow Decision will impact all SCWA subcontractors in Shasta County. The new M & I shortage policy tinkers with the reliability curves put forth in the CVPIA Programmatic EIS, further undermining the economic conclusions of the Draft EA.]-2-10

In closing, the Draft EA is deeply flawed at both the factual and analytical level. The Bureau and its consultants have a unique opportunity now -- because of the pause while Presidential administrations change -- to double check their facts and to follow through with meaningful analysis that would make this EA the thorough, thoughtful and useful document that the law requires.

Should you have any questions or concerns, please contact Eric Wedemeyer at (530) 225-5181.

Very truly yours,

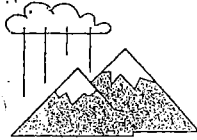
Ronald C. Hill, Chief Engineer

By 
Patrick J. Minurn, Assistant Director

FJM/lr

Responses to Comment Letter 2 – Shasta County Water Agency (2000)

- 2-1: The analysis was based on the best available data and adjusted as noted in the footnotes to the table cited. The effects on the analysis were deemed minimal, given that these users deliver treated water, which means the cost of the raw water is a small percentage of the final cost. Thus, the final cost, and hence use, is not very sensitive to the costs of raw water.
- 2-2: The analysis employs 1994 and 1999 prices to be consistent with the rate years used in the CVPIA PEIS, which the EA is tiered from.
- 2-3: Comment noted. However, the application of the rolling average was dropped from Alternative 2. Further, the economic analysis in the EA is tiered from the CVPIA PEIS, which focused on the implications for CVP water users of the alternatives under long-run average and short-run dry conditions. Finally, the low sensitivity of M&I water users to water price and the relatively high cost of alternative M&I supplies together would suggest that there would be little impact on the demography of areas served with CVP water under the action alternatives relative to the No Action Alternative.
- 2-4: Comment is noted. Non-renewal 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 lacks discretion to not renew the contracts. The language reflects the language of the CVPIA.
- 2-5: Repayment is an identified “need” for the long-term contract renewal (the proposed federal action). The language reflects the language of the CVPIA.
- 2-6: Reclamation’s records show that the re-allocation of CVP water to fish and wildlife purposes under the CVPIA reduced average annual CVP water deliveries to water service Contractors from 2,270,000 acre-feet/year under the No-Action Alternative to 1,933,000 acre-feet/year (a difference of 3,370,000 acre-feet/year under all of the alternatives analyzed in the PEIS for the CVPIA, including the Preferred Alternative.
- 2-7: Comment is noted.
- 2-8: The reference to STWD in Table 4.5-1 of the Draft EA was deleted from the Updated Draft EA.
- 2-9: Thank you for the correction. The error has been corrected in the Final EA.
- 2-10: The Trinity River Flow Decision does affect operations in the Sacramento Valley, but it is not a discretionary item related to contract renewals. The principal effect is to make compliance with temperature requirements more difficult. Any changes in M&I shortage policy would apply to all three alternatives considered in the EA, including the No Action. Accordingly, there are no anticipated incremental impacts of this shortage policy from the action alternatives, relative to the No Action Alternative.



LETTER 3

BELLA VISTA WATER DISTRICT

11368 E. STILLWATER WAY • REDDING, CALIFORNIA 96003-9510
 TELEPHONE (530) 241-1085 FAX (530) 241-8344

November 28, 2000

Lester A. Snow, Regional Director
 Bureau of Reclamation
 2800 Cottage Way, E-1604
 Sacramento, CA 95825

Subject: Comments of Bella Vista Water District on the Proposed CVP M&I Shortage Policy

Dear Mr. Snow:

These comments are submitted on behalf of the Bella Vista Water District.

Position # 4 of the policy as proposed is preposterous! The proposal would severely impact the financial and physical existence of our District. We are a growing District which is gradually shifting from predominately agricultural water use to predominately municipal and industrial use. Bureau water is our primary source of water.

The proposal that "new" municipal and industrial water, i.e. agricultural water that is converted after 1994 to M & I use, carries with it the agricultural shortage provisions which may be reduced to zero during shortages, would prevent the District from supplying reliable water to new M&I customers. Under this proposal, the District cannot meet its minimum health and safety requirements without jeopardizing established rights of existing customers. This is land use control by the federal government that was never contemplated by the federal lawmakers.

Under this policy the only way water could be supplied to new M&I customers during a severe drought when 75% of pre 1994 M&I water and little or no agricultural water is available from the CVP would be to:

1. Provide water from a non-federal source. The District does not have an established non-federal source that it can rely on and cannot withstand the expense of providing such as source. The proposed provision in our new contract to price non-federal water that is wheeled through a federal facility further prohibits this concept and is contrary to the spirit and intent of CVPIA to encourage contractors to develop alternative sources.
2. Provide water from a portion of the water supplied to pre 1994 M&I customers. This would have serious consequences because the Bureau has already established that a

• DIRECTORS •
 BOB NASH TODD R. SIKE
 JOHN A. HAUPTMAN NANCY L. POL
 WALLY WESSEL
 ROBERT W. DIETZ
 Secretary/Treasurer/General Manager

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622				
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OPTIONAL FORM 99 (7-99)

FYI

FAX TRANSMITTAL # of pages = 2

To MIKE RYAN From BETH BRILEY
 Dept/Agency NC-100 Phone # 916-978-5010

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 DEC / 8 2000

Lester A. Snow
 November 21, 2000
 Page 2

supply of less than 75% to M&I customers will not meet health and safety requirements and may place Bella Vista Water District in jeopardy of violating state law.

3. Provide water from groundwater. This is not a viable solution for the Bella Vista Water District as the portion of the Redding basin it overlies is non productive and which was the primary reason the District's system was initially developed.

If we are not allowed to make new connections for municipal and industrial water to our system we will be unable to repay several million dollars in debt incurred to provide new infrastructure for the District. Is it the intent of the Bureau to put us out of business?

The policy is unfair to those districts that are just in the development stage as opposed to those districts that have essentially completed their build out!

I urge you to reconsider this draconian policy and rework the policy provision addressing conversion from agriculture to M&I to allow the District to continue to be a viable entity which can serve the needs of its landowners.

We also concur in the comments submitted by Mr. Walt McNeil, counsel to the Clear Creek CSD.

Sincerely,

Robert W. Dietz, P.E.
 General Manager

cc: Congressman Wally Herger
 Senator Dianne Feinstein
 Bruce Belton
 Walt McNeil

Responses to Comment Letter 3 – Bella Vista Water District (2000)

3-1: Comment is noted

3-2: Providing greater supplies in dry years to any Contractor who chooses to change from agricultural use to urban use equates to increasing that Contractor's supply in dry years. Given a constant supply in the CVP, that would amount to imposing heavier shortages on the Contractors who do not make such a shift. The policy to which the comment objects thus protects agricultural Contractors who choose to remain agricultural from the impacts of land use decisions made by others. Contractors are free to develop their holdings as they choose, but that does not mean that Reclamation is obligated to provide water to meet any resulting new demands they create.



Gray Davis
GOVERNOR

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse



Steve Nissen
ACTING DIRECTOR

December 4, 2000

LETTER 4

BUREAU OF RECLAMATION OFFICIAL F.F.E. COPY RECEIVED	
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Al Candlish
U.S. Bureau of Reclamation
2800 Cottage Way
Sacramento, CA 95825

Subject: Shasta and Trinity Division Long-Term Contract Renewal
SCH#: 2000114007

Dear Al Candlish:

The State Clearinghouse submitted the above named Environmental Assessment to selected state agencies for review. The review period closed on December 1, 2000, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Terry Roberts

Terry Roberts
Senior Planner, State Clearinghouse

FOR OFFICIAL USE ONLY
PROJECT NO. _____
CODE NO. _____
INITIAL _____
DATE _____

PROJECT NO. _____
CODE NO. _____
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38378

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
916-445-0613 FAX 916-323-3018 WWW.OPR.CA.GOV/CLEARINGHOUSE.HTML

Document Details Report
State Clearinghouse Data Base

SCH# 2000114007
Project Title Shasta and Trinity Division Long-Term Contract Renewal
Lead Agency U.S. Bureau of Reclamation

Type EA Environmental Assessment
Description Renew long term water service contracts with Shasta & Trinity Division.

Lead Agency Contact

Name Al Candlish
Agency U.S. Bureau of Reclamation
Phone 916-978-5062 Fax
email
Address 2800 Cottage Way
City Sacramento State CA Zip 95825

Project Location

County Shasta, Trinity
City Redding
Region

Cross Streets

Parcel No.	Township	Range	Section	Base

Proximity to:

Highways
Airports
Railways
Waterways Central Valley Water Project
Schools
Land Use Central Valley Water Project.

Project Issues Agricultural Land; Forest Land/Fire Hazard; Water Supply

Reviewing Agencies Resources Agency; Department of Boating and Waterways; Department of Conservation; Department of Fish and Game, Region 1; Department of Fish and Game, Headquarters; Department of Parks and Recreation; Delta Protection Commission; Reclamation Board; Department of Water Resources; Caltrans, Division of Transportation Planning; State Water Resources Control Board, Division of Water Rights; Regional Water Quality Control Board, Region 1; Regional Water Quality Control Bd., Region 5 (Redding); Native American Heritage Commission; State Lands Commission

Date Received 11/02/2000 Start of Review 11/02/2000 End of Review 12/01/2000

Note: Blanks in data fields result from insufficient information provided by lead agency.

LETTER 4

Response to Comment Letter 4 – Office of Planning and Research (2000)

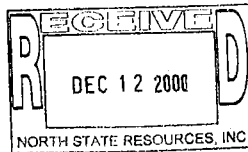
No comments were submitted. Letter 4 is a notification that the Draft EA (2000) was sent to the 15 agencies listed in the attachment.

LETTER 5 CITY OF REDDING



PUBLIC WORKS DEPARTMENT
 FIELD OPERATIONS DIVISION - STREETS, WATER, WASTEWATER
 Mail: P.O. Box 496071, Redding, CA 96049-6071
 Shipping: 20055 Viking Way, Building #3, Redding, CA 96003
 530.224.6068 FAX 530.224.6071

December 4, 2000
 W-030-000-000



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Mr. Al Candlish
 Bureau of Reclamation
 Mid-Pacific Region
 2800 Cottage Way
 Sacramento, CA 95825-1898

Dear Mr. Candlish:

Subject: Draft Environmental Assessment for the Long-Term Contract Renewal - Shasta and Trinity Divisions

Thank you for the opportunity to review and comment on the Draft Environmental Assessment for the Long-Term Contract Renewal for the Shasta and Trinity Divisions. The Shasta and Trinity Division contractors are at the head works of a very reliable water supply with good quality water, and our local economy has much at stake in a successful solution to the state's pressing water needs.

The City of Redding (City) is in the process of re-negotiating its Central Valley Project (CVP) water contract, which has not been completed at this time, for 6,140 acre feet of water from the Spring Creek Conduit, Sacramento River, and the Toyon Pipeline. The City has concerns about the functional requirements of an Environmental Assessment, especially in the absence of a completed contract. The City suggests that the completion of the Draft Environmental Assessment be postponed until the completion of the contract negotiations. The City believes that there are critical issues that have to be addressed and evaluated for the Shasta and Trinity Division contractors before a final Environmental Assessment can be completed.

Obtaining accurate data is essential in preparing an accurate Environmental Assessment. After the Shasta and Trinity Division contractors met with North State Resources (NSR) on September 13, 2000, it was determined that NSR had been supplied with incorrect data, and the water contractors were not adequately consulted prior to the preparation of the Environmental Assessment.

The Environmental Assessment should address the future water demand beyond 25 years for all the Shasta and Trinity Division contractors. The Environmental Assessment should consider the effect of the total supply of the contract amount, whether it comes through the existing water contract, water transfers, or the acquisition of non-CVP water. The City, as well as other Shasta and Trinity Division contractors, strongly feel the Bureau of Reclamation (Bureau) should preserve the water supply that will be required to meet present and future beneficial uses in the watershed of origin. The Redding area will continue to grow and it does not make sense to make long-term water commitments to areas outside the Redding basin and then have to import or transfer water to the area to make up the shortfall. If the Bureau is not able to provide adequate water supplies for long-term demand for the Shasta and Trinity Division contractors, this should be taken into consideration in the Environmental Assessment.

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Mr. Al Candlish
 November 27, 2000 (12-4-00)
 Page 2

Important contract provisions concerning M&I water have not been resolved by the Bureau with the CVP contractors. Unresolved contract provisions concerning M&I water reliability, M&I water shortages, M&I water quality, and the M&I rate setting policy have not been determined. According to the Bureau, the rate setting policy will not be concluded until sometime next year. The M&I deficit which could influence M&I rates and capital repayment is also expected to be resolved within the next year. The Environmental Assessment should have addressed these factors or at least taken them into consideration.

The Environmental Assessment should analyze in further detail the impacts on the water contractors taking water from Whiskeytown Lake which is their only source of supply. This should work in conjunction with the Bureau's Trinity River flow decision and corresponding change in the amount of water diverted to the Sacramento River system. The potential risk for decreased flows through Whiskeytown Lake could change the operation of Whiskeytown Lake and increase water temperatures, increase organics in the water, increase water turbidity, and degrade water quality. All these potential risks could adversely impact water treatment operations and treatment expenses for the water contractors taking water from Whiskeytown Lake. Also the effects to the Sacramento River water quality should be addressed. The decrease in water diversions from the Trinity River has the potential to increase loading of chemicals and other constituents, which could affect water quality for both the environment and M&I uses. The Environmental Assessment should have also addressed the fact that 60% of the City's contract water that is diverted, is used and returned to the Sacramento River system with no credit of return water given to the City.

The California Department of Health Services - Division of Drinking Water (DOHS-DDW) which has primary enforcement responsibility and enforces the drinking water quality and monitoring standards in the Shasta and Trinity Division area should have had the opportunity to review and comment in the Draft Environmental Assessment. The DOHS-DDW has the authority of enforcement over the Shasta and Trinity Division contractors to ensure compliance with drinking water regulations.

The Bureau's proposal for tiered pricing should promote, not discourage, good water management tools such as conjunctive use, water transfers, and water conservation. The Bureau's approach to the implementation to tiered pricing in Category 1 and Category 2 water in Alternative 2 is no longer an item in the contract negotiations and should have been deleted from the Environmental Assessment.

The following inconsistencies were noticed during the Draft Environmental Assessment review:

Section 4.2 WATER SUPPLIES AND FACILITIES OPERATIONS

In the City of Redding section it is stated, "The Summit City Zone falls entirely within the unincorporated area of Shasta County." This statement is incorrect, three-quarters of the Summit City Zone lies within the city limits of the City of Shasta Lake. Also, the statement "The City's CVP long-term water service contract provides 9,290 acre-feet (according to PEIS data sources)." this statement is incorrect. The City of Redding has never received more than 4,500 acre-feet of the 6,140 acre-feet obligated in the Buckeye contract total.

Section 4.3 SOCIOECONOMICS

Is the Draft Environmental Assessment covering the entire service area of the City which includes both the Buckeye and Redding water contracts, or is the Environmental Assessment to cover Buckeye CVP contract service area only? The Draft Environmental Assessment document jumps

Mr. Al Candlish
November 27, 2000 (12-4-00)
Page 3

back and forth from the Buckeye contract area to the entire City area.

Table 4.3-4 M&I SERVICE CONTRACTORS WITHIN SELECTED SHASTA
AND TRINITY DIVISIONS BY M&I CATEGORY (1994)

The Service Connection Category has the entire City service area connection total and not the Buckeye contract service area. There are only 4,237 service connections in the Buckeye contract service area.

Table 4.3-5 DELIVERIES OF TREATED WATER TO M&I CUSTOMERS BY M&I
CATEGORY (ACRE-FEET PER YEAR)

The Service Connection Category also has the entire City service area treated water deliveries and not the Buckeye contract service area water deliveries. All the City totals listed in this table are incorrect except for the Industrial category. The information that the City submitted to the Department of Water Resources (DWR) in 1994 is not the information listed on this table. Landscape irrigation was listed on the DWR report as -0- acre-feet, not 21,354 acre-feet as listed in the table. The total listed on the bottom of the table is 28,149 acre-feet higher than the information the City submitted to the DWR in 1994.

5-13

Table 4.3-6 CVP CONTRACT MAXIMUM, M&I DELIVERIES AND ESTIMATED
COST (1994)

The CVP Contract Maximum (acre-feet) listed in this table is incorrect, the City's Buckeye contract total is 6,140 acre-feet, not the 9,250 acre-feet as listed in the table. There is no Redding contract settlement water used in the Buckeye contract area as listed in item 1 in the table.

The last sentence in the first paragraph on page 4.3-3 is not very clear: A comparison of the two tables also reveals that only a relatively small portion of the City of Redding's M&I water comes from its contract water. This statement comparing the numbers for the City category in Table 4.3-5 and Table 4.3-6 is incorrect. All the water delivered to the Buckeye contract area is CVP M&I contract water.

The City of Redding believes that being in the area of origin of a monumental water supply, the Bureau, through the Environmental Assessment, should make it a priority to assure a continuous and permanent supply of water for the City and the Shasta and Trinity Division contractors as a fundamental, historic, and critical component of the Long-Term Contract Renewals.

If you have any questions or need additional information please contact me at (530) 224-6040.

Sincerely,



Mike Robertson
Public Works Manager - Water

c: Phil Perry, Assistant City Manager
Len Wingate, City Attorney

Responses to Comment Letter 5 – City of Redding (2000)

- 5-1: As of the publication date of this Final EA, contract negotiations have been completed.
- 5-2: Comments are noted. Refer to page 1-9 of the Final EA for a description of the scoping and consultation process initiated for the long-term contract renewal in October 1998.
- 5-3: The water needs analyses prepared in 2000, which were based on a 25-year period, found that the amounts under contract would be fully used by 2025 and by implication would therefore be needed throughout the 40-year term that was subsequently determined to be applicable to M & I contracts.
- 5-4: The analyses in the EA were limited to renewal of long-term contracts for the Shasta and Trinity River Divisions and did not extend to exploration of area of origin concepts under State law. Should future judicial decisions require adjustments of CVP operations, which are based on a water right under State law, those adjustments would be addressed in separate environmental analyses.
- 5-5: The revised M&I policy and its impacts and implications are being discussed in a separate EA specific to the revised M&I policy.
- 5-6: The analyses in the EA were limited to the effects of the renewal of long-term contracts for the Shasta and Trinity River Divisions. The effects of the Trinity River Flow Decision on Whiskeytown Lake and the Sacramento River were beyond the scope of the EA and were addressed in the EIS specific to that action.
- 5-7: Water returned to the Sacramento River is not credited for any user.
- 5-8: Reclamation feels adequate time was given for review. The BA for the Shasta and Trinity River Divisions' long-term water service contract renewals was completed in August 2003. The Draft EA was first released on October 23, 2000, for a 30-day public review period. The Updated Draft EA and FONSI were released on August 31, 2004, for an additional 30-day public review period.
- In addition, these documents were available on Reclamation's website at www.usbr.gov/mp/cvpia/3404c/index.html
- 5-9: Comment is noted.
- 5-10: The commenter is correct that Category 1 and Category 2 water were eliminated from contract negotiations.
- 5-11: The reference to the Summit City zone under City of Redding in Section 4.2 has been changed to read, "Approximately one-quarter of the Summit City zone falls within an unincorporated area of Shasta County, and three-quarters fall within the city limits of the City of Shasta Lake." As noted, the water service contract total is 6,140 acre-feet/year, whereas the Project water component of the City's Sacramento River Settlement Contract is 3,150 acre-feet/year for a total of 9,290 acre-feet of Project water as of 2003.
- 5-12: Reclamation is aware that some of the demographic data in the Draft EA concerning the City of Redding are for the entire city rather than for only the Buckeye zone. The City of Redding does not maintain separate demographic data for the Buckeye zone because it is not considered a valid demographic unit.

- 5-13: A footnote was added to Table 4.3-4 in the Updated Draft EA (and remains in the Final EA) to show that of the 23,598 connections for the City of Redding, 4,179 are for CVP water under the Buckeye contract.

A footnote was added to Table 4.3-5 in the Updated Draft EA (and remains in the Final EA) indicating that the 42,699 acre-feet shown for the City of Redding includes other agreements and contracts in addition to the Buckeye contract. Roughly half of the City's water comes from sources not covered by contracts with Reclamation.

A footnote was added to Table 4.3-6 in the Updated Draft EA (and remains in the Final EA) indicating that the 9,250 acre-feet shown for the CVP Contract Maximum for the City of Redding includes 6,100 acre-feet of CVP water under the Buckeye contract (rounded to the nearest hundred acre-feet) along with the 3,150 acre-feet of CVP water under the City's Sacramento River Settlement Contract.

LETTER 6

LAW OFFICES OF

WALTER P. McNEILL

280 HEMSTED DRIVE
SUITE E
REDDING, CA 96002

e-mail: walmc@aol.com
TELEPHONE (530) 222-8992
FACSIMILE (530) 222-8892

December 4, 2000

Laura Kuh
North State Resources, Inc.
5000 Bechelli, Suite 203
Redding, California 96002

Via: Hand Delivered

Buford Holt
U.S. Bureau Of Reclamation
16349 Shasta Dam Blvd.
Shasta Lake, CA 96019-8400

Via: U.S. Mail

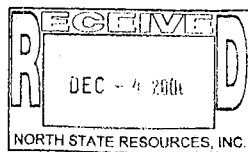
Al Candlish
U.S. Bureau of Reclamation
2800 Cottage Way
Sacramento CA 95825-1898

Via: Federal Express

Re: Response and Comments of Clear Creek Community Services District
to the "Draft Environmental Assessment for the
Long Term Contract Renewal -- Shasta and Trinity Divisions"

Dear Ms. Kuh and Messrs. Holt and Candlish:

This letter contains the response and comments of Clear Creek Community Services District to the "Draft Environmental Assessment for the Long Term Contract Renewal -- Shasta and Trinity Divisions" prepared for the United States Bureau of Reclamation by North State Resources, Inc. dated October, 2000. Because the Draft EA is of general application to the Shasta and Trinity Divisions, with sporadic references to Clear Creek CSD as an individual District, these comments are directed to the entire EA as a document pertinent to all Shasta/Trinity water service Contractors (inclusive of Clear Creek CSD), except where these comments specifically mention Clear Creek CSD by name. Other CVP Contractors within the Shasta and Trinity Divisions have or will be submitting their own comments to the Draft EA, and, to the extent applicable, Clear Creek hereby incorporates by reference their comments as well.



Laura Kuh, NSR and
Buford Holt and Al Candlish, U.S. Bureau Of Reclamation
Re: Response and Comments of Clear Creek Community Services District

December 4, 2000
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GENERAL COMMENTS

A general observation and inescapable conclusion that must be made after reviewing this Draft EA, is that it is so seriously flawed as to both form and factual content that it falls far short of NEPA requirements for environmental review. Though Clear Creek CSD is only a tiny part of the overall Central Valley Project, Clear Creek takes very seriously the necessity for adequate environmental review of the major federal action for long term renewal of its contract and the long term contracts of the other water service providers in the Shasta and Trinity Divisions. Unfortunately, this Draft EA is no more than a superficial treatment of Reclamation's general proposal to renew long term contracts under the Central Valley Project Improvement Act (CVPIA), without any substantive analysis or meaningful information that would disclose to Clear Creek, its customers, or the public, the true nature and extent of potential environmental impacts arising from the long term renewal of Clear Creek's water service contract or those of other water service Contractors in the Shasta/Trinity divisions.

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A. The Process

The preparation process for this Draft EA was virtually designed to fail in light of Reclamation's inordinate delay in completing the Programmatic Environmental Impact Statement (PEIS), coupled with Reclamation's failure to reach agreement with the CVP Contractors on a CVP-wide form of contract in accelerated but unsuccessful negotiations, while North State Resources (NSR) was forced to prepare an environmental document under Reclamation's self-imposed imperative that long term renewal contracts must be ready in time to be signed by this presidential (Clinton) Administration. At what amounts to the "11th hour" NSR was directed by Reclamation to prepare a Draft EA, even though there was no CVP-wide form of contract, nor a divisional form of contract for the Shasta/Trinity Divisions, much less any individual form of contract for the individual water service Contractors. Using faulty information (a point made known to NSR and Reclamation early on) NSR spent several weeks preparing a document which conforms to the time constraints and negotiating position presented by Reclamation, at the expense of providing adequate substantive environmental review.

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In the meantime, even after Reclamation unilaterally terminated CVP-wide negotiations without agreement on September 29, 2000, the Shasta/Trinity Divisions continued with "technical working group" sessions with Reclamation representatives on September 27, October 2, and October 12, 2000, as well as formal negotiating sessions on October 20, October 27, and November 2, 2000, as part of the Sacramento Valley Division. This was a good faith effort by the Contractors to cooperate with Reclamation's late request to leapfrog the CVP-wide process and try to iron out CVP-wide issues at the same time that divisional issues were negotiated. November 2, 2000 had been declared by Reclamation to be the "drop dead" date for completing an agreed-upon form of contract in time for a 60 day public review prior

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to execution by the Clinton Administration. At the conclusion of the Sacramento Valley Divisional negotiation on November 2, 2000, although both sides remain committed to continue with negotiations on an uncertain future timetable, there was no agreement on a final divisional form of contract, and a variety of CVP-wide issues remain outstanding.

Now that the "drop dead" date has passed it is clear that interim renewal contracts will be needed for water service in 2001, and long term renewal contracts will have to be executed with a new presidential Administration. (See the District's November 7, 2000 letter to Reclamation Regional Director Lester Snow requesting a new interim renewal contract, copy attached hereto as Exhibit "A.") We are now called upon to comment upon a Draft EA that was put together in slapdash fashion to meet a time deadline that is no longer relevant. The rational approach, under the current circumstances, would be for Reclamation to withdraw the Draft EA, and when the parties finally do reach an agreed upon form of contract in 2001 then rewrite or substantially revise the EA to make it current and cure its numerous deficiencies. It is hereby suggested that Reclamation and NSR do exactly that.

B. Circular and Unlawful Incorporation of Environmental Documents.

Regardless of whether Reclamation takes the responsible step to defer final environmental review until actual negotiation of an agreed upon form of contract, or Reclamation continues with the current document and process, the circular linkage of the draft Contract and environmental documents will have to be disconnected in order to achieve final and adequate environmental review. As noted in Clear Creek's November 7, 2000 letter to Mr. Snow, both the Federal environmental documents and the CEQA document for long term contract renewal should not be prepared until after there is an agreed upon form of contract. Unfortunately, in the contract negotiations Reclamation has persisted in odd and uncompromising insistence upon a contract provision (Article 3(e)) that explicitly incorporates the environmental documents as contract terms. The environmental documents and constraints they impose are enforceable outside of the contract pursuant to the relevant environmental laws (i.e. NEPA, ESA, and CEQA) without mutating the environmental documents into contract terms. It perverts the relationship between contracts (as major federal actions) and environmental documents when you convert those environmental documents to express contractual covenants. The effect is twofold: (1) it allows Reclamation and (particularly) the U.S. Fish & Wildlife Service to unilaterally craft detailed instructions, conditions, and promises for Contractors to follow, as contract conditions, even though there is no negotiation of this portion of the contract; and (2) it allows Reclamation and Fish & Wildlife Service to threaten Contractors with the "death sentence" of contract termination if the Contractor fails to obey the directives unilaterally placed in the environmental documents. Further, as we have seen from the Biological Opinion for the interim renewal contracts, there is not the slightest hesitation by the U.S. Fish & Wildlife Service and Reclamation to use this "blank check" to incorporate in the environmental documents a multitude

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of highly specific directives aimed at exercising broad ranging contractual control over water service Contractors.

Putting aside for the moment the Contractors' position that Reclamation and Fish and Wildlife Service have no legal authority to bootstrap environmental documents into contract terms or usurp local government agency powers, the resulting contract structure becomes a never-ending "feedback loop" for environmental review. That is: (1) a tentatively agreed upon form of contract is negotiated by the parties, with a provision that incorporates the environmental documents as contract terms; (2) environmental review is carried out on the agreed upon form of contract, with environmental documents prepared by Reclamation and Fish & Wildlife Service which unilaterally inject numerous new and detailed contractual covenants by virtue of the various directives incorporated into the environmental documents; (3) the parties no longer have an agreed upon form of contract, because Reclamation and Fish & Wildlife Service have unilaterally drafted or revised major portions of "the contract" by drafting the environmental documents section of "the contract"; (4) though the parties no longer have an agreed upon form of contract, they are free to renegotiate "the contract" including the terms unilaterally drafted and inserted by Reclamation and Fish & Wildlife Service through preparation of the environmental documents; (5) renegotiation of "the contract" is a virtual certainty, particularly where the Fish & Wildlife Service has been given the first opportunity to (living up to its reputation) unilaterally insert coercive, arbitrary and overreaching contract directives; (6) the new and revised agreed upon form of contract, after a second round of negotiations, will require new environmental review; (1) we begin again.

To put this in context, for example, Reclamation has published a form of contract for the CVP (even though it hasn't been agreed to by the CVP Contractors) which purports to incorporate the future environmental documents as contract terms. The Site Specific Biological Opinion has not even been prepared yet, though that is getting underway, again with NSR as consultant. Assuming past indications hold true, it is likely that the Biological Opinion will include a directive that automatically requires prior review and approval by Reclamation and Fish & Wildlife Service before Clear Creek CSD provides water to land in the District that previously has not received water service. Such a contractual provision would be an unlawful usurpation of Clear Creek's local government agency powers, and it would place the District in legal jeopardy to landowners who could sue the District for failure to promptly perform its nondiscretionary ministerial duty to provide water service. Clear Creek cannot say that there is an agreed upon form of contract with Reclamation until after negotiation of the contract and after it has an opportunity to review, react and renegotiate terms unilaterally injected into the contract by a Site Specific Biological Opinion. If the aforescribed provision is inserted in the Biological Opinion for Clear Creek's draft contract, the District will certainly insist upon removal and renegotiation of that term and any other similarly overreaching terms. Another round of negotiations would follow, to be followed again by new or revised environmental review.

Another example, this time provided by actual experience with the interim renewal contracts, concerns the directive by Reclamation and Fish & Wildlife Service that permission be obtained before applying irrigation water to lands which laid fallow for three years. In a letter to Contractors dated July 6, 2000 Reclamation demanded compliance with this directive. After a storm of angry protest from irrigation Contractors, Reclamation withdrew its demand in a letter dated November 15, 2000. All the while, the Contractors' compliance with their interim renewal contracts -- which incorporate the interim contract Biological Opinion as contract terms -- hangs in the balance. Thus the Contractors and Reclamation no longer have a true contractual relationship so much as one of rule by inconsistent administrative fist.

Reclamation suggests that the Contractors ignore the illegalities in this process and essentially provide Reclamation and Fish & Wildlife Service carte blanche to unilaterally draft major portions of the contract through drafting of the environmental documents. This, Clear Creek CSD is unwilling to do. The District fully reserves its rights to reject and negotiate any contract terms created through the drafting of environmental documents. Further, it has been and remains the District's position that Article 3(e) of Reclamation's "proposal for CVP contracts" is unnecessary, unlawful, and unacceptable -- a matter to be revisited in further negotiations with Reclamation.

SPECIFIC COMMENTS

The following comments are submitted with the expectation that Reclamation will act in good faith and actually consider and respond to these comments with appropriate revisions/rewriting of the environmental document (including preparation of an Environmental Impact Statement), even if final preparation of the environmental document must be deferred to a later date. It should be noted that Clear Creek CSD provided Reclamation and NSR with a detailed list of issues/concerns while preparation of the Draft EA was in progress (see letter of October 3, 2000, attached hereto as Exhibit "B" fails to respond to the points raised. Accordingly, as the first comment on the Draft EA, Clear Creek CSD asks that Reclamation respond to each and every point raised in the letter, referring by page number and text to any information in the Draft EA, if any, which Reclamation feels is responsive. Next, Clear Creek's comments are referenced below to page numbers and text (or subject) in the Draft EA pertaining to the substantive comments which follow. Finally, comments are submitted relating to the failure of Reclamation and NSR to follow the Scope of Work for preparation of the EA.

COMMENT NO.	DRAFT EA PAGE NO.	COMMENT
1	N/A	Please respond to <u>each and every point</u> raised in Clear Creek CSD's letter of October 3, 2000, attached hereto as Exhibit "B," referencing by page number and text any information in the Draft EA which Reclamation feels is responsive.
2	1-1	Under "Introduction" the Draft EA purports to review "the impacts and benefits of long term renewal of water service and repayment contracts with the nine CVP water service contractors that comprise the Shasta and Trinity Divisions." This misstates the purpose of the environmental review document insofar as it references purported renewal of "repayment contracts." Though some of the Shasta/Trinity Division Contractors have repayment contracts with Reclamation, none of those repayment contracts have expired or are subject to renewal. In particular, Clear Creek CSD's repayment contract has not expired and is not up for renewal. There is no provision in CVPIA that compels early renewal or renegotiation of repayment contracts. Only <u>water service</u> contracts are subject to compulsory renewal under CVPIA. The water service contracts, <u>not</u> the repayment contracts, are the subject of the ongoing negotiations with Reclamation, and they are the only proper subject of environmental review. A major flaw that runs throughout the Draft EA is the failure to distinguish between contract provisions that are part of the repayment contracts held by the Contractors and provisions which are being negotiated in the water service contracts held by Contractors. For example, the two acre threshold allowing application of agricultural water is a part of Clear Creek CSD's <u>repayment contract</u> , and is not a term to be negotiated in the water service contract. Adequate environmental review cannot be carried out until Reclamation recognizes the proper scope of environmental review (the water service contracts) and differentiates between the terms being negotiated in the water service contracts and the terms that already exist in ongoing repayment contracts.
3	1-1	The Introduction references "nine water service Contractors" and proceeds to list them. However, only eight legal entities are actually listed, because the Shasta County Water Agency and the Keswick County Service area are only one legal entity-- the County of Shasta. (Notwithstanding the fact that there are two contracts with the County, which the County administers in two different ways.) In addition, a very important legal entity has been completely omitted from this list and from the analysis in the Draft EA altogether -- that is, Centerville Community Services District.

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COMMENT NO.	DRAFT EA PAGE NO.	COMMENT
3 (Continued)	1-1	<p>Centerville CSD is a 100% M&I water supply provider to suburban residents in a geographic area in between Clear Creek CSD and the City of Redding. Centerville CSD has over 1,050 M&I service connections; around 10,000 in acres (roughly) in its service area; 1,500 +/- acre feet of annual usage; a new 900 acre foot exchange contract with USBR; and 25% dedicated capacity by contract in Clear Creek's expanded filtration plant. Historically Centerville CSD has been entirely dependent upon CVP water supplied by either or both of Clear Creek CSD and the Shasta County Water Agency. All of Centerville's CVP water is filtered and treated through Clear Creek's filtration plant, from water delivered through the Muletown Conduit operated and maintained by Clear Creek CSD. Though Centerville has recently obtained a contract with Reclamation for a portion of its water supply, as a result of the removal of Saeltzer Dam and settlement of Townsend Flat Water Ditch Rights, Centerville will continue to require additional CVP water supplied either through Shasta County and/or Clear Creek CSD. Clear Creek CSD's existing water service contract expressly provides for sales of CVP water outside of Clear Creek's boundary to provide water to Centerville, without those sales being considered a "transfer" or a prohibited extraterritorial water service -- a rather unique feature among CVP contracts. (See Article 27 of Clear Creek's existing Interim Renewal Contract.)</p> <p>Centerville is the fastest growing water service agency serving CVP water, due to residential expansion and growth from the Redding urban area. Because Centerville CSD has been and will continue to be dependent upon CVP water supplies derived from the contracts reviewed in this Draft EA, the impacts associated with renewal of the long term contracts for the Shasta County Water Service Agency and Clear Creek CSD are passed through also to Centerville CSD. Thus the Draft EA has a huge "blind spot" in failing to provide any discussion or analysis of the environmental impacts that will occur in the Centerville CSD water service territory.</p>

COMMENT NO.	DRAFT EA PAGE NO.	COMMENT
4	1-1	<p>Section 1.2 of the Draft EA makes reference to Section 3404(c) of the CVPIA pertaining to renewals of long term contracts, as if this section governed the entirety of the water service contracts being renewed. In fact, the quoted section of CVPIA covers the water service contracts only insofar as the contracts provide for agricultural water service. Section 3404(c) of the CVPIA is not applicable to the water service contracts insofar as they provide for M&I water service. Renewal of the water service contracts insofar as they provide for M&I water is governed by the 1963 Act, the pertinent portions of which are set out in Exhibit "C" attached hereto. <u>Reclamation has acknowledged and agreed to this distinction.</u> The different treatment accorded M&I service and Ag service is of critical importance in evaluating the long term renewal of the water service contracts.</p> <p>For M&I service, Reclamation acknowledges that the Contractors have an absolute legal right to successive long term renewals, and the legal limit for contractual renewal of M&I water service is 40 years. For Ag service, Reclamation contends that the quoted section of CVPIA requires only one 25 year renewal, with future renewals subject to the discretion of the Secretary of Interior, and a cap of 25 years on the duration of the contract; the Ag water service Contractors dispute Reclamation's position, and the issue is not yet fully resolved. Without attempting to argue or resolve the dispute between Reclamation and Ag service contractors as to the renewal rights for Ag water service, it is clear that the acknowledged legal distinction between renewals for M&I and Ag water service result in a permanent reliable water supply for M&I service as contrasted with a disputed and potentially unreliable source of supply for Ag water service.</p> <p>Long term capital investments are necessary to sustain either Ag or M&I water service. The differential treatment of Ag vs. M&I water service is a major disincentive for investment in facilities which support Ag service, contrasted with a favorable incentive for investment in relatively reliable future M&I water supplies. This is critical to "transitional Ag/M&I districts" -- Clear Creek CSD and Bella Vista WD -- which are given a huge incentive to accelerate the transition from agricultural water service to M&I service. The Draft EA's failure to discuss the above-described distinctions between long term renewal of Ag service and M&I service is a major deficiency of this environmental document.</p>

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COMMENT NO.	DRAFT EA PAGE NO.	COMMENT
5	1-1	<p>A glaring omission in this EA is its failure to address the unique status of Clear Creek CSD and Bella Vista WD as what might be called "transitional Ag/M&I districts." Clear Creek, for example, currently uses about two-thirds of its CVP water as Ag water, and about one-third as M&I water, by quantity; about two-thirds of Clear Creek's customers are M&I customers, and about one-third are Ag customers. Bella Vista WD has similar proportions. Both Clear Creek and Bella Vista have contracts which allow 100% of the contract total to be used for M&I water service, and no consent or special permission is required from Reclamation to allocate the water between Ag and M&I uses. Both Clear Creek and Bella Vista anticipate that over the long term (25 years to 50 years) M&I usage will become the dominant (if not exclusive) form of usage of their CVP water. Both Clear Creek and Bella Vista have made major capital investments in their water treatment, storage, and distribution facilities to accommodate the increasing future demands for M&I water service. Both Clear Creek and Bella Vista provide 100% potable water to their customers, regardless of whether the water is currently put to Ag or M&I usage. Further, though about 80% of the 112 CVP contracts up for renewal have some tiny mixture of Ag and M&I service, <u>none</u> of those contractors (other than Clear Creek and Bella Vista) have a pattern of water usage in which the dominant form of usage is less than 90% or the subordinate form of usage is greater than 10%; none of the other 112 Contractors have made substantial capital investments in facilities for increasing future M&I usage of water that currently is characterized as Ag usage; <u>none</u> of the other 112 CVP Contractors would describe themselves as a "transitional Ag/M&I District." Out of approximately 112 CVP Contractors currently negotiating long term contract renewals, only Clear Creek CSD and Bella Vista WD meet this profile.</p> <p>The Draft EA says absolutely <u>nothing</u> about the unique water usage profile of Clear Creek CSD and Bella Vista WD, which together account for over 72% of the CVP contract quantity for contracts subject to renewal in the Shasta and Trinity Divisions. The unique water usage profile of Clear Creek and Bella Vista is well known both to Reclamation and NSR. The Draft EAs failure to account for the unique water usage profile of Clear Creek and Bella Vista is an enormous and inexcusable omission which undercuts the validity of the EA.</p>

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COMMENT NO.	DRAFT EA PAGE NO.	COMMENT
6	1-2	In Table 1-1, the reference to City of Shasta Lake shows a contract number of W11341R4; that should be W11341R5. The quantity shown for City of Shasta Lake is 2,750 acre feet; that should be approximately 4,800 acre feet, since City of Shasta Lake is seeking renewal of the combined contract quantities under contract number 11r-1515 and contract number 11r-1523. Insofar as the table purports to reflect water currently available under interim renewal contracts, the correct number for City of Shasta Lake should be 2,413 (with an option to request the balance up to 2,750 acre feet on approval by USBR). The reference for City of Shasta Lake showing that the contracts for Shasta Dam Area PUD and Summit City PUD are "included" is false to the extent that the table represents that the two former contracts are included in the existing interim renewal contract; the intention of the City of Shasta Lake and Reclamation is to include renewal of both former long term contracts in one long term contract for about 4,800 acre feet.
7	1-2	The reference to a contract number for Clear Creek Community Services District in Table 1-1 should be 489A1R5 (effective Dec. 1, 2000).
8	1-2	Again the reference to "Keswick County Service Area" is misleading insofar as it is represented to be a separate entity from the County of Shasta or the Shasta County Water Agency.
9	1-4	A major omission under Section 1.3 "Basis of Central Valley Project Water Service Contract Renewals" is the failure to cite the 1963 Act for M&I water service. See Exhibit "C" attached hereto.
10	1-4	The following statement under Section 1.3 contains assertions which are misleading, false and disputed. "The CVPIA included a right of renewal of long term repayment or water service contracts for a term not to exceed 25 years but the Secretary may or may not renew such contracts for successive periods for terms not to exceed 25 years." The reference to "repayment contracts" is misleading in that CVPIA does not compel renegotiation of repayment contracts, and no long term repayment contracts are currently being negotiated with Reclamation in the Shasta and Trinity Divisions. Only water service contracts are subject to the current negotiations. The assertion that "The Secretary may or may not renew such contracts" is false insofar as it references M&I usage allowed under the contracts (see 1963 Act and previous comment); insofar as the assertion references agricultural water service, it is disputed by the Contractors.

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COMMENT NO.	DRAFT EA PAGE NO.	COMMENT	
11	1-5	In reference to the City of Shasta Lake it is stated that "In 1978, the SDAPUD and SCPUD contracts were merged into one long term contract." This is false. Actually, the Summit City Public Utilities District (SCPUD) was absorbed by the Shasta Dam Area Public Utilities District (SDAPUD), and the water service contract held by SCPUD was assumed by SDAPUD, by assignment, for purposes of administration; two contracts remained outstanding, jointly administered by SDAPUD. The two long term contracts did not expire in 1988. They were renewed and continued by a series of temporary contracts numbers 8-07-20-W0715, then 0-07-20-W0885, then 2-07-20-W1024. At the time that these temporary contracts were executed, it was expected that the City of Shasta Lake would receive a long term contract of approximately 4,800 acre feet (not 4,400 acre feet as represented in the Draft EA).	6-13
		The statement in the Draft EA that "There was no right to renewal available" is patently false; there was in fact an absolute legal right to successive future renewals pursuant to the 1963 Act. At the time these short-term renewal contracts were executed (which was prior to CVPIA) California was experiencing severe drought conditions and drastic shortages were being imposed by Reclamation on all CVP water service contractors. For these short-term extensions of their water service the SDAPUD agreed to contract quantities totalling about 2,400 acre feet "during the drought restriction...to assist the USBR in meeting the 1989 crisis...". It appears that a draft EIS had been prepared at or around 1988-89 which allocated 4,800 acre feet to SDAPUD based on its demonstrated future needs for water service. Nowhere in this Draft EA is there appropriate mention or reference to the earlier EIS.	6-14
		In 1993 the City of Shasta Lake was incorporated, and the water service contractual rights of SDAPUD and SCPUD were assumed by the City. At no time did either SDAPUD (or SCPUD) or the City agree that 2,750 acre feet was an appropriate contract amount for long term contract renewal. The City (and SDAPUD) had allowed for a reduced quantity during the drought only as an accommodation to Reclamation during the drought, while a long term contract at 4,800 acre feet was expected when environmental review under the draft EIS was completed. CVPIA was enacted in 1992, and even though the interim renewal contracts have carried forward the reduced quantity, the City has continued to demand and expects the long term renewal contract to provide approximately 4,800 acre feet of water.	
12	1-5	The reference to Clear Creek Community Services District inaccurately represents that it is an agency formed "under Trinity River Division Act of 1955." Clear Creek CSD is a local governmental agency formed under the Community Services District Laws, sections 61000 through 61934 of the Government Code of the State of California.	6-15

COMMENT NO.	DRAFT EA PAGE NO.	COMMENT	
13	1-5	It is stated that Clear Creek CSD's initial contract with the federal government provided for delivery of "up to" 15,300 acre feet of CVP water. This is not accurate. In truth, Clear Creek CSD was required to "accept and pay" for 17,300 -- later adjusted to 15,300 -- acre feet of CVP water under its long term contract, <u>whether Clear Creek used the water or not</u> , up until the execution of an interim renewal contract effective January 1, 1995. (CVPIA effectively prohibited "accept and pay" contract requirements like those which governed Clear Creek for 32 years.) Though the District did not relish paying for water which it did not use for 32 years, the payments were regarded as an "investment" in the future availability of that water for both M&I and Ag purposes to meet the demands of future growth.	6-16
14	1-5	As noted under the reference to the Shasta County Water Agency, this contract provides water that supplies not only Centerville CSD, but also a variety of County Service Areas such as Jones Valley CSA, Crag View CSA and Castella CSA. Why does the Draft EA contain no analysis whatsoever of the impacts to these small service areas located in some of the more remote areas of Shasta County?	6-17
15	1-6	As noted in earlier comments, the "Keswick County Service Area" is not a separate legal entity from the County of Shasta. A "County Service Area" is a subunit of county government, with a board of directors appointed by (and removable by) the county board of supervisors, given limited local autonomy to provide public services in a specified geographic area.	6-18
16	Fig. 1-2 Map of District Service Areas	This map is noteworthy for its omissions. The glaring and serious omission is the absence of Centerville CSD. Attached hereto as Exhibit "D" is a map from Reclamation's EA for the Saultzer Dam removal, depicting the location of the Centerville CSD service area. Also depicted on Exhibit "D" is the service area for Jones Valley CSA No. 6 -- which does not appear on Figure 1-2. Also missing from Figure 1-2 are the service areas for Crag View CSA No. 23 and Castella CSA No. 3.	6-19
17	1-9	The Draft EA reference to "study period" anticipates that the first 25 year long term water service contract will expire in the year 2026. Given that long term renewal contracts will not be executed until some time in 2001, the new expiration date should be changed to 2027.	6-20

COMMENT NO.	DRAFT EA PAGE NO.	COMMENT
18	1-9	<p>The discussion of "related activities" is grossly inadequate. In addition to the activities listed in Table 1-2, Reclamation is also carrying out several other related activities which directly impact water supply to these Contractors under their renewed long term water service contracts: (1) the Trinity River Flow decision which will decrease water exports from the Trinity River that otherwise would be available to these contractors, and also substantially alter the operations of Whiskeytown Lake; (2) removal of Saeltzer Dam and restoration of approximately ten miles of critical salmon spawning habitat, which will require increased surface water releases from Whiskeytown Dam; (3) Anadromous Fish Restoration Program (AFRP) which will establish increased flows necessary for salmon spawning habitat in Clear Creek, using the same surface water supply from Whiskeytown Lake that is used for most of the water service contractors covered by this Draft EA; (4) new water service contracts by Reclamation with the McConnell Foundation and Centerville CSD, as part of the water rights settlement arising from removal of Saeltzer Dam, not discussed at all in this Draft EA; (5) changed operations of Whiskeytown Lake, which is the surface water supply for most of the Contractors covered in this Draft EA.</p> <p>Under "Long Term Water Service Contract Negotiations Process" the Draft EA repeats earlier stated legal opinions about the effect of CVPIA that are either inaccurate or disputed by the Contractors (and which are addressed by earlier comments herein). In addition, it is stated that M&I contracts are to be renewed "under terms and conditions that are mutually agreeable." Your attention is directed to the 1963 Act provisions (Exhibit "C") which state that Reclamation may only renegotiate "(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." While the Contractors acknowledge that water rates and charges may be renegotiated, the contracts do not specify any other matters with respect to which the right to renegotiate is reserved.</p>

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COMMENT NO.	DRAFT EA PAGE NO.	COMMENT
19	2-1	<p>The Draft EA makes note of the three phase negotiation process that was contemplated by Reclamation and the Contractors. The "scope of work" between Reclamation and North State Resources for preparation of this Draft EA also described the three phase process (under "Development of Alternatives") as follows: "Negotiations will be carried out in a three phase process: Phase I -- CVP-wide terms; Phase II -- Division/Unit Level Terms; and Phase III -- District Specific Terms." As noted earlier in the General Comments, this three phase negotiating process was abandoned by Reclamation when it unilaterally terminated CVP-wide negotiations before closure had been reached on a CVP-wide form of contract. Subsequently, division/unit level negotiations were pursued for the Sacramento Valley Division, while CVP-wide issues continued to be addressed on an ad hoc basis in different divisional negotiations around the state. The divisional negotiations for the Sacramento Valley Contractors did not come to closure either, leaving us with no Sacramento Valley divisional agreed-upon form of contract. Negotiations have not even started on the district-specific level for any of the Shasta/Trinity Contractors. While both sides are committed to continuing negotiations, it is not anticipated that significant progress will be made on all three of these levels until after a new presidential administration takes office, simply due to our current time constraints.</p> <p>The status of the negotiations at this point in time can only be said to be "unresolved," particularly since the negotiations have been pursued as "package deal" negotiations from the outset. In "package deal" negotiations the parties propose an entire contract (rather than negotiating terms of a contract item by item). Such negotiations require trade offs of favorable and unfavorable versions of different terms within the total contract, seeking compromise through a balance of those trade offs in the total contract, rather than incrementally negotiating each individual contract term to a mutually acceptable form as a stand-alone term. In theory, Reclamation or the Contractor might accept an unfavorable version of a contract term in return for a favorable version of a different contract term, and so on throughout the contract, as long as the parties feel the contract as a whole represents a balanced acceptable compromise.</p>

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COMMENT NO.	DRAFT EA PAGE NO.	COMMENT
19 (Continued)	2-1 (Continued)	The "package deal" approach is a pragmatic method of negotiating contracts which contain numerous highly contentious terms that otherwise might cause the negotiations to stalemate if the parties were required to fully agree on each individual term. One drawback to "package deal" negotiations is that if they are interrupted before an agreement is reached, it cannot necessarily be said that there is measurable "progress" by way of agreement to portions of the contract or specific terms short of an entire package. When negotiations resume, the past effort in negotiations will not have been wasted, because both sides have developed a better understanding of what the other is looking for in a "package deal" and we certainly are closer to structuring a "package" that could be mutually acceptable. However, given the absence of an agreed upon CVP-wide form of contract, and the absence of a divisional agreed upon form of contract, and no individual district negotiations, technically all provisions of the contract remain open to negotiation. The Draft EA is entirely premature, when there are no actual agreed upon contract provisions at this point in the negotiations.

COMMENT NO.	DRAFT EA PAGE NO.	COMMENT
20	2-2	<p>At the top of Page 2-2 there is a brief description of Reclamation's bizarre and legally unfounded "bookends" approach to environmental review. First, a single contract proposal by Reclamation and a single contract proposal by the Contractors' group are arbitrarily selected as "bookends" for the respective negotiating positions of the parties, even though each of these proposals is only one of many proposals made by Reclamation or the Contractors' group, with no special significance attached to these particular proposals. Secondly, it is <u>falsely assumed</u> that these are polar opposite proposals by the respective parties that represent the extremes of their bargaining positions, when in fact they are nothing more than "package deal" proposals for which that type of comparison is not applicable. (See previous comment.) Third, it is <u>falsely assumed</u> that all subsequent proposals will fall somewhere on a linear continuum stretching between these two "bookends," when in fact there is no such linear continuum for comparison. Conceptually "package deal" negotiating is like throwing darts at a dart board; it's pointless to compare the relative positions of the darts on the dart board; you keep throwing until you hit a "bullseye" by reaching agreement. Finally, there is <u>no legal foundation</u> for the notion that realistic environmental review can be carried out for an amorphous continuum of possibilities for the project (the final contract) which is supposed to be subject to environmental review.</p> <p>Both NEPA and CEQA require a stable and finite project description. While it is possible to study several alternatives without designating the preferred alternative, each alternative must have specifically designated characteristics that allow for evaluation as if any one of them could be the preferred alternative. The amorphous continuum of possibilities put forward by the "bookends" approach provides no definable project capable of environmental evaluation. This approach is fundamentally incompetent and unlawful as a means of environmental review.</p>

6-24

COMMENT NO.	DRAFT EA PAGE NO.	COMMENT
21	2-2	Under Section 2.3.1 "Needs Analysis" it is stated that "Beneficial and efficient future water demands were identified for each district." These calculations of future water demands are extremely important and relevant to evaluating the future water usage patterns of the districts. They should be identified and listed in the Draft EA. Additionally, if the Draft EA assumes that future water demands greater than the existing CVP contract quantity will not be met by increasing the CVP contract quantity, then there should be environmental evaluation of the resulting creation of "unsatisfied demand." That is, "unsatisfied demand" may cause districts to turn extensively to other water sources, such as groundwater pumping, resulting in significant indirect environmental effects. Significant "unsatisfied demand" may also induce Contractors to file and perfect "area of origin" applications that preferentially increase total water supply to the Contractor applicants while reducing available supply to other CVP Contractors. (With the pending Westlands WD application in progress, Reclamation cannot deny that area of origin applications are a foreseeable response to unsatisfied demand.) Analysis of unsatisfied future M&I demand relative to unsatisfied future Ag demand also could lend greater predictability to conversion of land use from Ag to M&I purposes. The magnitude of unsatisfied demand may additionally indicate the probability of future rationing or price increases. The Draft EAs failure to discuss these issues, despite having the relevant information at hand, is a serious defect in the environmental analysis. 6-25
22	2-2	Under "Needs Analysis" the Draft EA characterizes CVP water as a "supplemental water supply" to be used to the extent that non-CVP water supplies cannot meet future water demands. This position is directly contrary to Bureau of Reclamation policy and positions, stated repeatedly by Reclamation throughout the negotiations, that Contractors were not to be penalized for developing non-CVP water supply sources by treating CVP water as merely "supplemental water" to be reduced when demand can be satisfied from alternate supplies. In responding to this comment, Reclamation should either correct the statement in the Draft EA to reflect its true policy and position, or affirm the statement in the Draft EA (even though it is contrary to the repeated representations of policy by Reclamation) if honesty requires it. Assuming that the statement in the Draft EA is inaccurate, and that Reclamation did not misrepresent its policy/position in the recent negotiations, then the Draft EA should be amended to consider the probability that aggregate water supplies for each district will increase in the future as those districts develop additional non-CVP supplies. This would result in the growth of future aggregate water supplies to keep pace with the projected future water demands, accompanied by growth of both M&I and Ag water uses. The environmental effects of increased aggregate water usage should be considered and addressed in the environmental document. 6-26

COMMENT NO.	DRAFT EA PAGE NO.	COMMENT
23	2-2	Under "Needs Analysis" it is blankly stated that "This environmental analysis does not include increased total contract amounts." No fact-based explanation or rationale is given for this arbitrary limitation of environmental review. There is nothing in CVPIA which prohibits increases in contract quantities. There is nothing in CVPIA or other relevant law, which prohibits Reclamation from redistributing water quantities based on projected future water demands or any other relevant factors. This arbitrary limitation adopted by the Draft EA is merely an example of one of many instances in which the Draft EA conforms its parameters to the negotiating position of Reclamation, rather than a fact-based or legal limitation on the scope of good faith environmental review. 6-27 This arbitrary limitation to existing contract quantity was Reclamation's negotiating position at the time the Draft EA was prepared. Subsequently, Reclamation reviewed a proposal by Sacramento Valley Division Contractors to increase potential CVP water quantities under Article 3(f) of the contract, based on very recent engineering analysis which indicated the availability supplemental CVP water available to Sacramento Valley Division Contractors (without negatively impacting deliveries to other CVP contractors). As a result, Reclamation has indicated a willingness and desire to revise the contract language to allow for such supplemental supplies, that could potentially increase deliveries of CVP water above the present contract quantity. Reclamation has represented that it will request NSR to revise its environmental evaluation to consider these increased CVP water supplies. While Clear Creek CSD and the other Sacramento Valley Contractors applaud Reclamation's cooperation in exploring the possible usage of these additional CVP supplies, the fact that the environmental review must now be modified demonstrates the error of the Draft EA adopting an arbitrary restriction on environmental review merely because it conformed to Reclamation's then current negotiating position. 6-27
24	2-3	Table 2-1 uses an improper description and definition for the "No Action Alternative." This Alternative should be based on an assumption that the long term water service contracts (not the interim contracts) are renewed under the same terms, subject only to changes mandated by CVPIA -- not changes merely requested or supported by Reclamation's bargaining position. For example, CVPIA mandates that the length of a renewed agricultural water service contract be limited to 25 years; CVPIA does not mandate that environmental documents be explicitly incorporated into the contract as additional contract terms. The Draft EA erroneously frames that "No Action" Alternative as a completely new contract with new terms which fully implement CVPIA. 6-28

COMMENT NO.	DRAFT EA PAGE NO.	COMMENT	
25	2-3	On the "Explanatory Recitals" for Alternative 1, it is indicated that it "assumes implementation of yield increase projects per 3408(j) study." However, the Draft EA does not evaluate increased contract quantities that would result from the yield increase.	6-29
26	2-3	Under "Explanatory Recitals" for Alternative 1, it "assumes that loss of water supply reliability would have significant adverse socioeconomic and environmental impacts." Where is the discussion/analysis in the Draft EA of the significant adverse impacts?	6-30
27	2-3	The "Category 1 and Category 2" concept was discarded and discredited before the Draft EA was prepared. This was a central feature of this "bookend" used in the Draft EA. The drafters should explain why they believe this "bookend" proposal still serves a valid basis for comparison of the effects of contract provisions.	6-31
28	2-4	For "M&I water" the "No Action" Alternative should assume a two acre threshold rather than a five acre threshold. Alternative 2, the Reclamation proposal, would utilize a five acre threshold.	6-32
29	2-4	For "Terms of Contract -- Right to Use Contract" the "No Action" Alternative and Alternative 2 should state that water service contracts, insofar as they allow for M&I service, shall be renewed (per the 1963 Act).	6-33
30	2-5	For "Sales, Transfers or Exchanges of Water" none of the alternatives is consistent with Reclamation's current policy and negotiating position in effect when the draft EA was put out -- that transfer water should be paid for at the rate paid by the transferor.	6-34
31	2-6	For "Quality Of Water" all of the alternatives indicate that Reclamation would be "without obligation to operate towards water quality goals." In fact, Reclamation has made a commitment to specific water quality goals and targets as part of the CALFED process, which carry over as operational water quality goals for these water service contracts. In negotiations with the M&I "virtual division" Reclamation has stated its willingness to include contract provisions which acknowledge Reclamation's commitment to work toward these water quality goals.	6-35
32	2-9	Under "Development of Alternatives" it states that "The No Action Alternative" consists of renewing existing water service contracts as described by the Preferred Alternative of the PEIS. This is an improper definition of the "No Action Alternative." See comment #24 and comment #34, and comment #35.	6-36
33	2-9	Under "Development of Alternatives," the November 1999 Reclamation proposal and the April 2000 CVP Contractor's proposal are described here as though Reclamation and the CVP Contractors considered those proposals to be "bookends" for negotiations. That inference or statement is false.	6-37

COMMENT NO.	DRAFT EA PAGE NO.	COMMENT	
34	2-9	There is no description, analysis, or treatment of the required Existing Conditions scenario. The scope of work for NSR requires development of an Existing Conditions scenario but none appears in this Draft EA. The Existing Conditions evaluation and scenario is necessary to provide a benchmark for the EA reader to compare with the "No Action" alternative (which is set in the year 2026), and to compare the projected incremental differences between alternatives with the existing setting. The Draft EA does nothing more than describe existing water service facilities operated by the Districts in the Shasta/Trinity divisions (see Chapter 4 of the Draft EA). There is no evaluation or data on the existing environmental resources or environmental conditions in the District service areas.	6-38
35	2-9	Here again the "No Action Alternative" is equated with the PEIS "Preferred Alternative," rather than a true and accurate "No Action Alternative." The equivalent nomenclature in CEQA for the "No Action Alternative" is the "No Project" Alternative. The following quote from <u>Planning and Conservation League v. DWR</u> (Sept. 15, 2000) 83 C.A. 4th 892, 912 & 917-918, is instructive: "CEQA requires that the no project alternative discussed in an EIR address "existing conditions" as well as "what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services." (Guidelines, former § 15126, subd. (d)(4), now § 15126.6, subd. (e)(2).) The existing conditions, supplemented by a reasonable forecast, are characterized as the no project alternative. The description must be straightforward and intelligible, assisting the decision maker and the public in ascertaining the environmental consequences of doing nothing; requiring the reader to painstakingly ferret out the information from the reports is not enough. (<i>Environmental Planning & Information Council v. County of El Dorado</i> (1982) 131 Cal.App.3d 350, 357; <i>Dusek v. Redevelopment Agency</i> (1985) 173 Cal.App.3d 1029, 1043.)	6-39
		A no project description is nonevaluative. It provides the decision makers and the public with specific information about the environment if the project is not approved. It is a factually-based forecast of the environmental impacts of preserving the status quo. It thus provides the decision makers with a base line against which they can measure the environmental advantages and disadvantages of the project and alternatives to the project."	

COMMENT NO.	DRAFT EA PAGE NO.	COMMENT
36	2-10	Under "Definition of Municipal and Industrial Users" it states that "The definition of municipal and industrial users was established in portions of a 1982 Reclamation policy memorandum." This statement is false. The referenced 1982 Reclamation policy memorandum is applicable only to <u>repayment contracts</u> . The policy memorandum is not pertinent to water service contracts, nor is it pertinent to the analysis for the Draft EA. The two districts interested in the definition of municipal and industrial water use -- Clear Creek CSD and Bella Vista WD -- have existing ongoing repayment contracts which specify a two acre threshold. Those repayment contracts are not being renewed or renegotiated. The 1982 policy memorandum was for application to new or renegotiated repayment contracts, and therefore has no application to Clear Creek CSD or Bella Vista WD at all. As for <u>water service contracts</u> , Reclamation has <u>no policy</u> applying an acreage threshold to define municipal and industrial water. Clear Creek CSD and Bella Vista WD, which make up more than 72% of the water usage in the Shasta/Trinity divisions, will continue to employ a two acre threshold for the definition of M&I water. The Draft EA is fatally flawed in failing to properly address this issue. 6-40
37	2-10	Under the "Definition of Municipal and Industrial Users" there is a misleading and disingenuous statement that "The CVP has generally applied a definition of five acres or less for municipal and industrial uses in the CVP for many years." This Draft EA is for the Shasta/Trinity divisions -- not for the CVP as a whole. In the Shasta/Trinity divisions this contract provision is pertinent only to Clear Creek CSD and Bella Vista WD, whose combined water usage comprises more than 72% of the total water usage for the Shasta/Trinity divisions. For close to 40 years both Clear Creek CSD and Bella Vista WD have operated using a two acre threshold, not a five acre threshold. A five acre threshold for the definition of M&I water has never been used in the Shasta/Trinity divisions. 6-41

COMMENT NO.	DRAFT EA PAGE NO.	COMMENT
38	2-11	Under Section 2.4.2 it is stated that the Draft EA does not consider "terms and conditions to provide a highly reliable water supply, and provisions to improve the water supply capabilities of the CVP facilities and operations" purportedly because separate environmental documentation would be required for future actions and it would "limit the Secretary's obligation to achieve a reasonable balance among competing demands as required by the CVPIA." The potential for future environmental studies of future federal actions is not an excuse for refusing to consider reasonably foreseeable future federal actions that would enhance water supply reliability and/or increase CVP yields (for example, raising Shasta Dam by several feet -- a proposal currently under serious consideration). The fact that future environmental documents may be necessary to clarify the environmental effects of future federal actions does not allow Reclamation to abdicate its responsibility to consider those reasonably foreseeable actions based upon the current information available. Secondly, the deference to maintaining the Secretary's freedom to administer the CVPIA is nonsensical and unwarranted. The purpose of entering a <u>contract</u> is to require the Secretary to accept binding contractual obligations which do in fact limit his/her freedom to administer the CVPIA to the extent required to comply with those contractual commitments. Nothing in the Contractors' proposal (described as Alternative 1) requests or causes the Secretary to violate his/her duties under CVPIA or any federal law. The Draft EA's refusal to consider the actual parameters of the CVP Contractors' proposal is another example of the Draft EA conforming the parameters of environmental review to Reclamation's negotiating position, rather than performing fact-based objective evaluation. 6-42
39	2-11	Under Section 2.4.2 the statement concerning contractual "Provisions for Compliance With Biological Opinions" is inaccurate and misleading (See General Comments, B. Circular and Unlawful Incorporation of Environmental Documents.). Though it may be true that biological consultations are required for certain Reclamation activities, there is no legal requirement by Executive Order or otherwise, that Reclamation water service contracts contain a <u>contract term</u> making a contractual promise of compliance with Biological Opinions (and other environmental documentation). Please provide a citation to the Executive Order, and a photocopy of the Executive Order, relied upon by Reclamation and NSR for this statement. As noted in the General Comments, the attempt by Reclamation to impose such a contractual provision makes the environmental review process illogical, circular, and unlawful. 6-43

COMMENT NO.	DRAFT EA PAGE NO.	COMMENT	
40	2-12	The Draft EA states that the "Definition of Municipal Users In Alternative 1 would be the same as in the No Action Alternative." This statement is untrue, as shown by Table 2-1 at page 2-4 of the Draft EA, where the "M&I water" definition shows a five acre threshold under the "No Action Alternative" and then shows a two acre threshold under "Alternative 1."	6-44
41	2-14	Under the heading of "Selection of the Preferred Alternative," the Draft EA gives no definition or form to a Preferred Alternative. Rather, it is stated that the final contract language will be found somewhere in the amorphous continuum between Alternative 1 and Alternative 2. As noted in previous comments, this is an invalid methodology that provides no meaningful basis for public review/comment or even Contractor review/comment as to the federal action that is likely to eventually emerge from this still ongoing contract negotiations process.	6-45
42	2-15	Comments related to Table 2-2 are deferred to the particular section of the Draft EA that are referenced within the table, though it should be noted that the table inaccurately refers to CCCWD instead of CCCSD (p. 2-15 and 2-17).	6-46
43	3-1	Under Section 3.1 there is no reference to the recent Saeltzer Dam Removal Environmental Assessment, or to the Trinity River Flow Environmental Impact Statement, or to the draft EIS from about 1988-89 pertaining to water supplies for the City of Shasta Lake (Shasta Dam Area PUD) area.	6-47
44	3-3	Under Section 3.6 "Focus of the Environmental Assessment" the scope of this Draft EA is narrowly and unlawfully circumscribed to a review of "socioeconomic resources." There is no Existing Conditions Analysis. There is no Biological Assessment or analysis of biological resources, either current or as impacted by the Alternatives.	6-48
45	4.1-2	Under Table 4.1-1, the correct contract number for Clear Creek CSD is 489A1R5. Also, the service boundary area for Clear Creek CSD stated at 14,314 is inaccurate; the current area is 14,800 acres, with an additional 3,922 acres in pending inclusion requests with USBR.	6-49
46	4.2-3	The reference to Clear Creek CSD's service area should be amended as noted in comment no. 45. Similarly, the breakdown of territory devoted to agriculture, rural residential, and undeveloped land, will have to be revised. The District is not aware of any factual basis for the breakdown by the consultant; for example the 4,000 acres assigned to "rural residential receiving M&I water," which appears to be nothing more than a guess. It is mysterious that Reclamation and NSR would attempt to prepare a Draft EA without accurate factual information, and without contacting Clear Creek CSD to obtain and verify the accuracy of basic factual information. The Draft EA is factually unreliable and therefore fundamentally flawed as an environmental document.	6-50

COMMENT NO.	DRAFT EA PAGE NO.	COMMENT	
47	4.2-4	It is stated that Clear Creek's wells "are intended for use only when surface supplies are inadequate to meet demand..." This statement is untrue insofar as it implies that the wells may be turned on "when surface supplies are inadequate to meet demand." This matter was the subject of litigation in the Shasta County Superior Court. As it now stands, Clear Creek's wells are for "emergency use" only. If Clear Creek desires to use the wells "when surface supplies are inadequate to meet demand" or as a future supplemental primary water supply, the District would have to first prepare new and extensive environmental documentation before even considering using the wells for that purpose. In order to prepare such environmental documentation, additional major groundwater studies (which are beyond the District's capability) would have to be performed and completed. Only one of the wells is connected to a permanent electric power supply line for its pump motor, whereas the other two wells must be powered for any temporary usage by truck-mounted diesel generators. At this juncture Clear Creek CSD cannot say that the groundwater wells will ever be available for any use other than to meet emergencies.	6-51
48	4.2-4	The text inaccurately represents that "the majority of the developed agricultural property in the district is ditch or flood irrigated." In fact all water to Ag parcels is piped and metered, and the vast majority of applied water is by sprinkler or drip system.	6-52
49	4.2-4	There is a reference to the population increase in Clear Creek CSD's service area, with a population of about 8,000 people in 1998. The actual population at the time of release of this Draft EA was in excess of 9,500 people.	6-53
50	4.2-4	The text states that "The District is situated on a plateau, which rises from the floor of the Sacramento valley." This statement is true, but it is unaccompanied by the additional information necessary to give it meaningful context. The "plateau" that the District is situated on has land which is suitable for agriculture, but because of the hydrogeologic conditions of this plateau there is no access to groundwater for wells. The three emergency wells referenced at the top of page 4.2-4 are located outside the District boundaries and are connected by pipeline to the District's distribution system. The inaccessibility of groundwater in the Clear Creek CSD service area was confirmed by a Bureau of Reclamation study and report prepared prior to the formation of the District and construction of the federal facilities which bring water to the District. This was the original justification for construction of the "Clear Creek South Unit" -- i.e. to bring CVP water to irrigable lands that otherwise would not have access to groundwater. Thus, Clear Creek CSD is totally dependent upon its contractual CVP water supply, and any shortages, unmet demand, price increases, etc. cannot be ameliorated by resort to groundwater.	6-54

COMMENT NO.	DRAFT EA PAGE NO.	COMMENT	
51	4.2-4	The text states that there are "75 miles of pipe" in the distribution system, when in fact there are 120 miles of distribution line. The text also neglects to mention the 4 million gallon storage tank at the head of the District.	6-55
52	4.2-7	The one sentence discussion of "Cumulative Effects" is grossly inadequate. There is no evaluation of the cumulative effects of long term contract renewals, and changes in water quantity exported to Whiskeytown Lake due to the Trinity River Flow decision, together with the removal of Saeltzer Dam and restoration of ten miles of critical salmon spawning habitat requiring increased releases to Clear Creek from Whiskeytown Lake, coupled with the Anadromous Fish Restoration Program (AFRP) which recommends doubling or tripling flow releases to Clear Creek to enhance the salmon spawning habitat. As noted in Clear Creek's letter of October 3, 2000, attached hereto, there are potentially serious cumulative effects on the surface water supply drawn from Whiskeytown Lake to provide surface water deliveries under the long term contracts for Clear Creek CSD, Shasta County, City of Redding, and Shasta CSD. The combination of seasonally decreased inflows to Whiskeytown Lake from Trinity River exports, coupled with seasonally increased releases to Clear Creek for salmon spawning habitat, may very well increase surface water temperatures. Potential seasonal fluctuations in the lake level may also increase the organic load in the water. Water quality may be significantly impacted by increased turbidity -- which greatly increases Clear Creek's water treatment costs and decreases the water treatment capacity of Clear Creek's filtration plant. In severe instances of drawdown of Whiskeytown Lake, one or both of Clear Creek's water intakes on Whiskeytown Dam may be uncovered -- causing reduction or cutoff of the surface water supply. Centerville CSD, which receives all of its water through the same facilities as Clear Creek CSD, and which treats its water (by contract) through Clear Creek's filtration plant, would experience the same impacts. The other CVP Contractors which draw their surface water from Whiskeytown Lake would also be subject to these potentially significant adverse impacts on water quality.	6-56
53	4.2-7	There is no discussion of the new water service contracts with the McConnell Foundation and with Centerville CSD under the section on "Cumulative Effects."	6-57
54	4.3-2 and 4.3-3	The Draft EA looks at M&I water usage based upon 1994 statistics. No rationale or explanation is offered for using information that is six years out of date. An accurate environmental evaluation should be based upon the most current information available.	6-58

COMMENT NO.	DRAFT EA PAGE NO.	COMMENT	
55	4.3-3	The information shown in Table 4.3-5 for Clear Creek's 1994 deliveries of treated water to M&I customers at 474 acre feet is <u>inaccurate</u> . In addition, the statement below Table 4.3-6 that "The disparity between Clear Creek's 1994 CVP deliveries (1,928 acre feet) and the District's treated deliveries to its M&I customers (474 acre feet) may be explained by the fact that Clear Creek WD sells some of its M&I water to other districts, including BVWD, is <u>inaccurate</u> . Clear Creek CSD (not WD) does not and never has sold <u>treated M&I water</u> to Bella Vista WD. In 1994 Clear Creek delivered 1,450.2 acre feet of M&I water in the District and sold 480 acre feet of water to Centerville CSD.) The source of these fundamental errors in the Draft EA is unclear, but suffice it to say that the preparers of the Draft EA have not consulted with Clear Creek CSD to attempt to verify the accuracy of this information. The inaccurate information is indicative of a systemic deficiency of accurate factual information throughout the entire Draft EA.	6-59 6-60
56	4.3-3	The information shown in Table 4.3-6 for the 1994 Cost-of-Service Rate is inaccurate. The 1994 Cost-of-Service Rate was \$25.85 (not \$26.09), and the contract rate was \$18.50.	6-61

COMMENT NO.	DRAFT EA PAGE NO.	COMMENT
57	4.3-3 and 4.3-4	<p>The text of the paragraph starting at the bottom of page 4.3-3 and extending to the top of page 4.3-4, provides some observations and analysis of the cost of M&I water in the City of Shasta Lake, which is then extrapolated to "the other Shasta and Trinity Divisions water districts." First, it is observed that the average City of Shasta Lake water bill for 1,000 cubic feet of water was approximately \$15.40. To arrive at a water cost per acre foot, the drafter of the EA merely multiplied \$15.40 by 43.560 -- since one acre foot of water equals 43,560 cubic feet of water. "This translates to about \$670 per acre foot." Then, because the CVP cost-of-service rate for M&I water to City of Shasta Lake is about \$15.00 per acre foot, the drafter of the EA concluded that residential customers paid a rate in 1999 that "was almost 45 times the cost of service rate that they paid for that water." (\$670 divided by \$15.00 equals 44.60) This leads to the erroneous conclusion by the drafter that "An M&I district's cost of untreated water is usually a relatively small component of its cost to treat, store, and deliver water to its customers (and thus the rates charged to its customers)." Then follows an unfounded leap of logic that "Similar findings would be expected for the other Shasta and Trinity Divisions water districts." Later in the Draft EA the findings are used to support the conclusion that increases in CVP M&I water rates will have little or no impacts on M&I water usage and consumption (page 4.3-13).</p> <p>This analysis in the Draft EA is incompetent, and then the erroneous conclusion is improperly applied to dissimilar districts in the Shasta/Trinity division. First, it is falsely assumed that the \$15.40 average household water bill per 1,000 cubic feet is made up entirely of the cost of water delivered (commodity charge), when in fact most of that monthly charge is comprised of a fixed monthly fee for capital costs, capacity, and equipment. Monthly fixed fees are only charged once per month while the water cost (commodity charge) increases proportionately with increased delivered quantity. Average M&I household usage is close to two-and-one-half times that of the amount used for this analysis in the EA. In addition, the EA completely overlooks restoration fund payments, which are a significant component of the overall cost of water for a contractor like the City of Shasta Lake. An actual analysis of the monthly charges by City of Shasta Lake, with a breakdown of the component charges, along with average monthly water usage quantities, would be necessary to determine the true "delivered cost" of treated M&I water in the City. Preliminarily, it appears that the true cost would be less than half of what is indicated in the Draft EA. The burden is on the drafters of the EA to perform a competent analysis. Commentors are not required to do it for them.</p>

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COMMENT NO.	DRAFT EA PAGE NO.	COMMENT																
57 (Continued)	4.3-3 and 4.3-4 (Continued)	<p>Secondly, the costs of "delivered water" cannot be transposed from the City of Shasta Lake to other highly dissimilar water service contractors like Clear Creek CSD. Clear Creek's M&I water usage is very different from the "average" usage in an urban environment like City of Shasta Lake or City of Redding. Clear Creek's M&I water usage is predominantly on large lot "ranchette" rural residences, which typically apply water to horse pasture, domestic animals, landscaping, etc. The water usage for these "ranchette" style residences is nearly four times the average usage for standard urban residences. Because of the high degree of M&I water usage associated with this type of land use, the effect of rate increases is magnified four fold. Water usage also is much more sensitive to rate increases -- in contrast to smaller urban residences with hardened demand -- because much of the water is applied outside the home, and the customer may reduce or terminate those uses in responses to escalating prices. The effect is compounded by the fact that Clear Creek CSD's prices are far higher to begin with, as one can see from Table 4.3-14 on page 4.3-12, where Clear Creek's current rate is shown as \$42.01 per acre foot and City of Shasta Lake is at \$15.00. Alternative 2 in Table 4.3-14 shows that M&I rates are projected to increase to \$137.59, \$165.41, and \$193.22 for Clear Creek. Currently Clear Creek charges a little over \$170 for M&I "delivered water" -- consisting of about \$42 cost of CVP water and about \$130 cost to deliver the water. Thus with the projected CVP M&I water rate increases, Clear Creek's charges to its customers will <u>more than double</u>.</p> <p>The notion stated in the Draft EA that the cost of CVP water is a minor or insignificant component of charges for "delivered water" to customers is pure fiction. A real analysis of M&I water rates and their impacts on M&I customers is necessary for an adequate environmental document.</p>																
58	4.3-4	<p>The Ag acreage shown in the text for CCCSD at 3,931 is roughly accurate; but the figures in Table 4.3-7 are wrong, and the total shown as 3,681 is in conflict with both the text and the correct numbers. The actual 1996 cropping pattern is:</p> <table border="0"> <tr> <td>pasture</td> <td>2,370</td> </tr> <tr> <td>misc. field crops</td> <td>178</td> </tr> <tr> <td>vegetables</td> <td>116</td> </tr> <tr> <td>nursery</td> <td>20</td> </tr> <tr> <td>fruit/olives</td> <td>920</td> </tr> <tr> <td>nuts</td> <td>115</td> </tr> <tr> <td>garden/orchards</td> <td>230</td> </tr> <tr> <td></td> <td>3,949</td> </tr> </table>	pasture	2,370	misc. field crops	178	vegetables	116	nursery	20	fruit/olives	920	nuts	115	garden/orchards	230		3,949
pasture	2,370																	
misc. field crops	178																	
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nursery	20																	
fruit/olives	920																	
nuts	115																	
garden/orchards	230																	
	3,949																	
59	4.3-5	<p>Table 4.3-8 showing 1994 Ag water delivery at 1,129 acre feet is incorrect. True number is 3,466.</p>																

6-63

6-64

COMMENT NO.	DRAFT EA PAGENO.	COMMENT	
60	4.3-5	Table 4.3-9 incorrectly shows Ag water delivery at 3,289 acre feet, but true number is 3,466. Also, the 1994 cost-of-service rate is incorrectly shown as \$15.79. The correct 1994 cost-of-service rate was \$11.78, and the contract rate was \$4.53.	6-65
61	4.3-7	The paragraph at the top of page 4.3-7 indicates that future CVP M&I and agricultural water use for Clear Creek CSD is based upon projections reported in the Shasta County General Plan, while water and land use projections indicated in other planning documents, such the future water needs assessment relied upon by the Bureau of Reclamation, are ignored. One would think that Reclamation would rely on its own current documentation (Reclamation's water needs analysis for Clear Creek CSD is dated October 3, 2000) for preparation of its own environmental document, rather than the Shasta County General Plan -- which is an inferior tool for water use planning and out of date. The EA should state specifically (by chapter and page reference) the documentation relied upon, and justify the use of documentation that is less accurate and less reliable than other readily available sources.	6-66
62	4.3-7	Under the heading for "Municipal and Industrial Water" the EA refers to the M&I water demand models developed for the CVPIA PEIS. It has been admitted that these models are inaccurate as predictors of water demand and water usage in the Shasta/Trinity divisions. For example, the models show water usage increasing as water price increases -- a result that is inexplicable. Further, all M&I usage under these models is patterned after small lot (or condominiums/apartments) urban residential usage, which bears no resemblance to the large lot (one to four acres) "ranchette" residential M&I usage prevalent in Clear Creek CSD and Bella Vista WD. To the extent that the CVPIA models are inappropriate for application to the specific circumstances being studied, the divisional EA is supposed to make corrections or use alternative approaches to arrive at accurate environmental evaluation. (That's what the Contractors were told by Reclamation about the use of divisional EAs to "tier off" from the Programmatic EIS.) Why then does this divisional EA blindly apply models which Reclamation has already admitted to be inaccurate?	6-67

COMMENT NO.	DRAFT EA PAGENO.	COMMENT	
63	4.3-8	By blindly applying the inaccurate models (along with its own erroneous analysis -- see comment no. 57) the EA arrives at the conclusion that M&I water usage is: "extremely price inelastic within a fairly large range of prices for water... Accordingly, no incremental change in future M&I demand for CVP water is anticipated under either Alternatives 1 or 2 when compared to the No Action Alternative." This observation may be accurate for Sacramento or the City of Redding urban areas, but it has no application to the M&I water usage in Clear Creek CSD and Bella Vista WD. The Draft EA fails to consider or evaluate the actual impacts of increased M&I water prices on the unique M&I land use pattern prevalent in Clear Creek CSD and Bella Vista WD. Table 4.3-4 indicates 1,441 single family residential M&I connections, and the land use data on page 4.2-3 indicates 4,000 acres for rural residential connections receiving M&I water, which results in an average parcel size of 2.8 acres for these rural residential "ranchettes." Table 4.3-8 indicates the average amount of land per agricultural service connection is 5.5 acres in Clear Creek CSD. The extremely large service area for Clear Creek CSD (see Table 4.1-1) also accommodates at least 4,497 acres (see page 4.2-3) still open for development. Clear Creek's mixture of small farms and large "ranchette" style residences is (for now) a very stable land use pattern because it is widely disbursed, and consistently low-density and low-impact environmentally. The District service area does not have typical urban infrastructure: there is no sewer system (all sanitation is through septic systems); there are no curbs, gutters, or sidewalks; the major roads are relatively narrow two-lane, high speed, "country roads"; aside from a couple of traffic signals, there generally are no urban traffic controls; law enforcement is provided by the county sheriff and fire protection is provided by a volunteer fire company. There are no commercial or retail centers in the District service territory. Additional growth within the District service territory can be easily accommodated by this limited infrastructure of public facilities, provided that growth follows the existing pattern of residential "ranchettes" and/or small farms. Growth is certain to occur in the form of spillover from the growing population in nearby City of Redding, and as a bedroom community for workers in the City of Redding. Under the current land use pattern, the path of least resistance for future growth is simply to expand upon and extend the current land use pattern into the undeveloped areas. There is an economic disincentive to the initial introduction of large suburban tract higher density residential housing, because of the disproportionate expense of infrastructure improvements needed in comparison to development within an area of established urban infrastructure like the City of Redding.	6-68

COMMENT NO.	DRAFT EA PAGE NO.	COMMENT
63 (Continued)	4.3-8 (Continued)	<p>As noted in earlier comments, M&I water usage for residential "ranchettes" is in fact quite price sensitive. (For example, when the price of watering horse pasture exceeds the price of purchasing hay, the residents will either alter that use or purchase hay.) M&I price increases of the magnitude shown in Table 4.3-14 would cause significant changes in M&I water usage and land use. Residential development to accommodate growth would no longer follow the low density path of "ranchette," because the life-style amenities associated with "ranchettes" would not longer be affordable with high priced water. Without any economic return for large size residential parcels, new development will take place on smaller lots. In particular "ranchettes" no longer using large quantities of M&I water would be divided into smaller more "typical" size residential lots (.25 to .5 acres), and new development in the open areas would take the form of standard tract subdivisions. As high density residential development becomes profitable on a speculative basis, mounting economic pressure will be placed on the small parcel farms to subdivide and convert to M&I usage to achieve a higher economic return. Light retail, commercial, and food service businesses will immediately follow the establishment of higher density residential development, further burdening the limited Happy Valley public services infrastructure. Though Happy Valley could absorb the beginnings of this type of development, the limited public facilities infrastructure would quickly be overwhelmed as higher density growth continues.</p> <p>In sum, the proposed CVP M&I rate increases for Clear Creek CSD are likely to be a catalyst for rapid transformation of this area of Shasta County, accompanied by major impacts on land use, water use, public facilities, and biological resources. These environmental impacts should be studied, rather than ignored, probably in an Environmental Impact Statement.</p>
64	4.3-9	<p>At the top of the page it is stated that "It is not anticipated there will be any M&I water related demographic or land use impacts of the contract renewal options. Accordingly, demographic and land use impacts are not addressed in the contract renewal M&I impact analysis." As noted by the previous comment, this is a major error of omission in the EA.</p>

COMMENT NO.	DRAFT EA PAGE NO.	COMMENT
65	4.3-10	<p>The paragraph at the top of page 4.3-10 states that changing the Ag/M&I acreage threshold from two to five acres would have little or no effect on the delivery and cost of CVP water for agricultural irrigators on parcels less than five acres. This statement is patently erroneous, disingenuous, and another example of shaping the environmental review to conform to Reclamation's bargaining position rather than objective/unbiased analysis.</p> <p>Changing the definition of M&I water to a five acre threshold would <u>instantly reclassify</u> over 350 parcels in Clear Creek CSD currently receiving Ag water to M&I usage at M&I rates. This would be an immediate, substantial, and adverse environmental impact.</p> <p>The only way for reclassified individual parcel owners to retrieve their Ag water status, would be for them to individually apply to the Bureau of Reclamation to request a re-classification of their land on an individual basis, upon demonstrating that they intend to use water for agricultural purposes to the "satisfaction of the Contracting Officer." It is no secret that the Bureau of Reclamation is openly hostile to the provision of agricultural water to small farms, especially farms less than five acres in size. In past contract negotiations for the interim renewal contracts, Reclamation attempted to completely eliminate agricultural water service to farms of less than five acres in size. Further, there are no true standards or criteria for retrieving the lost agricultural water designation other than the totally subjective requirement of meeting the "satisfaction of the contracting officer" -- a virtual impossibility in light of Reclamation's nonstop campaign to eliminate what it considers to be "inefficient" farms under five acres in size.</p> <p>The environmental analysis must focus on the actual, immediate, undeniable impact of the change in the Ag/M&I threshold, which is to convert 350+ parcels and over 1,167 acres of farm land to M&I usage at M&I rates. At best it would be sheer speculation for the preparer of this EA to assume that Reclamation would approve future requests for reclassification of two to five acre farms to agricultural usage, and at worst it would be complicity in a coverup of Reclamation's agenda to eliminate these small farms. Legitimate environmental analysis of a contractual provision which increases the Ag/M&I threshold to five acres requires preparation of an Environmental Impact Statement.</p>

6-69

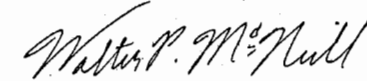
COMMENT NO.	DRAFT EA PAGE NO.	COMMENT	
66	4.3-12 and 4.3-13	The text on 4.3-12 makes note of the huge projected rate increase for M&I water for Clear Creek CSD as indicated in Table 4.3-14. Then the text on page 4.3-13 indicates that "However, the percentage increases in residential water bills would be much smaller than the percentage increase in the Contractor's cost of untreated CVP water since the cost of treated water is only a small part of the individual's total residential M&I water bill." This statement and apparent assumption that rate increases to individual customers would be insignificant, is both untrue and unsupported by any factual analysis. As indicated in previous comments, in Clear Creek CSD the projected rate increases would cause the customer rates for "delivered water" to range from slightly less to slightly more than <u>double</u> the previous cost. (See comment no. 57.)	6-70
67	4.3-13	The text indicates that "Any increase in residential water rates could have a particularly severe impact on individuals and families with limited income and ability-to-pay more for their water." Clear Creek CSD agrees with this statement, but where is the follow-up analysis of the income and ability-to-pay for increased M&I water rates? The data in Table 4.3-15 immediately following that statement merely shows the total increase in the amount paid by Clear Creek to Reclamation for Clear Creek's annual aggregate supply of water. There is no factual analysis of the increased amounts paid by individual customers or the impact on persons with limited income and ability-to-pay. As Reclamation well knows, Clear Creek has consistently qualified for Reclamation Act "ability-to-pay" relief for CVP water rates; and it is a matter of common knowledge (which could be established by further investigation) that there is a substantial population of low income residents in the Happy Valley area served by Clear Creek CSD.	6-71
68	4.3.16	Table 4.3-20 shows projected year 2026 agricultural economic and land use impacts for Clear Creek CSD, comparing the No Action Alternative and Alternative 2 under average and dry hydrogeologic conditions. The data (if I interpret the table correctly) shows that under average hydrogeologic conditions Alternative 2 would cause a reduction of about two-thirds of agricultural water use, and under dry hydrologic conditions Alternative 2 would cause reduction of about 80% of agricultural water use. If this is true, is this not a significant adverse impact that needs to be further evaluated and addressed?	6-72
69	4.4-4	The actual service territory encompassed by Clear Creek CSD is 14,800 acres, with service provided to 2,490 total service connections, divided between 788 connections for agricultural use and 1702 connections for M&I use.	6-73

COMMENT NO.	DRAFT EA PAGE NO.	COMMENT	
70	4.4-5	Under "No Action Alternative" there is reference to changing the Ag/M&I threshold from two acres to five acres. Please see comment 65.	
71	4.4-6	Under Alternative 2, there is reference to the change in the Ag/M&I threshold from two acres to five acres and a statement that "There are no incremental indirect effects due to rewording under this Alternative." Please see comment 65.	6-74
72	4.4-7	Under Cumulative Effects, it is noted that Clear Creek CSD would likely fallow about 740 acres of pasture land under dry conditions. The EA then notes that this land, together with land fallowed in Bella Vista WD, would be "less than 5% of pasture in <u>Shasta County</u> . Therefore, implementation of either Alternative 1 or 2 would result in minor changes to land use." (Emphasis added) The comparison to <u>Shasta County</u> to determine the relative significance of the impacts is inappropriate. The significance of land use changes must be considered at the District level, because the effects relate to the District contract and water prices at the District level. Also the land use changes and water usage within the <u>District</u> determine the ability of the individual District to generate revenue for debt repayment on capital facilities and provide for water system improvements. In this context the removal of 740 acres from the agricultural rate base for Clear Creek CSD would have a significant impact on the District. Comparison to the general geographic region of Shasta County is not relevant to the renewal of the Clear Creek CSD contract, nor a proper method for evaluating the contracts of the CVP Contractors in the Shasta/Trinity divisions.	6-75
73	4.5-1	The analysis of biological resources cannot be effectively done without a Biological Assessment and full development of the Existing Conditions scenario.	6-76
74	4.5-6 and 4.5-7	Under the No Action Alternative and Alternative 2 there is discussion of increase in the Ag/M&I threshold from two acres to five acres. Please see comment 65.	6-77
75	4.6-1	Under Environmental Justice there is a conclusory statement that renewal of the long term water service contract would not disproportionately affect low income populations. However, with respect to Alternative 2, the Draft EA stated on page 4.3-13 that "Any increase in residential water rates could have a particularly severe impact on individuals and families with limited income and ability-to-pay more for their water." (See comment 67.) There is no evidence of factual analysis in this EA showing that there is no low income population in the Clear Creek CSD service area. This issue needs to be addressed by factual investigation.	6-78

COMMENT NO.	DRAFT EA PAGE NO.	COMMENT
76	5-1	The discussion in Chapter 5 of "Other Activities" is little more than a generic and partial list of other activities occurring in the CVP, without any actual analysis of the manner in which these other activities interrelate with the Shasta/Trinity division CVP Contractors' long term water service contracts. The list of "Other Activities" fails to include: activities related to the removal of Saeltzer Dam and restoration of the 10 mile stretch of salmon spawning habitat; the Anadromous Fish Restoration Program (AFRP) which tentatively recommends substantially increased releases of water from Whiskeytown Dam to Clear Creek for enhancement of salmon spawning habitat; the new water service contracts executed with the McConnell Foundation and Centerville CSD; the Area of Origin application filed by Westlands Water District; and probable future Area of Origin applications by water service Contractors in the Sacramento Valley. Further, there is no mention of Reclamation's proposed M&I shortage policy, which treats all M&I water "converted" from Ag water as subject to continuing Ag water periodic reductions in supply; this policy has serious and substantial health/safety and economic consequences for Clear Creek CSD. Most importantly, there is no discussion of certain future changes in operation of Whiskeytown Lake, resulting from the combined effect of the Trinity River flow requirements, restoration of salmon spawning habitat following removal of Saeltzer Dam, and increased releases to Clear Creek in accordance with the Anadromous Fish Restoration Program (AFRP). 6-79
77	6-3	Under "California Environmental Quality Act" it is stated that "This EA could be used as a basis for preparation of a CEQA document." In fact, based on all of the comments submitted, this EA would not be adequate either as a NEPA document or as a basis for preparation of a CEQA document. If a new, or completely revised NEPA environmental document is prepared its adequacy could be evaluated at that time. 6-80
78	6-6	Under "Safe Drinking Water Act" the Draft EA again fails to address the concerns previously expressed by the CVP Contractors taking surface water from Whiskeytown Lake that the combined/cumulative impacts of ongoing Reclamation activities and programs could cause deterioration of the Whiskeytown Lake surface water supply. There is no factual analysis to support the assertion that there would be no changes in compliance with State Drinking Water Act requirements. 6-81

Very truly yours,

LAW OFFICES OF WALTER P. McNEILL



WALTER P. McNEILL

WPM/p
 Encs.

cc: Senator Dianne Feinstein (Washington Office via. U.S. Mail)
 Congressman Wally Herger (Washington Office via. U.S. Mail)
 Char Workman-Flowers, Clear Creek CSD (Via: Facsimile)

Exhibit "A"



5880 Oak Street
Anderson, CA 96007-9216

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Telephone: (530) 357-2121

November 7, 2000

Mr. Lester Snow, Regional Director
Bureau of Reclamation
2800 Cortage Way, E-160+
Sacramento, CA 95825

Re: Extension of Interim Renewal Contract

Dear Mr. Snow:

Unfortunately, we have arrived at the point in the long-term contract renewal negotiations addressed in Article 2(b)(3) of the District's interim renewal contract. Despite diligent efforts on both sides, we have not yet completed negotiations. As a consequence, this means that credible environmental documentation required both under NEPA and CDQA cannot realistically be completed in time for long-term contracts to be executed to be effectively by March 1, 2001, the expiration date of the current interim renewal contract. We have been able to narrow the focus of negotiations to a few remaining issues, and, based upon discussion at the latest Sacramento Valley CVP contractor regional negotiations on November 2, 2000, we believe that further negotiations would be beneficial. We are committed to continuing that process.

In the last few weeks, we have heard the United States announced at least two "drop dead" dates for completing negotiations: October 27, 2000, and then November 2, 2000. These dates were based on the requirement that an agreed upon form of contract have 60 days public review prior to the final execution of a contract no later than January 20, 2001, the last possible date for action by the Clinton Administration. As a practical matter, that can not be accomplished now, especially since the contracts with individual contractors must be ready for review, and Reclamation has not even started individual contractor negotiations with Clear Creek CSD or any other of the Sacramento Valley Contractors. We don't dispute that November 2, 2000 was a realistic deadline for an agreed upon form of contract, but we are extremely disappointed that the failure to meet this deadline arose from the actions of some individuals in Reclamation and/or the Department. Despite frequent statements to the contrary, the government's representatives in the negotiating rooms have not had full authority to make binding commitments on behalf of the United States, or engage in true negotiations with the contractors. For instance, without regard to the rapid approach of the

Serving the Community of Happy Valley

EXHIBIT "A"

Mr. Lester Snow,
November 7, 2000
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and water use, it is imperative that Reclamation immediately prepare and send us the one-year extension of the existing interim renewal contracts, to February 28, 2002, that is expressly provided for under Article 2(b)(3).

Again, in an effort to be able to plan for the next water year, we would appreciate a response to this letter, no later than November 27, 2000, advising when we can expect to receive the one-year extension. Thank you for your continuing efforts to complete the long-term contract renewal negotiations.

Sincerely,

Lawrence A. Russell,
Chairman of the Board

/cwf

LETTER 6

LAW OFFICES OF

WALTER P. McNEILL

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REDDING, CA 96002

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TELEPHONE (530) 222-6992
FACSIMILE (530) 222-6992

October 3, 2000

Via: E-mail & First-Class Mail

Laura Kuh
North State Resources, Inc.
5000 Bechelli, Suite 203
Redding, California 96002

Re: Environmental Assessment for Shasta-Trinity Long Term Renewal Contracts

Dear Ms. Kuh:

As you know, I represent Clear Creek CSD in the long term contract renewal negotiations process that has been underway with the Bureau of Reclamation. The meeting that you had with Shasta-Trinity Contractors on 9/13/00 was helpful in illuminating the status of the Environmental Assessment (EA) for the long term contract renewals, but also disconcerting in revealing problems with obtaining adequate environmental review on the Shasta-Trinity long term contract renewals. I understand that an administrative draft of the EA has now been produced, which has not been reviewed by any of the Contractors -- so we can't be certain what it does or does not contain. To encourage early review and, if needed, reassessment of your approach, Clear Creek CSD would like to submit the following points which ought to be considered in preparing the EA. These points are not exhaustive nor listed in order of priority.

- Accurate data on the contracts is needed to prepare an accurate EA. That may seem almost too basic to need to be mentioned, but after our meeting of 9/13/00 we had some reason for concern: (a) NSR had been supplied with inaccurate data for contract water quantities for the Shasta-Trinity CVP Contractors; (b) NSR had been supplied with inaccurate data as to the Ag/M&I water breakdown for Contractors with mixed usage; (c) the CVPIA Programmatic EIS, from which you are "tiering" the Shasta-Trinity EA, uses the City of Redding as the "representative" water user in the Shasta-Trinity group, though Redding accounts for only about 10% of the water and is less than "representative" of most usage; (d) modeling from the CVPIA Programmatic EIS uses models for the entire Sacramento Valley region to predict impacts/effects in Shasta-Trinity, despite dissimilarities between Shasta-Trinity and the region as a whole; and (e) Water Bulletin 98 assumptions are used, showing that increased rates for M&I water don't

Laura Kuh
North State Resources, Inc.
Re: Environmental Assessment for Shasta-Trinity
Long Term Renewal Contracts

October 3, 2000
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decrease consumption, reflecting a large metropolitan area water usage bias as opposed to the actual M&I water usage found in this mixed rural/urban area. It was our understanding that NSR would obtain corrected or revised data from Reclamation. We would hope that accurate data has been obtained, since that is the fundamental starting point for accurate/defensible environmental analysis.

- The EA should consider the large number of two- to five-acre parcels receiving Ag water, and the potential impacts of efforts by Reclamation to convert those parcels to M&I usage. There are about 350 such parcels in Clear Creek CSD, and about 338 such parcels in Bella Vista WD. Additional information concerning these small parcels should you wish to inquire about them.
- The potential impact of water rate increases through the adoption of current Reclamation proposed rate policies should be examined in the EA. For Clear Creek, the M&I contract rate would increase from \$42.01 per acre foot to \$137.59. For Bella Vista the M&I contract rate would increase from \$57.62 per acre foot to \$74.37; the Ag cost of service rate would increase from \$22.89 to \$32.02; and the Ag full cost rate would increase from \$53.32 to \$75.67.
- The effects of tiered pricing on water rates should be taken into account in determining rate impacts in the EA. To my knowledge there is no agreement, rule, or policy for application of tiered pricing to mixed Ag/M&I contracts. This raises a question as to how the EA will address the effects of rate impacts, without direction on how tiered pricing is to be applied to mixed Ag/M&I contracts. To my knowledge Reclamation has not even thought of this question, though the answer may have dramatic impacts on water costs and water consumption patterns.
- The EA should consider the full demand for water over 25 years, for Clear Creek as well as all the other Sacramento Valley Contractors. Clear Creek's needs analysis (like that of other Sacramento Valley Contractors) shows ultimate demand to be in excess of total contract quantity. The EA should consider the effect of full supply of this amount, whether it comes through the contract itself, or through transfers, or the acquisition of non-CVP water for use in conjunction with contract Project water. If there are any questions about the needs analysis or ultimate demand we would be glad to address them. As far as we know, Reclamation has accepted Clear Creek's needs analysis, and there have been no inquiries, questions, or objections to the needs analysis submitted to Reclamation many months ago.

- The EA should include analysis of the income levels of water users, the relationship of land use and water use to income levels, and the sensitivity of land use changes to changes in water rates based on the income levels of water users. There is a strong likelihood that you will find that the water users -- due to their relatively low income levels -- are highly sensitive to water price increases, and therefore land use changes (eg. conversion from Ag to M&I land use) will be strongly influenced by water pricing.
- To my knowledge we do not yet have a site-specific Biological Assessment or a site-specific Biological Opinion, and the EA being prepared by NSR does not include a comprehensive review of environmental conditions on the ground. Analysis of the affected environment and existing environmental conditions would be essential to an EA.
- Though I understand the rationale for the "bookends" approach being used for contract terms in the absence of a negotiated contract, I have concerns about it meeting the functional requirements of an EA, especially in the absence of an agreed upon CVP-wide form of contract. Environmental review requires a "stable and finite project description." The "project description" will come into sharper focus when we are at or near agreement with Reclamation on an actual contract.
- The EA should analyze the cumulative impacts of renewal of the long term water contracts for Contractors taking water from Whiskeytown Lake as their source of supply in conjunction with Interior's other activities an programs affecting the Whiskeytown Lake water supply. It is expected that in the next couple of months we will receive Interior's Trinity River Flow Decision, which will in all probability severely reduce inflows of Trinity River water to Whiskeytown Lake. It also is highly probable that there will be substantially increased flow releases from Whiskeytown Lake to Clear Creek, to make full use of the 10 miles of salmon spawning habitat that will be made accessible by the removal of Saeltzer Dam. At the same time, releases will continue to be made from Whiskeytown Lake to provide cold water for fish habitat in the Sacramento River, along with releases to dilute heavy metal concentrations in spillage from the Spring Creek Debris Dam. And, of course, the Contractors drawing water from Whiskeytown Lake will continue with their demands for water, with Clear Creek experiencing peak demands for Ag water in summer months at or around the same time flow releases for fish habitat in Clear Creek and the Trinity River are likely to be highest. There is a real potential risk that: decreased volumes of water moving through Whiskeytown Lake may cause water temperatures to increase; that competing

demands for water releases could result in temporary impacts on supply, or temporary lowering of lake levels, or both; that changes in the operation of Whiskeytown Lake could result in increased organic load, and/or turbidity, and other impacts on water quality; that decreased water quality could adversely impact water treatment capacity and treatment costs for Contractors taking their water from Whiskeytown Lake. Though there will clearly be material changes in the future operation of Whiskeytown Lake, I am not aware of any environmental study by Reclamation that considers the cumulative impacts on water service providers using Whiskeytown Lake as their source of supply. This would be the time to address that environmental issue.

- In the contract negotiations to this point Reclamation has stressed that future water supply needs and demands by water service Contractors are not likely ever to be satisfied by CVP water supplies. In essence, there will be long term pent up demand for additional water. The natural consequence of long term demand that can't be satisfied by Reclamation should be considered in the EA. Because all of the Sacramento Valley Contractors are within "areas of origin" and "counties of origin" that could provide adequate water supplies to meet 100% of future demands, the likely long term consequence would be individual Contractor "area of origin" water rights applications that may benefit individual Contractors but preempt and reduce overall CVP water supply. Successful area of origin applications will further reduce Reclamation's ability to meet future demand in the area of origin, forcing additional Contractors to follow with their own area of origin applications. A spiraling effect would occur until area of origin Contractors are able to meet full water needs through a combination of area of origin water rights and remaining CVP contract supplies. There will be disproportionate impacts among water service providers, because the overall CVP water supply will be diminished for all Contractors but different individual Contractors will be better positioned or worse positioned to file area of origin applications. This effect should be considered in the environmental analysis applied to contracts in the area of origin.
- Aside from the fact that there is no CVP-wide contract, various important contract provisions concerning M&I water have not been resolved by Reclamation with the CVP Contractors (as a whole) or with the M&I "virtual division" group. These unresolved contract provisions concern the following matters, among others: M&I water reliability, M&I water shortages, M&I water quality, and M&I contract renewal. In addition, an M&I rate-setting policy has not been determined, and may not be concluded until the fall of next year. Another important M&I issue on the horizon is probable settlement of the M&I deficit, which could greatly influence M&I rates and

Laura Kuh
 North State Resources, Inc.
 Re: Environmental Assessment for Shasta-Trinity
 Long Term Renewal Contracts

October 3, 2000
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capital repayment. It is reasonable to expect all of these matters to be resolved in the next 12 months and there is adequate information to discuss the parameters of possible outcomes. Therefore the environmental analysis should take these factors into consideration.

We believe the above points should be considered in the environmental analysis for long term contract renewal. We would be glad to discuss any of these points in greater detail with you should you desire to do so. Thank you for your consideration.

Very truly yours,

LAW OFFICES OF WALTER P. McNEILL



WALTER P. McNEILL

WPM/p
 cc: Clear Creek CSD
 USBR Area Manager, Mike Ryan

Pub.L. 88-44, June 21, 1963, 77 Stat. 68:

"That the Secretary of the Interior shall, upon request of the other party to any long-term contract for municipal, domestic, or industrial water supply hereafter entered into under clause (2) in the proviso to the first sentence of section 9, subsection (c), of the Reclamation Project Act of 1939 (53 Stat. 1195, 43 U.S.C. 485h) [subsec. (c) of this section], include provision for renewal thereof 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. Any right of renewal shall be exercised within such reasonable time prior to the expiration of the contract as the parties shall have agreed upon and set forth therein.

"Sec. 2. The Secretary shall also, upon like request, provide in any such long-term contract or in any contract entered into under clause (1) of the proviso aforesaid that the other party to the contract shall, during the term of the contract and of any renewal thereof and subject to fulfillment of all obligations thereunder, have a first right for the purposes stated in the contract (to which right the holders of any other type of contract for municipal, domestic, or industrial water supply shall be subordinate) to a stated share or quantity of the project's water supply available for municipal, domestic, or industrial use.

Responses to Comment Letter 6 – Walter P. McNeill (2000)

- 6-1: The EA and the scope of the analysis were developed consistent with NEPA regulations and guidance from the Council on Environmental Quality (CEQ), and in conformance with the direction provided by NRDC vs Patterson, Civ. No. S-88-1658 (Patterson), which specifically addressed the application of NEPA relative to contract renewals. In Patterson, the court found that "...ongoing projects and activities require NEPA procedures only when they undergo changes amounting in themselves to further 'major action.'" The court went further to state that the NEPA statutory requirement applies only to those changes. The analysis in the EA finds the renewals of the contracts to be a continuation of previous contracts with financial and administrative changes and no changes in either the volumes of water under contract or the places of use. Moreover, most do not involve any change in the type of use, such as the addition of M&I uses. The analysis in the EA addresses the proposed changes to the contract and the potential environmental effects of those changes. In addition, the CVPIA, through its numerous environmental actions, is addressing fish and wildlife that have been affected by the CVP. The contracts need to be considered in the context of the CVPIA as a whole.
- 6-2: Reclamation prepared an Updated Draft EA in 2004.
- 6-3: These issues concerning possible future requirements were resolved in the negotiations and a BA/EFHA was prepared in 2003 to determine if the proposed long-term contract renewal for the Shasta and Trinity River Divisions may affect species that are currently federally listed as threatened or endangered or that are proposed or are candidate species for listing. The BA does not evaluate the effects of operating and maintaining the CVP. That analysis is presented in a separate biological assessment for the Operations Criteria and Plan, also called OCAP.
- Consultation with the USFWS has been completed for seven of the ten long-term water service contract renewals in the Shasta and Trinity River Divisions. For all seven contracts, the USFWS has concurred with the determinations of the BA, which are that the long-term contract renewals are not likely to adversely affect special-status species and designated or proposed critical habitats of those species. A similar conclusion is expected for the remaining three contracts.
- 6-4: Comments are noted. The negotiations included only water service contracts, not repayment contracts. It was recognized that the repayment contracts could be renegotiated, but as part of a separate action requiring its own environmental analysis. The primary issue of concern was the proposed change to the threshold for presumption of agricultural use of water for purposes of billing from 2 acres to 5 acres. This issue was resolved in the contract negotiations.
- 6-5: Refer to the Updated Draft EA or the Final EA for a description of the 10 contracts and Contractors evaluated. Centerville Community Services District was one of several entities receiving water from the Shasta County Water Agency (SCWA) as the lengthy contract renewal process began. Centerville, through an assignment from Shasta County Water Agency, now contracts directly with Reclamation and has been added to the list of Contractors in the EA. The legal status of SCWA and Keswick County Service Area is strictly a matter of administrative concern and has no effect on the environmental analysis. Like Centerville, the Keswick area is being served under its own contract.
- 6-6: Comments are noted. The distinction between the terms of M&I and agricultural contracts was recognized in the negotiated contracts and provision was made for extension of the term of the M&I portion of contracts

- that provide for both M&I and agricultural use. Section 4.3 of the EA discusses the existing regional and local economy and the economic impacts of agricultural water versus M&I water.
- 6-7: Comment is noted. The document discloses numerous times that the Clear Creek Community Services District and Bella Vista Water District are the only two service providers in the Shasta and Trinity River Divisions that provide water for agriculture.
- 6-8: The maximum contract quantities of water service to this area and the contract numbers in Table 1-1 have been updated in the Final EA. The original quantity was reduced in the interim contracts, but the original contract amount is used in the proposed long-term renewal contract. The maximum quantity of CVP water for the City of Shasta Lake has been restored to 4,400 acre-feet. Shasta Dam Area Public Utility District (PUD) and Summit City Public Utility District (PUD) would have been better characterized as "Incorporated into the City of Shasta Lake." In any event, references to them have been deleted from Table 1-1.
- 6-9: Contract numbers in Table 1-1 have been updated in the Final EA.
- 6-10: Keswick County Service Area or Shasta County Service Area #25 – Keswick has its own long-term water service contract with its own unique contract service area. At this time, Reclamation recognizes it as a separate contract from that of Shasta County Water Agency.
- 6-11: Page 1-5 of the Updated Draft EA and page 1-5 of the Final EA refer to the RPA.
- 6-12: Thank you for the clarification. Reclamation agrees.
- 6-13: The quantity of CVP water (4,400 acre-feet) in the renewal contract for the City of Shasta Lake was restored to the sum of the quantities of water identified in the contracts with Summit City PUD and Shasta Dam Area PUD.
- 6-14: Comment is noted regarding renewal of water service contracts. Non-renewal of existing contracts is considered infeasible based on Section 3404(c) of the CVPIA. This alternative was considered but eliminated from analysis in the EA because Reclamation lacks the discretion to not renew the contracts. For the EA, renewal water for the City of Shasta Lake was water previously contracted by the Summit City PUD and the Shasta Dam Area PUD. The contract for the City of Shasta Lake includes a maximum contract quantity of 4,400 acre-feet for M&I water and equals a combined quantity contracted to the Shasta Dam Area PUD and former Summit City PUD. No contractor received an increased supply.
- 6-15: The sentence stating that Clear Creek Community Services District was formed under the Trinity River Division Act of 1955 has been changed to read, "The Clear Creek Community Services District is a local agency formed under the Community Services District Laws, sections 61000 through 61934 of the Government Code of the State of California.
- 6-16: Comment is noted. See also response to Comment 6-10.
- 6-17: These users are subcontractors to the SCWA and are included in the discussion under SCWA.
- 6-18: Refer to response to Comment 6-10.

- 6-19: A new Figure 1-2 was produced for the Updated Draft EA and is also included in the Final EA. The new figure shows the service areas that were missing on Figure 1-2 in the Draft EA.
- 6-20: Comment is noted. The contracts will be for terms that start on the date the contracts are signed, which is now expected to be early 2005. The shifts in signing dates do not affect the environmental analyses, however, as the water needs Analyses showed full development is to be expected by 2025, so no development associated with these contract renewals is to be expected after that date.
- 6-21: The subject of this EA is the renewal of existing contracts with financial and administrative changes but no changes in either the volumes of water under contract or the places of use. The analysis in the EA concerns Reclamation's delivery of CVP water, not its use or potential additional water from "related activities." The comments regarding "related activities" are noted. The reader is referred to the PEIS, the 2004 OCAP Biological Opinions, and the Trinity River Restoration Program EIS for accounts of the impacts of these allied actions.
- 6-22: Comment is noted. The concerns mentioned have been addressed in the negotiated contracts. Moreover, non-renewal 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 lacks the discretion to not renew the contracts.
- 6-23: The contracts have since been negotiated.
- 6-24: See response to comment 1-1.

The comment was submitted in 2000. Since that time, draft contract terms have been negotiated between Reclamation and Clear Creek Community Services District. The draft final contract provisions fall within the bookends, with certain provisions from Alternative 1 and others from Alternative 2.

Reclamation has analyzed the proposed action in accordance with NEPA. The EA and the scope of the analysis were developed consistent with NEPA regulations and guidelines from the Council of Environmental Quality and in conformance with the direction provided by NRDC vs Patterson, Civ. No. S-88-1658 (Patterson), which specifically addressed the application of NEPA relative to contract renewals. In Patterson, the court found that "...ongoing projects and activities require NEPA procedures only when they undergo changes amounting in themselves to further 'major action.'" The court went further to state that the NEPA statutory requirement applies only to those changes.

The range of alternatives is based on the proposed contracts under negotiation when the NEPA process was initiated, and provides an adequate range of contract provisions consistent with the purpose and need of the contract renewal. The EA, which is tied to the CVPIA PEIS, deals with the local effects of water pricing and how that may affect the Shasta and Trinity River Divisions.

- 6-25: The EA does not address future water demands apart from those related to use of the water currently under contract. The EA is tied to the PEIS to evaluate the potential site-specific environmental impacts of renewing the long-term water service to the Shasta and Trinity River Divisions' Contractors. The purpose of this project is to renew the water service contracts, consistent with the provisions of CVPIA. Future water demands are not associated with the stated purpose and need, and are therefore not included in either of the action alternatives. Should future judicial opinions require changes in the operation of the CVP in response to State area of origin laws, those adjustments will be addressed in future environmental reviews as appropriate.

- 6-26: The legislation establishing the CVP spoke of supplementation of existing supplies and that language clearly applies to the Shasta and Trinity River Division Contractors. It may be not always be so clear for some water service contracts, as some Contractors do not have alternative supplies at this time. However, as a practical matter, Reclamation does not intend to penalize any contractor for developing an alternative supply.
- 6-27: The limitation on increases in supply is physical, not legal. The supplies of the CVP are fully committed and additional water for one user can only be obtained by taking it from another.
- 6-28: Reclamation's position is that the No Action Alternative would be a new contract, as described in Table 2-1. We acknowledge Clear Creek Community Services District's position.
- 6-29: The subject of this EA is the renewal of existing contracts with financial and administrative changes but no changes in either the volumes of water under contract or the places of use. The analysis in the EA concerns Reclamation's continued delivery of CVP water, not the implementation of specific yield projects per CVPIA 3408(j). Analysis of other, as yet unidentified, Reclamation projects with the potential to increase contract quantities is outside the scope of this document. Alternative 1, the Contractors' opening proposal, assumes that Reclamation will succeed in finding ways to replace the 800,000 af of water dedicated to fish and wildlife uses under the CVPIA.
- 6-30: This explanatory recital was proposed by the Contractors for inclusion in Alternative 1, and is not used in the parlance of NEPA. The intensity of the loss in reliability would be the same under all of the alternatives. Effects under Alternative 1 would not be unique.
- 6-31: Comment is noted. Reclamation considered the concept of Category 1 and Category 2 a valid element of the renewal contracts, and it was not eliminated by Reclamation prior to the distribution of the Draft EA.
- 6-32: Comment is noted.
- 6-33: Comment is noted.
- 6-34: Comment is noted. Section 3404 of the CVPIA establishes specific rates and charges for CVP water that is transferred. These rates and charges are imposed on the CVP water service contractor that is transferring the water.
- 6-35: Comment is noted. Although Reclamation is required to comply with federal water quality standards, it is not obligated to construct or furnish facilities to improve and maintain the quality of water provided to the Contractors. Although Reclamation will work toward water quality goals in collaboration with other parties, Reclamation does not warrant the quality of water delivered to the Contractors.
- 6-36: The EA and the scope of the analysis were developed consistent with NEPA regulations and guidance from the CEQ, and in conformance with the direction provided in NRDC vs Patterson, Civ. No. S-88-1658 (Patterson), which specifically addressed the application of NEPA relative to contract renewals. In Patterson, the court found that "...ongoing projects and activities require NEPA procedures only when they undergo changes amounting in themselves to further 'major action.'" The court went further to state that the NEPA statutory requirement applies only to those changes. The analysis in the EA finds the renewals of the contracts to be a continuation of previous contracts with financial and administrative changes but no changes in either the volumes of water under contract or the places of use. Moreover, all of the contracts except those

with BVWD and CCCSD do not involve any change in the type of use, such as the conversion of irrigation uses to M&I uses. The analysis in the EA addresses the proposed changes to the contracts and the potential environmental effects of those changes. As indicated in the EA, the contract changes would not result in significant effects to the environment.

- 6-37: Comment is noted. Reclamation considered the alternatives to represent bookends. Refer to comment 6-36.
- 6-38: The existing environment is described for seven resource areas in the Updated Draft EA. Refer to Chapter 4 of the Updated Draft EA.
- 6-39: The Draft EA was prepared to comply with NEPA, not CEQA. The No Action Alternative consists of renewing existing water service contracts, as described by the Preferred Alternative of the PEIS. The purpose of the analysis is to compare the effects of the action alternatives 1 and 2 relative to the No Action Alternative. The No Action Alternative essentially maintains the status quo, apart from changes mandated by the CVPIA. The EA analyzes the increment of change between the No Action Alternative and the other action alternatives.
- 6-40: Comment is noted. This matter has since been addressed in negotiations.
- 6-41: See response to Comment 6-40. Also, as noted in earlier responses, the proposed change in the acreage that triggers a presumption of agricultural use would only require a farmer to demonstrate use of CVP water for agricultural purposes. Agricultural rates would still apply to those landholders using water for agricultural purposes. Only those users, if any, who actually were using CVP water for M&I purposes and that were presumed to be farming because of the size of their property would be affected. They would simply be paying M&I rates rather than agricultural rates for M&I uses.
- 6-42: Strong differences of opinion exist with respect to what is “reasonably foreseeable.” There are those, for example, who believe that the relatively low cost of increased storage in Shasta Lake makes at least some increase in water supply reasonably foreseeable. Others differ strongly, and the only reasonably foreseeable aspect of increased water supply might be a prediction that increased water supply in Shasta Lake would not occur for several years. One might reasonably argue, given the disagreement over construction of new storage, that it is reasonably foreseeable that the increased capacity would not be available during the term of the proposed contracts. It is reasonably foreseeable that water management will become more difficult during the term of these contracts, given projections of population growth, but the details are uncertain.
- 6-43: This difference of opinion has been resolved by Section 3(e) of the contract, which states that the Contractors shall comply with applicable requirements of biological opinions resulting from consultation regarding the execution of these contracts that are within their legal authority to implement, but goes on to say that the Contractors may challenge the requirements or seek judicial relief in court.
- 6-44: The definition of what is presumed to be a farming operation differs, not the definition of M&I use. There appears to be substantial concern that many current users would not qualify for agricultural rates in the absence of the presumption of agricultural use based on a 2-acre minimum. If, as Reclamation has been assured, all persons receiving CVP water at agricultural rates are indeed farmers, there will be no change from payment of agricultural rates to M&I rates. However, if the Contractors have been incorrect, some individuals will be shifted from payment of agricultural rates to payment of M&I rates because they will no longer be misclassified as a result of an erroneous presumption. Any changes would result from the correction of errors, not changes in definitions.

- 6-45: The analysis in the EA finds that the renewal of the contracts is in essence a continuation of the “status quo.” Although there are financial and administrative changes to the contracts, they perpetuate the existing use and allocation of resources (that is, the same amount of water will be provided to the same lands for existing and on-going purposes). The analysis in the EA addresses the two alternatives compared to the No Action Alternative, which in essence reflects a continuation of the status quo with CVPIA mandates. For some Contractors the proposed alternatives represent a likely transitional change from less agricultural water use to more M&I use.

As indicated in the EA, these contract changes would not result in significant effects to the environment.

Use of the status quo as the No Action Alternative is supported by CEQ’s opinion concerning renewal of some Friant Division contracts that appeared in the Federal Register on July 6, 1989 and its guidance document, “Forty Most Asked Questions” (on NEPA regulations).

- 6-46: Thank you for the correction. The error has been corrected in the Final EA.
- 6-47: In accordance with NEPA, feasible alternatives that would meet the purpose and need for the proposed action are considered in the EA. Refer to response to Comment 6-36. The bookends approach provided a reasonable range of alternatives that met the purpose and need for the proposed action, and allowed analysis of the project impacts to move forward while contracts were being negotiated.
- The alternatives assessed in the EA represent a range of water service agreement provisions that meet the purpose and need. The No Action Alternative consists of renewing existing water service contracts, as described by the Preferred Alternative of the 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 the “bookends.” This EA considers these proposals as bookends to evaluate the impacts and benefits of renewing the long-term water service contracts.
- The removal of Sactzer Dam does not affect the proposed contract renewals, although it is important for various other aspects of implementation of the CVPIA. Furthermore, the 1988-1989 environmental document pertaining to water supply for the City of Shasta Lake is not relevant to this EA because it was prepared prior to the passage of the CVPIA.
- 6-48: As stated in Section 3.6, the EA evaluates the direct effects of the alternatives on socioeconomic resources as well as the potential secondary effects on other resources, including biological resources, that could result from the direct effects on socioeconomic resources. This EA finds the renewals of the contracts to be a continuation of previous contracts, with only financial and administrative changes but no changes in either the volumes of water under contract or the places of use. Therefore, the alternatives would not result in direct effects to any resources other than socioeconomic resources.

Existing conditions and the potential direct and secondary effects on resources, including biological resources, are discussed in Chapter 4. A BA/EFHA was prepared as part of the Endangered Species Act (ESA) consultation. The analysis of existing conditions is a requirement under CEQA, not NEPA. CEQA requires a characterization of existing conditions, whereas NEPA requires a comparison of the environment with and without the proposed action. In many cases, the environment without the action is the same as the existing conditions. However, for a long-term action, during the term of which changes are to be expected independent of the proposed action, the two often differ conspicuously.

- 6-49 Contract numbers in Table 4.1-1 have been updated in the Final EA. CCCSD has requested changes in its service area since 2000. These requests require Reclamation's approval as well as compliance with NEPA and ESA. The district's current service area has been updated to account for these changes.
- 6-50: In March 1999, NSR arranged to meet with CCCSD two weeks before the Draft EA was due to be completed to discuss the information needed for the EA. One hour before the time the meeting was scheduled, CCCSD cancelled the meeting and refused to cooperate with NSR staff until only a few days before the Draft EA was due to be completed.
- Consequently, the information cited was derived from several less desirable sources: the Clear Creek Community Services District Water Conservation Plan (1994) and supplemental information eventually provided to NSR by CCCSD via telephone and fax. Several conversations are documented in the administrative record, including a telephone conversation concerning acreage data with an assistant to Ms. Workman-Flowers (CCCSD) that occurred at 8:30 a.m. on September 18, 2000. Information was also provided to NSR by telephone in 2000—prior to annexations—when the CCCSD was 14,314 acres. NSR was told by CCCSD that a total of 5,817 acres was irrigated and about 4,000 acres were developed as rural residential, leaving (we deduced) about 4,497 acres as undeveloped property.
- 6-51: Correction is noted.
- 6-52: The correction is noted with respect to CVP water, which is delivered via the Muletown Conduit and smaller distributary pipelines. CCCSD's service area receives water from Rainbow Lake, a reservoir on the North Fork of Cottonwood Creek, which supplies Shasta County's oldest irrigation system by means of the Happy Valley Irrigation Canal.
- 6-53: Correction is noted.
- 6-54: Comment is noted. As noted in the response to comment 6-52, some irrigable lands within the CCCSD obtain water from the north fork of Cottonwood Creek under very old water rights, although other lands, as noted in this comment, are wholly dependent on CVP water and the emergency wells in the Cottonwood Creek floodplain. Those wells, and the pipeline connecting them to the areas of use, have been added to the CCCSD since this comment was submitted.
- 6-55: Comment is noted. As noted in the response to comment 6-50, accurate information was not available from the CCCSD during the NEPA process.
- 6-56: The cumulative effects of the CVP and the implementation of the CVPIA were addressed in the CVPIA PEIS. In addition, the EA finds the renewals of the contracts to be a continuation of previous contracts, with financial and administrative changes but no changes in either the volumes of water under contract or the places of use. The cumulative effects of other CVPIA activities, such as Trinity River flows and Whiskeytown Lake releases, are reviewed in other NEPA and ESA documents, particularly the USFWS and NOAA Fisheries Biological Opinions on the OCAP, and are beyond the scope of this document. (See the recent Biological Opinions for the OCAP for extensive discussions of these related documents.) Also, it should be noted that health and safety issues are taken most seriously, and there is precedent for minimal drawdowns of reservoirs being established to protect public water supplies. Moreover, Whiskeytown Reservoir is normally kept near capacity, maximizing recreational use, as there is no compelling reason to draw it down significantly.

- (Please note: The Updated Draft EA describes cumulative effects by each resource topic. Refer to each resources topic in the Updated Draft EA.)
- 6-57: The new agreements with the McConnell Foundation and with Centerville CSD are not water service contracts; rather, they are exchange agreements. Thus, they do not fall within the scope of this EA.
- 6-58: Comment Noted
- 6-59: Comment is noted. The data presented in Table 4.3-5 was obtained directly from the California Department of Waterways to which individual districts report their water use and distribution. It is unclear why there is so great a disparity between the Department of Waterways' 1994 data for Clear Creek presumably provided by Clear Creek CSD itself and what Clear Creek CSD in its comment submits to have actually occurred. The difference is very small and has no material impact on the analysis findings. The comment is noted and correction accepted as Clear Creek is presumed to be the most credible source regarding its water usage and sales.
- 6-60: Refer to response to Comment 6-50 and 6-55.
- 6-61: The rates presented in Table 4.3.6 were drawn directly from Reclamation's 1994 CVP rate book. The reason for the disparity between the Cost-of-Service rate in this rate book for Clear Creek and the rate experience of Clear Creek noted in the comment is unclear. The difference, however, is very small, and has no material impact on the analysis findings.
- 6-62: The comment criticizes an analysis which generally asserts that the cost of water is a relatively small component of the overall cost to deliver water to M&I customers in the district and the rates paid for water by those customers. Specifically, the comment suggests that this is not the case. However, it then goes on to suggest that much of the cost to deliver water in the county and thus much of the water rates paid by district customers relate to fixed costs associated with district capital costs, capacity and equipment. This only supports the argument presented in the EA that the expense to acquire water (a variable expense depending on the amount of water) represents only a part of the cost of providing water to customers. And, therefore that relatively large percentage increase in the cost of water by and large may cause a relatively smaller percentage increase in the cost of water and thus rates charged to customers. In the case of the CCCSD, the potentially very large increase in CVP M&I water rates under Alternative 2 as compared to other Shasta-Trinity Districts will likely have a meaningful impact on individual customer cost of water in that District. However, in percentage terms, this impact will be smaller than the increase in water cost since a large component of the District's cost is attributed to non-water costs such as debt repayment on facilities.
- If in fact water users in CCCSD are using two and one-half times the water assumed in the analysis, this would have implications for the conclusions. However, even then since the cost of water is only part of the cost of providing water service the impact on rates percentage terms would be relatively lower. This noted, the assumption on average household water usage in the District adopted for the EA analysis is based directly on the assumptions adopted for the CVPIA PEIS which were derived from data for the Central Valley of California published by the State's Department of Water Resources. This approach was adopted per the instructions of Reclamation and the consultants who managed preparations of the PEIS document.
- The restoration charge was factored into the analysis, however, its impacts are minor because a restoration charge would apply under all three alternatives, including the No Action Alternative. However, under the No

Action Alternative, the Restoration Charge is assumed \$12.00 per acre-foot. Under Alternative 2, it is assumed to be \$13.50. The \$1.50 difference contributes to only a very small portion of the estimated water cost and other impacts of Alternative 2 relative to the No Action Alternative.

The assertion that CCCSD charges its M&I customers \$170 per acre foot of water is inconsistent with the District's water rates. In 2004, the District charged a base rate to its M&I customers of \$21.40 a month or \$256.80 a year for the first 200 cubic feet of water each month plus approximately \$0.40 per additional 100 cubic feet. A household that purchased one acre foot of water that year averaged a total annual bill of the \$256.80 plus the \$170, or over \$420 (about \$35 a month). Accordingly, the projected increase in CCCSD CVP M&I water cost under Alternative 2 would result in an approximately 25% increase in the average rate charged for one acre foot of consumption in the District. This is a sizeable increase and will have regional economic impacts (which are estimated in the EA analysis).

- 6-63: The district's 1996 crop census report to Reclamation showed a total of 3,931 irrigated acres: alfalfa hay – 25; other hay – 560; irrigated pasture – 1,785; firewood – 163; Christmas trees – 15; vegetables – 116; nursery – 20; fruits – 902; nuts – 115; and family gardens – 230.

The cropping pattern presented in Table 4.3-7 was obtained from Reclamation's crop report for the District, which itself was based on data submitted by the District from 1996. It is unclear why Reclamation's cropping pattern data for the District derived from a District submittal and the District's separate accounting are different.

The 3,931 acre figure in the text of the EA was also obtained from the Reclamation report for the District, although it was from a different part of that report than the cropping pattern component. It was assumed during the preparation of the EA that a portion of the District's agricultural activity was not assigned to specific crop categories by the District. If adopted, the correction proposed by CCCSD would have no meaningful impact on the findings of the analysis.

- 6-64: The entry in the table is a typographical error. Reclamation's records show that CVP water diverted in 1994 for irrigation delivery was 3,532 acre-feet.
- 6-65: Reclamation reports that it delivered 3,289 acre-feet of agricultural water to CCCAD in 1994. The 3,466 acre-feet may represent total deliveries of agricultural water by the District to its customers, including CVP and non-CVP supplies.

The 1994 cost of service rate presented in the EA was drawn directly from the 1994 CVP rate book prepared by Reclamation. There is no explanation for the difference, but if the correction proposed by CCCSD in this comment were adopted, it would not have a meaningful impact on the analysis results.

- 6-66: At the time of the EAs preparation the water needs assessments for the Shasta-Trinity region CVP contractors were not yet complete and available to Reclamations consultants, NSR. Further, the CVPIA PEIS based its analysis for the region on projections contained in the Shasta County General Plan. Accordingly, this was the approach adopted for the EA as the EA analysis necessarily needed to be consistent with (tier off of) the PEIS
- 6-67: The comment is considered reasonable. However, the EA was prepared applying the same water use models and usage assumptions adopted for the CVPIA PEIS, from which the EA is tied.

- 6-68: The comment makes several good points about the economics of ranchettes. As recreational entities, ranchettes are less price sensitive than commercial farms, but are nonetheless more sensitive than high-density developments. However, the comment argues on the one hand that high-density development would be retarded by the lack of developed infrastructure and on the other that the economics of more costly water will drive development away from ranchettes toward high-density development. Both cannot be true for the CCCSD service area as whole. Given the availability of buildable land and abundant water resources in the lowlands to the east, it seems most probable that the land development pattern will shift relatively little, with less land being irrigated, but the parcel sizes remaining large in much of the service area.

- a. The comment is duly noted and considered a reasonable concern. However, per Reclamation's directions, the EA was prepared applying the same water use models and usage assumptions adopted for the PEIS. These models did not specifically address any water and land use patterns unique to specific regions.
- b. Based on the assumptions adopted for the EA (which are consistent with those adopted in the CVPIA PEIS), the conclusions of the EA regarding demographic and land use impacts are felt reasonable. Were the assumptions regarding existing water and land use patterns altered to be consistent with the description summarized under Comment No. 6-68, it would be reasonable to expect potentially substantial demographic and land use impacts coinciding with the CVP M&I water price changes stipulated under EA Alternative 2.

- 6-69: The commentator is also speculating regarding the political motivation of Reclamation, and such speculation cannot and should not be incorporated into the EA analysis. Within the proposal to increase the agricultural acreage limitation from two to five acres it is Reclamation's intent to make agricultural water available to landowners on such small parcels for the purposes of legitimate agricultural activities. It will simply be the landowners' responsibility to reasonably demonstrate that they are or will use the requested agricultural water for agricultural purposes. If this is currently the case, as the commentator appears to indicate, there should be no meaningful land use or water user cost impact from the proposed change in acreage limitation.

Any parcels that would instantly be reclassified would be parcels for which agricultural use cannot be demonstrated. While the "satisfaction of the Contracting Office" may sound to a layman like an arbitrary standard, in fact the circumstances are quite the contrary. The negotiated contract provides specific guidelines for determining whether parcels are receiving CVP water at irrigation rates. The guidelines recognize that the CCCSD surveyed all landholdings between 2 and 5 acres during the term of its first interim renewal contract to determine if those landholders were paying the appropriate rates for CVP water. If the purpose of use has not changed since that survey was completed, those landholders will not be required to submit a new application to CCCSD to receive CVP water at irrigation rates. If the landholder, but not the purpose of use, has changed after the survey was completed but prior to execution of the renewal contract, those landholders will not be required to submit a new application requesting CVP water at the rates for irrigation water. The CCCSD will require a new application requesting CVP water at the rates for irrigation water when there is a change in ownership of any of those landholdings after the date of execution of the renewal contract.

- 6-70: The reference to significant rate increases was due to a proposed change in the rate setting policy to allow for quicker recovery of capital costs. This issue has not yet been resolved, and Reclamation is working with Contractors to determine the best method of achieving this objective.
- 6-71: Ability to pay relief is presumed to be in place for the District under all of the alternatives. Accordingly, there would be no incremental impact related to this issue under the action alternatives relative to the No Action Alternative.

Effects on drinking water and domestic usage are unlikely to be a hardship on even low-income persons, unless they use substantial amounts of water for subsistence agriculture (gardening). If that should be the case, they would be eligible to apply for agricultural rates for their lands. Thus, while impacts could be severe, it is unlikely that that possibility would actually materialize.

- 6-72: The reductions in acreage would be about 11% and 16% under average and dry hydrologic conditions, respectively, and the economic decreases would be 2% and 3%, respectively. The differences in the percentages reflect the fact that the more marginal, less productive lands are removed from production first.

While CVP water use is projected to decline substantially, the actual land under irrigation is projected to fall far less as a result due to a combination of the use of alternative supplies for irrigation and, more notably, the resulting fallowing primarily of high water consuming but marginally economical pasture lands. Accordingly, the anticipated economic impacts of Alternative 2 on the District and regional agricultural economies is relatively small. This is not to suggest that individual farmers will not be directly impacted by the projected increase in the cost of water, only that in aggregate the implications for the area's agricultural economy should be limited given the preponderance of low profit high water consuming pasture.

- 6-73: Correction is noted.
- 6-74: Comment is noted. Refer to responses 6-44 and 6-69.
- 6-75: Comment is noted. Analyses of impacts at both the county and District levels are of interest. On the one hand, as noted, the economic effects on the Redding area would be modest, but the effects on the amount of pasture in the CCCSD would be on the order of 40%. However, pasture is a low-value crop and as the commenter has repeatedly noted in earlier comments, a declining land use in these districts which are in transition to M&I use. To the extent that the water is being applied to good-quality lands and is being used for agriculture rather than equine recreation, it is probable that raising water rates is likely to be reflected in a shift to higher value crops marketable in the rapidly growing local urban markets. The Happy Valley area is already one of the centers for small-scale farming in which produce is marketed at farmers' markets in Redding. An increase in water prices would tend to shift farming from pastures to vegetables, although fallowing of lands would also be expected.
- 6-76: The BA for the Shasta and Trinity River Divisions long-term water service contract renewals was completed in August 2003.
- 6-77: Refer to response 6-69.
- 6-78: The proposed contracts would treat all residents of the CCCSD in the same way, and the CCCSD would be treated the same as all other districts. There would be no differential application of the law and resultant regulations and policies. It is true that increased costs would affect low-income persons more than high-income persons, just as is true of sales taxes. However, the law is being applied evenly and, as noted in response 6-71, it is unlikely that severe, unmitigated impacts would occur.
- 6-79: The EA does not analyze the operational aspects or impacts of other CVP projects. This EA tiers off the PEIS to evaluate potential site-specific environmental impacts of renewing the long-term water service contracts for the Shasta and Trinity River Division Contractors. The purpose of this project is to renew water service contracts, consistent with the provisions of CVPIA. The project alternatives include the terms and conditions of the contracts and tiered water pricing. Operational protocols of other related CVPIA activities are not

associated operational changes; the overall implications of are discussed in the 2004 OCAP Biological Opinions.

- 6-80: See response to comment 6-1.

- 6-81: Comment is noted.



LETTER 7

- Board of Directors**
- Nadine Bailey
Timber Ass'n MI & WI
 - Daniel Buckley, III
Tributary Whitewater Tours
 - Glenn Burton
Blue Ridge Landscaping
 - Herb Burton*
Trinity Fly Shop
Angling Experiences
 - Paul Caranese*, CPA
D.H. Scott & Co.
 - Norman Christensen*, M.D.
Retired Surgeon
 - Jud Ellinwood*
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Federation
 - Troy Fletcher*
Yurok Tribal Fisheries
 - Robert Franklin
Hoopa Valley Tribal Fisheries
 - Zake Grader*
Pac Coast Federation
of Fishermen's Associations
 - Don Johnson
Professional Fishing Guide
 - Byron Leydecker*
Retired Bank CEO
 - William Morrish*
Retired Insurance Executive
 - Seth Norman
Author, Associate Editor
California Fly Fisher
 - Jaime O'Donnell
Aurora River Adventures
 - Gary Seput*
Owner, Sam's Grill
 - Tom Weselch*
California Trout
 - Alfred Wilkins
Attorney
 - Ethan Winterling
Educator

*Executive Committee

Bureau of Reclamation
Mid-Pacific Division
Attn: Al Candlish
2800 Cottage Way
Sacramento, CA 95825-1898

December 5, 2000

Ladies and Gentlemen:

This letter is to offer our comments on the draft Environmental Assessments (EAs) for the renewal of existing long-term contracts for Central Valley Project (CVP) water service.

First, let me say that the proposed contracts are a great disappointment given the contract parameters set forth by the Interior Department at its initial public session in Sacramento. These proposals honor those guidelines in the breach.

EAs for contracts that run for a 25-year period, with the promise of additional contract renewals thereafter, are inadequate as environmental documents. A comprehensive Environmental Impact Statement (EIS) should be completed to comply with the law.] 7-1

Interior reversed its position, at the eleventh hour and without adequate public review and input, and changed contract terms so that the "contract total" for water quantities would be unchanged from existing contracts. Existing contracts that include this "paper water" has resulted in contracts for water delivery well beyond available CVP supplies.] 7-2

Interior also reversed its position at the eleventh hour, again without adequate public review and input, of the tiered pricing provisions of the Central Valley Project Improvement Act (CVPIA) so that these provisions would apply only to the "contract total," not the "base" water supply.] 7-3

The EAs do not adequately analyze the effects of either of the two draft policies in the paragraphs above. In addition, the EAs do not analyze adequately the cumulative effect of applying these policies to remaining CVP water service delivery contracts not yet the subject of renewal – in other words, all CVP water service contracts.] 7-4

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Bureau of Reclamation
December 5, 2000
Page two

In addition, the failure to analyze a full range of alternatives, especially alternatives with reduced water quantities, renders all of the EAs inadequate.] 7-5

The effect of the contracts upon endangered species is a critical environmental impact that must be analyzed. However, the public has received inadequate information about those impacts. This omission includes impacts upon the endangered Trinity River Coho salmon, as well as its threatened Steelhead. The public also has not received adequate information about the extent to which the Bureau of Reclamation (Bureau) is in compliance with previous Endangered Species Act (ESA) requirements applicable to existing contracts.] 7-6

The contracts should be renegotiated with reduced water quantities that better reflect both reality and competing water needs, and at higher prices that implement CVPIA tiered pricing requirements properly, and in the spirit of that law, as well as CALFED's "beneficiary pays" requirements.] 7-7

Yours very truly,

Byron W. Leydecker
Chair

BWL/mw

- cc: The Hon. Dianne Feinstein
The Hon. Barbara Boxer
The Hon. George Miller
The Hon. Mike Thompson
The Hon. Ellen Tauscher
Ms. Mary Nichols
Ms. Felicia Marcus
Mr. Mike Spear

Responses to Comment Letter 7 – Friends of the Trinity River (2000)

- 7-1: See response to comment 6-1. Also note that subsequent renewals would, like this one, require environmental reviews unless the laws are changed.
- 7-2: Comment is noted. Although the water service contracts remain unchanged, three other contracts had negotiated reductions in the volumes of water under contract.
- 7-3: Comment is noted. This appears to be a comment on policy rather than a NEPA-related issue.
- 7-4: The cumulative effects of the CVP as a whole were addressed in the PEIS for implementation of the CVPIA. Analysis of potential impacts on all CVP contracts is beyond the scope of the action analyzed in this EA. The purpose of the project is to renew Shasta and Trinity River Divisions' water service contracts to be consistent with section 3404(c) of the CVPIA. This EA evaluates the effects of renewing existing long-term contracts with financial and administrative changes but with no changes in either the volumes of water under contract or the places of use. The EA concerns Reclamation's continued delivery of CVP water.
- 7-5: Pursuant to NEPA, the EA is required to consider reasonable and feasible alternatives that meet the purpose and need for the proposed action. Existing laws, such as the Reclamation Project Act of 1956 and the Reclamation Project Act of 1963, mandate renewal for existing contract quantities when the federal water will be provided for "beneficial uses." The two action alternatives analyzed in the EA provide a reasonable range of alternatives that meet the purpose and need for the proposed action.
- 7-6: The Updated Draft EA and Final EA discuss biological effects to plants, invertebrates, amphibians, reptiles, birds, mammals, and fish. The biological effects that would occur as a result of implementing contract provisions proposed under the action alternatives compared to the No Action Alternative are limited and do not amount to significant negative impacts.

The diversion and use of water are on-going actions. The PEIS analyzed the cumulative effects of long-term contract renewals on a regional basis, and environmental impacts were discussed in detail in the BA/EFHA dated August 2003. Because the contract renewals maintain the status quo for water deliveries under ongoing CVP operations, and in essence change only the legal and financial arrangements of a continuing action, they do not contribute to cumulative effects in any demonstrable manner.

The Updated Draft EA analyzes the impacts of the alternatives on special-status species. The BA/EFHA (August 2003) was submitted to the USFWS and NOAA Fisheries. ESA consultation between Reclamation and these agencies was performed and is discussed in Chapter 6 of this Final EA.

- 7-7: Refer to response 7-5.

programs that are designed to experimentally compare selected policies or practices, by evaluating alternative hypotheses about the system being managed.

We recommend that Reclamation refer to the Glen Canyon Dam Adaptive Management Program, administered by Reclamation's Upper Colorado Regional Office in Salt Lake City, Utah, for guidance, as this program is the most detailed and comprehensive illustration of the adaptive management techniques in use today to manage fish and wildlife resources and overall health of these ecosystems. Note also that the CALFED Bay-Delta Program utilizes an adaptive management approach, which can provide guidance for the language of the program within the final CVPIA Long-Term Contract Renewal drafts, and to which the CVPIA areas may already be legally bound under the programs of CALFED. The affected CVPIA areas will benefit greatly by the inclusion of an adaptive management process that will increase the overall health of the Central Valley, its ecosystems, and its natural resources.

WEST SACRAMENTO CANALS

Reviewing the overall goals of alternatives for the West Sacramento Canals EA, the No Action Alternative and Alternative 1 apparently will have the same impacts. We are concerned about the reductions in CVP deliveries that may lead to increases in ground water use. This may have an adverse effect on nearby projects where their use of surface water, rather than ground water, may affect water quality or biological resources. As mentioned above, a more detailed system of water use and water transfer monitoring may help alleviate adverse water quality and biological resource impacts by balancing the use of surface and ground waters.

Under Alternative 2, it is determined that it would bring in a lower Total Gross Value Production as projected for Alternative 1. The region's agricultural output could decrease by 5%, further lowering potential revenues and could decrease employment by 2.6%. Of the biological species, the food sources of the Aleutian Canada goose and the sandhill crane are threatened under this alternative. Consequently, there is a greater potential for removing land from agricultural production, which may negatively impact the preservation of cultural resources and possibly lead to increased land erosion. From a biological resource perspective, however, this option should seriously be considered in any Preferred Alternative to decrease water usage in the District and allow for more water storage and to limit the effects of agricultural runoff in the District.

FEATHER WATER DISTRICT

Concerning the Feather Water District, the main considerations for other agencies, such as biological considerations, water transfers, and the balance of water distribution among competing demands by CVPIA are not addressed in this EA since they require further documentation. FWS and others should be kept advised of the preparation of these materials. The PEIS reallocated CVP water deliveries from the Feather for fish and wildlife purposes. Thus, Feather's supply of water from CVP has decreased. The EA makes no mention of how the water demand is currently being met.

DELTA-MENDOTA CANAL

In the Delta-Mendota Canal EA, Alternative 1 offers no significantly different impacts from a "no-action" alternative with the exception of geology, groundwater levels, and biological resources. Under Alternative 1, increased groundwater pumping could increase land subsidence, depending on the amount of surface water utilized. The report does not, however, acknowledge the presence of the threatened or endangered species that exist within the Delta-Mendota project area or their critical habitats in the area.

Impacts of Alternative 2 are essentially similar to those in Alternative 1 (including impacts noted above). Additionally, Alternative 2 has a more noticeable effect on agriculture: value of production ranges from -\$1.0 million in an average year (following a dry, five-year period) to a +\$1.2 million during a dry year. There is also a potential increase in unemployment for the region ranging from 120-420 jobs being lost in the region.

CROSS VALLEY CONTRACTORS

Pertaining to the Cross Valley Contractors EA, the impacts anticipated from Alternative 1 and the No Action Alternative are similar. Water quality and supply will remain relatively unchanged. Potential differences in supply due to conditions in a dry year as compared to a wet year are less than 3% of the current levels. Water quality, however, is questionable. Because the average delivery south of the Delta is projected to decline, this may increase ground water demands and may result in application of water of a lesser quality than surface water. Although existing fisheries and biological habitats are likely to experience minimal direct and indirect impacts under these alternatives, more explanation is suggested in this EA to focus on improving water quality for biological resources and municipal uses. Finally it appears that the socio-economic situation in the region will be unaffected by these alternatives.

Under Alternative 2, less ground water pumping may allow farmers to switch to better-quality surface water. More significant changes under Alternative 2 involve biological "resuscitation," where additional water costs could result in an increase in the amount of land left fallow, thereby improving restoration possibilities in the area and the ability to return fallow lands to their natural non-agricultural condition. However, this could also diminish opportunity to increase wetland habitat in the affected area. Total possible economic changes are less than 1%, which provide ample opportunity to increase critical habitat without adversely affecting the regional economy.

FRIANT DIVISION

The Friant Division EA is particularly complete in its analyses of impacts upon its region's communities, economy and natural resources. We note the painstaking detail used to describe the impacted environments in the Friant area and that well-planned alternatives to address direct and indirect environmental impacts are included. We particularly note Section 3 of this document,

pertaining to Affected Environment and Environmental Consequences of the Friant area. We are pleased to note the burgeoning programs in place for biological resource conservation and habitat restoration, specifically the Anadromous Fish Restoration Program. There are concerns, however, about how issues of water quality, drastically fluctuating water levels, excessive harvesting of fish, limited cover and spawning habitats will be addressed throughout the 25 year contract term. Data on the potential for adverse and positive impacts on these fish populations are provided, but we recommend including more detailed comment on active alternatives to address these natural resource concerns.

In Section 3, Ground Water Resources, there is analysis on possible recharging of already depleted and overused ground water sources, but no concrete program to ensure that ground water will be replenished throughout the Friant Division area. We suggest greater emphasis on recharging and limiting draw on ground water supplies. Further, this section should emphasize what can be done to abstain from excessive groundwater use, including limiting use in wet years, among Friant Division agricultural and industrial water users, particularly when attempting to implement riparian habitat restoration programs that will require additional water resources.

In the section on the Environmental Consequences of the Fisheries Resources commentary in this EA, adverse consequences upon the fisheries are likely to occur whenever CVP water is purchased. We are concerned that these purchases will occur randomly and intermittently, and will likely harm the regeneration and maintenance of the fish populations discussed in this section. We would like to see some mention of how the water purchasing and corresponding flow increases or decreases can be "controlled" or monitored to give the greatest opportunity for these fish populations to regenerate.

Overall, Friant water usage policies, especially those related to ground water levels and usage (Section 3) need to ensure that Friant usage will not interfere with Cross Valley Canal Unit or Delta-Mendota Canal supplies and usage.

SAN FELIPE DIVISION

The San Felipe EA addresses the topic of adaptive management, referring to the Vernalis Adaptive Management Plan, taking into account protective measures for fall-run Chinook salmon. In Chapter 4, Reclamation notes that the existing and projected water demands assume implementation of long-term water conservation programs, thus during periods of drought, the ability to reduce demand for water is limited. San Felipe is not the only project that includes water conservation measures. The hardening of demand especially in dry-dry years is an important consideration for all the projects and for their inter-relatedness. We are also concerned that threatened and endangered species in the area will encounter adverse direct and indirect environmental impacts from the project as currently drafted.

CONTRA COSTA CANAL

Contra Costa County's demand for water is expected to grow with continued development, particularly in the eastern portion of the county. The Future Water Supply Study prepared in 1996 calls for the purchase of water transfers, which require separate environmental documentation and therefore were not included in Alternative 1 or Alternative 2. Further analysis of water transfers should be included in the overview assessment of these eight EAs. Moreover, the main difference between alternative 1 and alternative 2 lies in the pricing of water for agricultural needs, while development in the county is mostly coming from the redevelopment of farmland into residential and commercial districts.

SHASTA/TRINITY DIVISIONS

Regarding commentary to specific provisions of the Shasta and Trinity Divisions EA, our analysis primarily focused on Chapter 4, dealing with environmental effects and consequences, however we have a brief comment on earlier sections of this document. In Chapter 2, it is stated that the dispute resolution provisions in the Shasta/Trinity Contract Renewal are only included in Alternative 1. Noting the currently tumultuous state of California water policy, we suggest this be a provision included within the final Contract Renewals, and not simply limited to Alternative 1. Regarding Chapter 4, Reclamation has completed a thorough and well-planned assessment of the impacts to this region, particularly in the areas of water usage, pricing, costs, and the effects upon the local economies.

8-7

Among the given contract renewal alternatives, it appears alternative 2 provides greater opportunity to allow for land fallowing to divert water to other municipal and industrial uses that are expected to increase in the evaluated area for the next 25 years as agriculture will decline. Consequently, options for use of the water saved from land fallowing for habitat and ecosystem restoration should be clearly delineated within Sections 4.4 and 4.5.

8-8

In 4.5.1, Affected Environment, the EA explains that there are "vegetation and wildlife resources that potentially may be affected by" the CVPIA within the Redding Basin area involved in the Shasta and Trinity Divisions. Exactly how these natural resources are affected by the project is not clear in this EA's analysis. The species affected are well detailed in the EA, but how their habitats are impacted by the project is not sufficiently detailed in this section or in the following Environmental Consequences section.

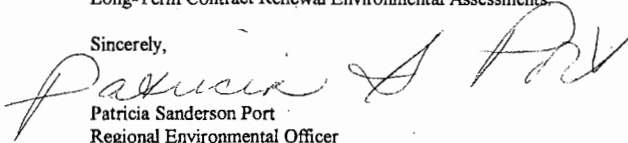
8-9

Thus, we recommend more detail on how the CVPIA Contract Renewals impact these flora and fauna. Pertaining to drafting edits in the same section, Table 4.5-1 repeats the Woodland Habitat Type three times, and the explanation of the Aquatic Habitat Type is cut off in mid-sentence (page 4.5-3). Otherwise, Chapters 4 and 5 appear to have complete analyses of the potential impacts the CVPIA Contract Renewals may have upon Shasta and Trinity Division-area resources.

8-10

We again thank Reclamation for the opportunity to provide comment on the eight CVPIA Long-Term Contract Renewal EAs, and urge Reclamation to seriously consider the suggestions made above and include them within the final CVPIA Contracts. Please feel free to contact us at (415) 427-1477 if you have any questions or require clarification on the above comments to the CVPIA Long-Term Contract Renewal Environmental Assessments.

Sincerely,

A handwritten signature in cursive script, appearing to read "Patricia A. Port".

Patricia Sanderson Port
Regional Environmental Officer

cc:

Laura Fujii, U.S. Environmental Protection Agency, Federal Activities Office
Dr. Theresa Presser, U.S. Geological Survey, Western Regional Office
Joy Winckel, U.S. Fish and Wildlife Service, Sacramento Office

Responses to Comment Letter 8 - USDI, Office of Environmental Policy and Compliance (2000)

- 8-1: Comment is noted.
- 8-2: Comment is noted. The subject of this EA is the renewal of existing contracts with financial and administrative changes but no changes in either the volumes of water under contract or the places of use. The analysis in the EA concerns Reclamation's delivery of CVP water, not the operations criteria or impacts of water transfers.
- 8-3: Comment is noted.
- 8-4: The subject of this EA is the renewal of existing contracts with financial and administrative changes but no changes in either the volumes of water under contract or the places of use. The analysis in the EA concerns Reclamation's delivery of CVP water, not the operations criteria or impacts of water transfers.
- 8-5: See response to comment 7-6.
- 8-6: Comments are noted. Adaptive management programs are included in the overall implementation of the CVPIA, and are specified in the CVPIA PEIS Record of Decision under Section 3406(b)(1) – Anadromous Fish Restoration Program and Section 3408(h) – Land Retirement Demonstration Study.
- 8-7: Suggestion is noted. Refer to "Article 33 – Resolution of Disputes" included in each negotiated contract.
- 8-8: Comment is noted. The subject of this EA is the renewal of existing contracts with financial and administrative changes but no changes in either the volumes of water under contract or the places of use. The comment regarding the need to delineate options for use of water saved from land fallowing for habitat and ecosystem restoration is outside the scope of this document.
- 8-9: See response to comment 7-6.

Regarding Table 4.5-1, this table was replaced in the Updated Draft EA with a different vegetation classification.



LETTER 9

NATURAL RESOURCES DEFENSE COUNCIL

December 7, 2000

Bureau of Reclamation
Attention: Mr. Al Candlish
2800 Cottage Way
Sacramento, CA 95825-1898

Dear Mr. Candlish:

On the behalf of its more than 400,000 members, the Natural Resources Defense Council ("NRDC") hereby files its comments on the draft environmental assessments ("EAs") on long-term renewal of Central Valley Project water service contracts prepared by the Bureau of Reclamation ("the Bureau").

We are deeply disappointed by the Bureau's inadequate attempts to comply with the National Environmental Policy Act ("NEPA"), 42 U.S.C. § 4321 *et seq.*, in its proposed long-term renewal of CVP contracts. First, we strongly object to the Bureau's failure to prepare an environmental impact statement on these proposed agency actions that would have significant, far-reaching and fundamental effects. Second, the EAs themselves fail to meet the requirements of NEPA and cannot possibly support a finding of no significant impact by the Bureau. We urge the Bureau in the strongest possible terms to prepare NEPA documentation on long-term contract renewal which comports with the law, as these EAs emphatically do not.

9-1

9-2

I. The Bureau Must Prepare an Environmental Impact Statement on the Proposed Long-Term Contract Renewals.

NEPA requires federal agencies to prepare a detailed environmental impact statement ("EIS") on all "major Federal actions significantly affecting the quality of the human environment." 42 U.S.C. § 4332(2)(C). The purpose of this mandatory requirement is to ensure that detailed information concerning potential environmental impacts is made available to agency decisionmakers and the public before the agency makes a decision. Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 349 (1989).

9-1

Under NEPA's procedures, an agency may prepare an EA in order to decide whether the environmental impacts of a proposed agency action are significant

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Comments on Environmental Assessments on Long-Term Contract Renewal
December 7, 2000
Page 2

enough to warrant preparation of an EIS. 40 C.F.R. § 1501.4(b), (c). An EA must "provide sufficient evidence and analysis for determining whether to prepare an [EIS] ..." 40 C.F.R. § 1508.9(a)(1). The U.S. Court of Appeals for the Ninth Circuit has specifically cautioned that "[i]f an agency decides not to prepare an EIS, it must supply a convincing statement of reasons to explain why a project's impacts are insignificant." Blue Mountains Biodiversity Project v. Blackwood, 161 F.3d 1208, 1212 (9th Cir. 1998) (internal quotation marks omitted), cert. denied, 527 U.S. 1003 (1999). To successfully challenge an agency decision not to prepare an EIS, a plaintiff need not show that significant effects will in fact occur. So long as the plaintiff raises "substantial questions whether a project may have a significant effect on the environment," an EIS must be prepared. Id. (emphasis added, internal quotation marks omitted).

The long-term renewal contracts proposed by the Bureau are virtually certain to have a significant effect on the environment if they are executed. Collectively they cause the diversion of millions of acre-feet of water each year from the natural environment to (primarily) agricultural water users in the Central Valley, for use (primarily) in irrigated agriculture that itself has significant environmental impacts. The Bureau simply cannot, consistent with NEPA, allow these environmental impacts to escape full analysis in an EIS on long-term contract renewals.

A. There is Ample Evidence That Long-Term Renewal Contracts Would Have Significant Environmental Effects.

The Bureau has failed to meet its duty under governing Ninth Circuit precedent to supply a convincing statement of reasons why the execution of long-term renewal contracts would have insignificant environmental effects. By contrast, there is ample reason to believe that executing contracts for delivery of millions of acre-feet of water annually for an effective duration of 50 years would have a significant impact on the environment.

The U.S. Fish and Wildlife Service has recently completed a biological opinion on, among other things, the continued operation and maintenance of the Central Valley Project ("CVP"). U.S. Fish and Wildlife Service, Biological Opinion on Implementation of the CVPIA and Continued Operation of the CVP (November 2000).¹ This biological opinion describes in some detail the adverse environmental consequences that have been caused by the Central Valley Project, consequences that include harm to fish and wildlife from actions such

¹ We incorporate by reference this biological opinion in these comments. We also incorporate the documents referenced in that biological opinion, including the prior biological opinions on the Central Valley Project listed in section 1 of the November 2000 biological opinion.

10-14-00/1204

as water diversion, impoundment, pumping and conveyance; from habitat conversion; from the effects of agricultural drainwater; and from urbanization. All of these effects constitute effects of CVP water service contracts, since they are the consequences of the provision of water under these contracts. See 40 C.F.R. § 1508.8 (defining effects required to be analyzed under NEPA to include indirect as well as direct effects). Because these effects on the environment are significant, they and other effects of signing long-term renewal contracts for the provision of CVP water must be analyzed in an EIS.

Other evidence of significant environmental effects from long-term water service contracts include the evidence submitted by the plaintiffs in *NRDC v. Patterson*, No. Civ. S-88-1658 LKK (E.D. Cal.), which we also incorporate in these comments by reference. The main point here is an obvious one: Through the proposed contracts, the Bureau is proposing to commit to the diversion of millions of acre-feet of water from the natural environment and to the delivery of that water to farms and cities for a nominal period of 25 years and an effective period of 50 years (given the right of renewal contained in the contracts). Activities of this scale and type cannot help but have significant environmental impacts, particularly in light of the significant impacts that have occurred to date under the current and previous CVP water service contracts. Moreover, the scale and duration of the activities that would be committed to under the proposed contracts threaten to cause a deterioration in the current state of the environment, as the environmental effects of the activities mandated under the proposed contracts are added to the environmental harm that has been caused to date under the current and previous contracts. For all these reasons, the Bureau must prepare an EIS on long-term contract renewal.

B. NEPA's Regulations Make Clear That an EIS Must Be Prepared Here.

NEPA's implementing regulations list a variety of factors that federal agencies are required to consider in determining whether a proposed action may significantly affect the environment and hence must be the subject of an EIS. 40 C.F.R. § 1508.27. While the Bureau has failed to undertake an adequate evaluation of these factors here, nearly all of the factors (any one of which is sufficient to require preparation of an EIS) are satisfied in the case of the proposed long-term contracts. For example:

- Water pollution from agricultural drainwater, which is triggered and would be made possible by the delivery of water under the proposed contracts, "affects public health" in a substantial way. See 40 C.F.R. § 1508.27(b)(2).

- The area to be served under the proposed contracts is in "proximity" to "prime farmlands," "wetlands" (including riparian wetlands), and "ecologically critical areas" (such as the Sacramento-San Joaquin Delta). See *id.* at 1508.27(b)(3).
- The effects of the water diversions, impoundments and deliveries required under the proposed contracts, and the consequences of the irrigated agriculture made possible by deliveries pursuant to the contracts, "are likely to be highly controversial." See *id.* at 1508.27(b)(4).
- The "possible effects" of the activities and actions made possible by the proposed contracts "are highly uncertain or involve unique or unknown risks," especially in light of the lengthy duration of the contracts. See *id.* at § 1508.27(b)(5).
- Since numerous CVP contractors are not prepared to sign long-term renewal contracts at the present time and will negotiate such contracts in the future, executing the proposed contracts would "establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration." See *id.* at § 1508.27(b)(6).
- In light of the environmental effects that have occurred from CVP operations to date, and in light of the long duration of the proposed contracts (during which many additional actions will necessarily be taken), the proposed contracts are related to other actions with "cumulatively significant impacts." See *id.* at § 1508.27(b)(7).
- In light of the well-established adverse effects of CVP activities on threatened and endangered species and their habitat, as shown by the biological opinions cited previously in this letter, the proposed contracts "may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973." See *id.* at § 1508.27(b)(8).

The evidence in favor of an EIS being required here is overwhelming – particularly since "the threshold for requiring an EIS is quite low." *NRDC v. Duvall*, 777 F. Supp. 1533, 1538 (E.D. Cal. 1991). In that same case, Chief Judge Emeritus Karlton further held that:

only in those obvious circumstances where no effect on the environment is possible, will an EA be sufficient for the environmental review required by NEPA. Under such circumstances, the conclusion reached must be close to self-evident ...

Id. We urge the Bureau in the strongest terms to prepare the required EIS on the proposed long-term contract renewals, in order to comply with the requirements of NEPA.

II. The Environmental Assessments Fail to Meet the Requirements of NEPA.

Even if an EIS were not clearly required here, the EAs prepared by the Bureau are so inadequate as to violate NEPA on their own. They fall far short of the analysis that is necessary to meet NEPA's requirements and to support a finding of no significant impact.

A. The EAs Fail to Consider a Reasonable Range of Alternatives.

NEPA's implementing regulations call analysis of alternatives "the heart of the environmental impact statement," 40 C.F.R. § 1502.14, and they specifically require an alternatives analysis within an EA, *id.* at § 1508.9. The statute itself specifically requires federal agencies to:

study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning available uses of resources.

42 U.S.C. § 4332(2)(E). Because the Bureau's EAs on long-term contract renewals look only at a narrow range of alternatives and fail to evaluate numerous reasonable alternatives, the EAs violate NEPA.

The caselaw makes clear that an adequate alternatives analysis is an essential element of an EA, in order to allow the decisionmaker and the public to compare the environmental consequences of the proposed action with the environmental effects of other options for accomplishing the agency's purpose. In a leading NEPA case in which it overturned an EA for failure to consider alternatives adequately, the Ninth Circuit pointedly held that "[i]nformed and meaningful consideration of alternatives ... is ... an integral part of the statutory scheme." Bob Marshall Alliance v. Hodel, 852 F.2d 1223, 1228 (9th Cir. 1988), *cert. denied*, 489 U.S. 1066 (1989). To meet NEPA's requirements an EA must consider a reasonable range of alternatives, and courts have not hesitated to overturn EAs that omit consideration of a reasonable and feasible alternative. See People ex rel. Van de Kamp v. Marsh, 687 F. Supp. 495, 499 (N.D. Cal. 1988); Sierra Club v. Watkins, 808 F. Supp. 852, 870-75 (D.D.C. 1991).

Each of the contract-renewal EAs considers only two alternatives, in addition to the no-action alternative. Given the scope and importance of the proposed agency action under review, this small number of alternatives is by itself a violation of NEPA's requirement to consider a reasonable range of alternatives. What makes matters worse is the similarity

between the alternatives that the EAs do consider. For example, each of the alternatives, the two action alternatives and the no-action alternative, specify exactly the same quantities of water under contract. The similarities between the alternatives, though, do not stop with water quantity. The summary tables that compare the alternatives repeatedly use the phrases "Same as NAA [No Action Alternative]," "Similar to NAA" and "minor changes" to describe the components of the alternatives. See, e.g., Draft Friant Division Long-Term Contract Renewal Environmental Assessment ("Friant EA"), at Table DA-1.² See also *id.* at 3-57 ("The impacts of EA Alternative 1 are assumed to be identical to the impacts to [sic] the NAA because the water supply and pricing scenarios are identical in both alternatives. The only differences in the alternatives are administrative."), 3-58 ("the NAA and Alternative 1 are assumed to have the same environmental consequences because of their similarities and the fact that the only differences are contractual arrangements among the parties to the contracts").

In addition to considering too few alternatives that are too similar to each other, the EAs reject or ignore several obvious and reasonable alternatives. These unexamined or rejected reasonable alternatives include:

- Alternatives that decrease the water quantities under contract. Each of the alternatives in the EAs contains the exact same water quantities that are currently under contract. It plainly is reasonable for the Bureau to consider and evaluate the option of changing those quantities. The Bureau should consider changing the contract quantities to (a) a level that matches the actual level of deliveries in recent, normal water years, and (b) a level that would leave a meaningfully larger amount of water in the environment compared with current use, so that the EAs can illustrate the choices and consequences between consumptive and nonconsumptive uses of water. The EAs' rejection of the alternative of reducing water quantities, see, e.g., Delta-Mendota Canal Unit Environmental Assessment, Long-Term Contract Renewal, at 2-9, ignores the fact that such an alternative is reasonable and accords with the purpose and need for the agency action under evaluation. See also 40 C.F.R. § 1502.14(a) (agencies must "[r]igorously explore and objectively evaluate all reasonable alternatives").
- An alternative that increases the cost of water to full market rates. Each of the action alternatives in the EAs charges the minimum price for water under the contract. The Bureau should evaluate at least one alternative that prices water at the level the water

² The EAs are all very similar. Thus, each of the comments contained in this letter applies equally to each of the EAs. Each citation to a specific EA is intended as an illustration and in no way suggests that the comment is restricted to that particular EA.

would receive on the open market.³ At a minimum, the Bureau must consider price increases that would "encourage the full consideration and incorporation of prudent and responsible water conservation measures." Reclamation Reform Act of 1982, Sec. 210(a), 43 U.S.C. 390j(a).

- An alternative that does not give the contractor a specific right to renew the contract. (While it is possible that there is no right of renewal contained in Alternative 2, the EAs do not make this clear and do not analyze the environmental consequences of this difference, if it does exist in the alternative.)
- Alternatives that affirmatively mandate or encourage increased water conservation by water users, through (a) aggressive, prescriptive requirements for water conservation and (b) through financial incentives for water conservation.

Each of the above reasonable alternatives can and should be analyzed and considered for contracts in each of the CVP divisions. In addition, for contracts in each individual division the Bureau should consider at least one strongly environmentally protective alternative that is tailored to the leading environmental problem relating to the operation of that division. So, for example, the Bureau's NEPA analysis for long-term renewal contracts for the Friant Division should consider at least one alternative that conditions the provision of water service on effective restoration of the San Joaquin River and/or creates specific incentives in the contract for restoration of the river.⁴ As a further example, the NEPA analysis for the Delta-Mendota Canal Unit should consider at least one alternative that conditions the provision of water service on discrete improvements in protection and restoration of the Sacramento-San Joaquin Delta and/or creates specific incentives in the contract for such increased environmental protection and restoration of the Delta.

The EAs prepared by the Bureau fail to evaluate a reasonable range of alternatives and hence violate NEPA. We urge the Bureau to prepare NEPA documentation for long-term contract renewals that meets NEPA's requirements for alternatives analysis and that, at a minimum, fully analyzes the alternatives described above.

³ The Bureau clearly has discretion to consider higher prices. See, e.g., Reclamation Project Act of 1939, sec. 9(e), 43 U.S.C. 495h(e) (rates shall be "at least sufficient to cover an appropriate share of the annual operation and maintenance cost..."); Reclamation Reform Act of 1982, sec. 208(a), 43 U.S.C. 390hh(a) ("the price...shall be at least sufficient to recover all operation and maintenance charges..."); see also *NRDC v. Houston*, 146 F.3d 1118, 1125-26 (9th Cir. 1998) (Bureau has discretion over terms of renewal contracts, including price and quantity).

⁴ The Friant EA fails to conduct an adequate analysis of the effect of the proposed contracts on the San Joaquin River and on restoration of the river.

B. The EAs Fail to Disclose and Analyze Adequately the Environmental Impacts of the Proposed Action.

NEPA's implementing regulations require that an EA "provide sufficient evidence and analysis for determining whether to prepare an [EIS]." 40 C.F.R. § 1508.9(a). For the reasons discussed above, the EAs fail to discuss and analyze adequately the environmental effects of long-term contract renewals. Courts have not hesitated to overturn EAs that fail to contain an adequate discussion of the environmental consequences of a proposed agency action, e.g., *Foundation on Economic Trends v. Heckler*, 756 F.2d 143 (D.C. Cir. 1985), and the EAs prepared by the Bureau here deserve that same fate.

The discussion and analysis of environmental impact contained in the EAs is cursory and inadequate, and it falls far short of NEPA's requirements. As an example, the discussion of water-quality impacts contained in the Friant EA shows the cursory and conclusory "analysis" contained in all of the EAs. First, the analysis is breathtakingly brief, occupying a single page with considerable space between the short paragraphs – a plainly inadequate treatment in light of the great importance of water quality to public health and the environment. Friant EA at 3-34. Second, the analysis essentially says that there will be no change in water quality impacts under the No Action Alternative and Alternative 1 – without describing in any meaningful way what the qualitative impacts of existing water quality is on human health and the environment and why those impacts will not change for better or for worse. *Id.* The six-sentence analysis of the effect of Alternative 2 appears to say that this alternative would cause some changes, but the EA fails to describe what those changes would mean for human health and environment. *Id.*

This plainly inadequate discussion of environmental impacts is, sadly, far from an isolated example. For example, the same document's discussion of fishery impacts occupies approximately a page and a half and concludes (with no analysis), for the no-action alternative and for Alternative 1, that there would be "no impacts to fishery resources" – a conclusion based apparently on the logic that no changes in environmental impacts from the current effects equals no environmental impacts at all. *Id.* at 3-48. On the next page, the EA presents the amazing, thoroughly unsupported statement that "Alternative 1 and 2 have little or no effect on surface water quantities and flows," *id.* at 3-49, despite the fact that both alternatives would result in the diversion and delivery to irrigated agriculture of more than a million acre-feet of water each year for 25 or 50 years. Elsewhere in the same document, the Bureau presents the astonishing and unsupported statement that "Alternative 1 is assumed to have similar effects to the NAA. Therefore, there are no impacts to biological resources under this alternative." *Id.* at 3-76.

In addition to failing to disclose or to analyze adequately the environmental effects of the proposed contracts, the EAs impermissibly restrict the timeframe of their analyses. None of the study periods extends forward more than 25 years, e.g., Friant EA at 1-4, despite the fact that each of the contracts contains an easily satisfied conditional right of renewal that means that the likely and effective duration of these contracts would be 50 years. By failing to analyze the environmental effects of the contracts in the likely event that they are renewed under the right of renewal contained in the contracts, the Bureau has violated NEPA.

We urge the Bureau to prepare NEPA documentation that adequately discloses and analyzes the environmental effects of the contracts over the full lifetime of the contracts, including the renewal period, as the draft EAs do not.

C. The EAs Fail to Analyze Cumulative Impacts Adequately.

These proposed long-term renewal contracts do not exist in a vacuum but instead add to more than half a century of environmental impacts from the construction, operation and maintenance of the CVP. The fact that these contracts would operate for at least a quarter century, and likely then would be renewed for another quarter century, means that their environmental effects will also be added to additional actions that will take place over the next 50 years. These facts make an adequate analysis of cumulative impacts especially important for these proposed contracts.

The Ninth Circuit has made clear that NEPA mandates "a useful analysis of the cumulative impacts of past, present and future projects." Muckleshoot Indian Tribe v. U.S. Forest Service, 177 F.3d 800, 810 (9th Cir. 1999). That Court has further directed that "[d]etail is required in describing the cumulative effects of a proposed action with other proposed actions." Id. The very cursory cumulative-effects discussions contained in the EAs plainly fail to meet these standards of adequacy.

The cumulative-effects discussions contained in the EAs are cursory, unanalytic, unenlightening, and often illogical. Here, in full, is the Friant EA's cumulative effects "analysis" of the proposed contracts' cumulative effects on surface water:

The cumulative effects of all foreseeable projects will be to place additional demands on the available water supply. Also, the restoration projects may result in additional flows in local rivers for habitat restoration. Implementation of Alternative 1 or 2 will not influence the cumulative effects of other projects to surface water resources.

Friant EA, at 3-12. In addition to being almost entirely uninformative, this three-sentence discussion asks more questions than it answers. What are the foreseeable projects, and what are their additional demands likely to be? What impact would the proposed contracts have on the opportunities to restore the San Joaquin River? What other cumulative impacts might occur over the life of the project? How is it possible to conclude that the diversion of more than a million acre-feet of water every year, for 25 or 50 years, "will not influence cumulative effects" on surface water?

The Ninth Circuit has not hesitated to reject cumulative-impact statements that are "too general and one-sided to meet the NEPA requirements" and that fail to provide the "useful analysis" mandated by the caselaw. Muckleshoot, 177 F.3d at 811. The inadequate cumulative effects discussions contained in the contract renewals EAs fail these tests and deserve rejection here.

III. Conclusion.

The contract-renewals EAs prepared by the Bureau fall well short of NEPA's established requirements. We urge the Bureau to prepare NEPA documentation on the proposed contracting actions which complies with all requirements of the law.

Sincerely,



Drew Caputo
Senior Attorney

Hamilton Candee
Senior Attorney

cc: Hon. David Hayes, Deputy Secretary of the Interior
Hon. John Leshy, Solicitor
Hon. George Frampton, Chairman, CEQ

Responses to Comment Letter 9 – Natural Resources Defense Council (2000)

- 9-1: See response to comment 6-1.
- 9-2: Given the legal and regulatory constraints, the two action alternatives in the EA provide a reasonable range of alternatives that meet the stated purpose and need.



LETTER 10

Golden Gate Audubon Society

2530 San Pablo Avenue, Suite G • Berkeley, California 94702
Phone: (510) 843-2222 • Fax: (510) 843-3331 • Email: ggass@compuserve.com

Americans Committed to Conservation • A Chapter of the National Audubon Society

December 8, 2000

Al Candlish
Bureau of Reclamation
2800 Cottage Way
Sacramento, CA 95825
Sent by FAX: 916-978-5094

Dear Mr. Candlish:

The Golden Gate Audubon Society appreciates the opportunity to comment on the Bureau of Reclamation's draft Environmental Assessments (EAs) on the proposed long-term renewal of Central Valley Project (CVP) water service contracts.

We believe the draft EAs are inadequate and violate NEPA. We believe the long-term renewal contracts for each CVP division require an Environmental Impact Statement (EIS) that fully analyzes a broader range of alternatives. We also wish to incorporate by reference the comments dated December 7, 2000 filed by the Natural Resources Defense Council on the draft EAs.]-10-1

Thank you for considering our comments.

Sincerely yours,

Arthur Feinstein
Executive Director

Responses to Comment Letter 10 – Golden Gate Audubon Society (2000)

10-1: See response to comment 6-1.

FAX TRANSMITTAL

DATE: 12/8/00

TO: *Al Candlish* COMMENTS

CO.ORG: *Bureau of Reclamation*

LETTER 11

PHONE:

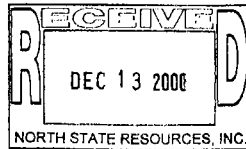
FAX: *916-978-5094*

FROM: *Cynthia Koehler, Legal Director*

PAGES TO FOLLOW: 1

SAVE THE BAY

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1600 Broadway, Suite 300
Oakland, CA 94612
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510/452-9261 FAX: 510/452-9266



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December 8, 2000

Al Candlish
Bureau of Reclamation
2800 Cottage Way
Sacramento, CA 95825

RE: Environmental Assessment for CVP Water Service Contract Renewals

Dear Mr. Candlish:

I write on behalf of Save San Francisco Bay Association's thousands of members to inform you of our objections to the draft environmental assessments (EAs) on long-term renewal of Central Valley Project water service contracts prepared by the Bureau of Reclamation. The draft EAs are inadequate and violate NEPA on various grounds. At the most basic level, the contracts are virtually certain to significantly effect the environment. Taken together, they would result in the diversion of millions of acre-feet of water each year from the natural environment. The Bureau's truncated review fails to adequately review a reasonable range of alternatives, and fails further to analyze and disclose to the public and decision makers the environmental impacts - direct and cumulative - of the proposed actions.

11-1
11-2
11-3

We incorporate here by reference the extensive comments prepared by our colleagues with the Natural Resources Defense Council and filed with your office yesterday.

Thank you for your consideration of our views on this important matter.

Sincerely,

Cynthia Koehler /sk

Cynthia Koehler
Legal Director

cc: Hon. David Hayes, Deputy Secretary of the Interior
Hon. John Lesby, Solicitor
Hon. George Frampton, Chairman, CEQ

SAVE THE BAY

Save San Francisco Bay Association

LETTER 11

Responses to Comment Letter 11 – Save San Francisco Bay Association (2000)

- 11-1: Contrary to the comment's assertion, the effect of the renewals is to maintain the status quo rather than generating significant new impacts. While it is true that millions of acre-feet are diverted for a combination of food production and other human purposes, the renewal does not change the quantities diverted. Three contracts out of the several hundred in the CVP have reduced quantities of water under contract, but the actual diversions will not change. Also see response to comment 7-6.
- 11-2: See response to comment 9-2.
- 11-3: See response to comment 7-6.

LETTER 12

The Bay Institute
of San Francisco

"Restoring the Bay's ecosystem from the Sierra to the sea."

FAX COVER SHEET

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EXECUTIVE DIRECTOR

Grant Davis

FOUNDER

Bill Davoren

DATE: 12-8-00

TO: MR. AL CANDLISH

Phone # _____

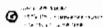
Fax # (916) 978-5094

FROM: GRANT DAVIS

OF PAGES (including cover sheet) 2

Comments: HERE'S OUR TBI'S COMMENTS
ON THE LONG-TERM CONTRACT
RENEWAL. THANKS
ORIGINAL IS IN THE
MAIL TODAY.

55 Shaver Street, Suite 330 • San Rafael, CA 94901
(415) 721-7680 • email: bayinfo@bay.org • website: www.bay.org • (415) 721-7497 fax



The Bay Institute
of San Francisco

"Restoring the Bay's ecosystem from the Sierra to the sea."

December 8, 2000

Bureau of Reclamation
Attention: Mr. Al Candlish
2800 Cottage Way
Sacramento, CA 95825-1898

Dear Mr. Candlish:

On the behalf of the Board and staff of The Bay Institute (TBI), I am hereby filing our brief comments on the draft environmental assessments ("EAs") on long-term renewal of Central Valley Project water service contracts prepared by the Bureau of Reclamation.

We are quite disappointed by the Bureau's inadequate attempts to comply with the National Environmental Policy Act (NEPA), 42 U.S.C. § 4321 *et seq.*, in the proposed long-term renewal of CVP contracts. We are also very concerned about the Bureau's failure to prepare an environmental impact statement on proposed agency actions that would have significant, far-reaching and fundamental effects. We believe the contract renewal EAs prepared by the Bureau fall well short of NEPA's established requirements and would urge the Bureau to prepare NEPA documentation on the proposed contracting actions that comply with all requirements of the law.

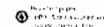
12-1

Thank you for your consideration of TBI's comments.

Sincerely,


Grant Davis
Executive Director

55 Shaver Street, Suite 330 • San Rafael, CA 94901
(415) 721-7680 • email: bayinfo@bay.org • website: www.bay.org • (415) 721-7497 fax



Responses to Comment Letter 12 – The Bay Institute of San Francisco (2000)

12-1: See response to comment 6-1.



LETTER 13

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX

Cross Media Division (CMD-2)
Federal Activities Office - 75 Hawthorne St., San Francisco, CA 94105

**FACSIMILE
TRANSMITTAL**



TO: Al Candlish

Organization: Central California Area Office, BOR

Subject: EPA Comments on Long-Term Contract Renewals

Ph #: _____

Fax #: 916-978-5094

FROM: Laura Fujii

Ph #: 415-744-1601

Fax #: _____

E-Mail Address: _____

Date Sent: December 8, 2000

Number of pages including cover sheet: 22

Comments:



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

Al Candlish
Bureau of Reclamation
2800 Cottage Way
Sacramento, California 95825

December 8, 2000

Bill Luce
Bureau of Reclamation
South-Central California Area Office
1243 N. Street
Fresno, CA. 93721

RE: Proposed Long Term Contracts and Associated Environmental Assessments

Gentlemen:

This letter responds to your concurrent requests for comments on several draft long term Central Valley Project water contracts and the associated Environmental Assessments that analyze the environmental effects of those draft contracts as part of the Bureau's compliance with the National Environmental Policy Act (NEPA).

As you know, EPA has had a long institutional interest in these renewal contracts. In 1989, EPA made a rare formal referral of these contracts to the Council on Environmental Quality when the Department of the Interior proposed signing long term renewals without any environmental review. After passage of the Central Valley Project Improvement Act (CVPIA) in 1992, our office has worked closely with Interior as it has implemented the many complicated provisions of that Act, including those calling for the CVPIA Programmatic Environmental Impact Statement (PEIS). The PEIS has been a massive undertaking, and it serves as the foundation of NEPA compliance for these contracts as well as other provisions of the CVPIA.

EPA filed detailed formal scoping comments when Interior began the process of negotiating the long term renewal contracts. In that many of our earlier comments are still relevant to the proposed contracts and Environmental Assessments, we are attaching a copy of our scoping comments to this letter. In this comment letter, we will only briefly discuss the following issues:

LETTER 13

NEPA Issues

Interior proposes to rely on Environmental Assessments for most of its environmental review at the CVP "unit" level. As indicated in our scoping letter, EPA is concerned that unit-level Environmental Impact Statements (EISs) should be prepared, tiering off of the PEIS, rather than relying on Environmental Assessments. We appreciate that the Environmental Assessments are substantial, but believe that the complicated nature of the issues raised in the contracts would benefit from the full public disclosure and full public comment provisions that are part of the Environmental Impact Statement process. We are also concerned that the Environmental Assessments do not articulate a clear rationale or standard for differentiating between those units that will prepare EISs (American River and San Luis) and those relying on only Environmental Assessments.

13-1

EPA is also concerned that the Environmental Assessments have been prepared in advance of the execution of the Record of Decision on the PEIS. As second-tier NEPA documents, the Environmental Assessments would benefit from the certainty of decisions being evaluated in the first-tier document (the PEIS), as those decisions directly affect the range of alternatives and range of potential effects that must be evaluated at the CVP unit level.

13-2

Finally, EPA is concerned that the analysis in the Environmental Assessments does not fully take into account the site-specific circumstances in the different CVP units. These Environmental Assessments differ primarily in the analysis of pricing alternatives, but do not evaluate different potential effects on, for example, groundwater overdraft or water quality impacts of contract alternatives.

13-3

EPA recommends that Interior reevaluate its overall NEPA compliance approach when it completes its Record of Decision on the PEIS, which we understand will be in the immediate future. At that time, Interior should reconsider its rationale for deciding between Environmental Assessments and Environmental Impact Statements at the unit level, and reconsider whether some or all of these Environmental Assessments should be revised and released as Environmental Impact Statements.

13-4

Contract Issues

EPA has reviewed representative proposed contracts, as well as the standard form of contract. We recognize that individual contracts are the result of multiple party negotiations, and that each contract can be and has been tailored somewhat to account for local conditions. Our comments are therefore limited to the major issues raised by long term contracts. In our view, those major issues are as follows:

1. **Contract quantities.** EPA has frequently expressed its concern that the contract quantities included in the current long term contracts do not accurately reflect the delivery capability of the CVP, especially after regulatory actions under the Clean Water Act, the CVPIA and the Endangered Species Act are considered. In some years, virtually all CVP contractors receive all the water called for in the current contracts. However, in many years - and for some

13-5

districts, in most years - the CVP is unable to deliver the entire amount of water called for in the current contracts. In other words, the current contracts "overcommit" the CVP. The analysis in the PEIS suggests that this problem will become more acute in the future, as senior water rights holders upstream develop their water supplies. See PEIS, Figures IV-79 and IV-80 and accompanying text.

EPA recognizes that this contract quantity issue does not affect all CVP contractors uniformly, and that it is primarily a problem on the west side of the San Joaquin Valley. Calling this a "problem" is not intended to be any kind of value judgement on those particular districts and, in fact, EPA acknowledges that many of these water-short contractors are leaders both in water use efficiency and in addressing water quality issues. Nevertheless, the complex combination of California water rights, contracts, and plumbing creates a situation where certain CVP units and CVP contractors consistently bear the shortages in CVP delivery capabilities.

EPA is concerned that this "overcommitment" of CVP supplies has the potential to adversely affect Interior's ability to effectively assist in addressing California water needs and environmental needs. The Bureau and Interior will not be able to continue their strong leadership role in CALFED and other broad-based efforts if they are contractually biased by unrealistic water delivery targets.

In its contract negotiations with west side contractors, Interior has attempted to deal with this contract quantity issue directly by dividing contractual quantities into "base" amounts and "supplemental" amounts. See, for example, the draft Broadview Water District contract, at Section 3(a). We strongly support this approach to the contract renewals. We suggest that Interior develop a consistent process for determining, on a contract by contract basis, the proper allocations of "base" and "supplemental" quantities. We believe the "base" amount should reflect recent historical realities but also factor in the anticipated future limitations on CVP supplies noted and evaluated in the PEIS.

Although we are supportive of Interior's approach to the contract quantity issue, we are concerned about proposed contract language that arguably requires the Secretary to pursue additional water supply for these contracts. See Section 19(c). We appreciate that this is only a statement of intent, but it raises the same concerns noted above about maintaining Interior's objectivity in the broader debate over California water resources. Further, this language is premature under the CVPIA. The CVPIA required Interior to develop alternatives for least cost yield enhancement, but reserved for Congress the decision about whether to pursue those yield enhancement options and which options to pursue. See CVPIA Section 3408(j).

2. **Right to Renew.** Since our initial involvement in these contracts in 1989, EPA has argued that long term water service contracts are not and should not be permanent entitlements, but rather that they should be subject to review at the end of each contract period to reevaluate water supply and environmental conditions in a rapidly changing state. The CVPIA made a similar conclusion when it retained for the Secretary the discretion as to whether to renew these contracts at the end of the first long term renewal. See CVPIA Section 3404(c).

13-6

Given its historical position, EPA is generally supportive of the contract renewal provisions in proposed contract Section 2(b). In particular, we support the strong statement in Section 2(b)(3) requiring that any subsequent renewal must include a reevaluation of the contract in light of conditions at that time.

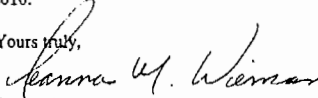
At the same time, however, we believe that the provisions of Section 2(b)(2) should be clarified or supplemented. Section 2(b)(2) enshrines a concept that first arose during the stakeholder discussions referred to as the Garamendi Process. The concept is that contractors can "earn" a second renewal by meeting certain requirements of water conservation, water measurement, etc. EPA supports this approach theoretically, but believes that the requirements described in proposed contract Section 2(b)(2) do not provide clear objectives or standards for "earning" a second renewal. In particular, we believe that the contract needs to define, either in Section 2 or in Section 26, the "definite water conservation objectives" that must be met. Deferring this definition to a later time is inappropriate given that the contractual agreement for renewal is being made now. In addition, we believe that renewal should be conditioned on compliance with water quality improvements required under the state and/or federal clean water acts.

3. **Tiered Pricing.** EPA has frequently expressed its support for the concept of tiered pricing as a mechanism for encouraging economically-efficient water uses in both the agricultural and urban sectors. The CVPIA requirements for tiered pricing were an expression of similar support for this idea. EPA appreciates that implementing tiered pricing in the real world is difficult, given the vastly different circumstances of different districts and the different approaches to managing water supplies in different hydrologies. Nevertheless, we are concerned that the new interpretation of tiered-pricing as applying to the combined "base" and "supplemental" contract amount has the net impact of eliminating the effect of tiered pricing in many districts. This is, once again, a problem caused primarily by unrealistic contract quantities, but it seriously limits the usefulness of the tiered-pricing tool. We recommend that Interior reconsider this issue, and perhaps develop more carefully tailored, district or unit level approaches to tiered pricing that can effectuate the intended purposes of the tiered pricing mechanism.

Conclusion

EPA wishes to acknowledge the significant efforts made by Interior staff over the past several years in developing an approach to long term CVP contracts that is fair to the districts involved and implements the reforms envisioned by the CVPIA. We stand ready to offer our support on working through issues raised in our comments or on other issues raised during the comment period. If you have any questions about these comments, please call Laura Fuji at (415)744-1601 or Carolyn Yale at (415)744-2016.

Yours truly,


Deanna Wieman
Deputy Director
Cross Media Division

cc: Lester Snow
David Nawi
Janice Schneider



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

January 8, 1999

Mr. Alan R. Candlish
Bureau of Reclamation
2800 Cottage Way
Attn: MP-120
Sacramento, CA. 95825

Dear Mr. Candlish:

The Environmental Protection Agency (EPA) has reviewed the Notice of Intent for **Long-term Contract Renewal, Central Valley Project, California**. Our review is pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act. We have also addressed the proposed water need methodologies which will be used in association with the contract renewals.

The Bureau of Reclamation (Bureau) proposes to prepare environmental documents for the purpose of renewing existing long-term and interim water supply contracts for the Central Valley Project (CVP) in California. Specific quantities of water to be in the renewal contracts will be subject to a needs assessment. At this time, the Bureau is proceeding as if the project impacts would require preparation of an EIS. Section 3404 of the Central Valley Project Improvement Act (CVPIA) authorizes renewal of existing long-term water service contracts for 25 years after appropriate environmental review including the completion of a Programmatic Environmental Impact Statement (PEIS) on the CVP required under Section 3409. The final PEIS is scheduled for release in June 1999. The additional environmental document(s) for contract renewal will tier off of the final PEIS. The long-term contract renewal environmental document(s) will be prepared on a regional basis. The specific regions will be determined following scoping. Furthermore, individual service areas may be combined together in one document if they have related issues.

Over the last 10 years, EPA has worked with the Bureau and other resource agencies on issues which should be addressed when considering long-term water supply contract renewals for the CVP. In fact, between February 1989 (EPA Referral of Friant Unit Contract Renewals to Council on Environmental Quality (CEQ)) and passage of CVPIA in October 1992, EPA and the Bureau worked extensively on defining the issues, scope, and alternatives for a proposed EIS on the Friant Water Service Contract Renewals (Friant EIS). The following materials are incorporated by reference: EPA Comments on Environmental Review Process for CVP Contract renewals, March 1992; Friant Contract Renewal EIS EPA/BOR Agreements, 1992; EPA Comments on Friant Contract Renewal EIS Scoping Report, May 1991; and EPA Scoping Comments, Friant Contract Renewal EIS, January 1991. Copies are enclosed.

Project File

While we acknowledge the remarkable shifts in policy, management, and planning for water resources in California which have occurred, we believe that many of the issues and agreements made with the Bureau in 1992 are still relevant to the current contract renewal effort. Key points are highlighted below.

We have long supported tiering contract renewals from a programmatic system-wide analysis of CVP operations and hydrologic effects, and, with some reservations, believe that the Programmatic CVPIA EIS (CVPIA PEIS) serves this function well. However, considering the many regional and localized concerns which are not covered in the CVPIA PEIS, we suggest that an EIS should be assumed the appropriate level of analysis for contract renewals unless a close screening of issues and potential impacts, conducted with ample public participation, supports a different conclusion. We note that the programmatic EIS for the CVPIA did not address or evaluate water quantity, water quality, or specific terms and conditions for contract renewals.

The Scoping Notice states that the long-term contract renewal environmental document(s) will be prepared on a regional basis and tiered to the final CVPIA PEIS. The CVPIA PEIS evaluated options for operational criteria, water management (for instance, pricing and transfers), and ecosystem restoration priorities for the CVP. The contract renewal EISs should clearly link proposed contract renewal actions with the management direction established by the CVPIA PEIS Record of Decision and to currently planned or reasonably foreseeable rulemaking and regulations.

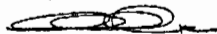
Alternatives should examine ways in which renewed contracts can provide adequate supply reliability for contractors and flexibility to implement all CVPIA provisions. There must also be flexibility to accommodate future shifts in water policy which may affect the CVP. We urge the Bureau to structure the renewed contracts to fully reflect the redirection of the CVP, pursuant to CVPIA, to provide ecosystem restoration and a reliable water supply. EPA firmly believes that long-term water supply contract renewals should focus on determination of available supplies and bringing contract commitments into alignment with these supplies. The water needs analyses which support contract renewals should evaluate both the supply and demand side of water management in the contract areas. Reclamation should work with contractors to consider all available tools for enhancing water management flexibility and reliability. These tools could include water transfers, conservation, pricing, irrigation efficiencies, operational flexibilities, market-based incentives, water acquisition, conjunctive use, voluntary temporary or permanent land fallowing, and wastewater reclamation and recycling. Information on the needs methodologies and results of the assessments should be incorporated into the contract renewal environmental impact documents.

Our detailed comments (attached) discuss a number of issues which we believe must be addressed in contract renewals. Among the most important is resolving the gap between CVP supplies and current levels of CVP contract commitments. The CVPIA PEIS documents that under all implementation alternatives the amount of water which Reclamation could reliably deliver in average long-term and dry period conditions is less than the total contract quantities.

LETTER 13

We appreciate the opportunity to review this NOI. Please send four copies of the Draft environmental impact statement to this office at the same time it is officially filed with our HQ Office of Federal Activities. If you have any questions, please call me at (415) 744-1566, or contact David J. Farrel, Chief, Federal Activities Office at 415-744-1584.

Sincerely,



Deanna Wieman, Deputy Director
Cross Media Division

Enclosures: Detailed comments
EPA Comments on CVPIA Draft PEIS, April 1998
EPA Comments on Environmental Review Process for CVP Contract
Renewals, March 1992
Friant Contract Renewal EIS EPA/BOR Agreements, 1992
EPA Comments on Friant Contract Renewal EIS Scoping Report, May
1991
EPA Scoping Comments, Friant Contract Renewal EIS, January 1991

MI003182
Filename: cvprenew.wpd

cc: Jim White, Department of Fish and Game
Nanette Engelbrite, Western Area Power Administration
Wayne White, US Fish and Wildlife Service
Victoria Whitney, State Water Resources Control Board
Mary Nichols, California Resources Agency
Gary Stern, National Marine Fisheries Service
US Corps of Engineers, San Francisco & Sacramento
Pat Port, Department of the Interior
Lester Snow, CALFED
Wendy Pulling, NRDC
Donna Tegelman, BOR, MP-400

DETAILED COMMENTS**Water Needs Assessment**

EPA has concerns with both the assumptions and methods of the water needs analysis. The Bureau's "needs analysis" described at the Water Demands Workshop appeared to have the following steps: 1) calculating contractors' historical beneficial use of water; 2) projecting future beneficial use (for the 25 year contract horizon); 3) examining comprehensively the water sources available to the contractor; and 4) determining the quantity of CVP water to be entered in a renewal contract, using this supply/demand information. We urge the Bureau to clearly describe the assumptions underlying use of this methodology to project future beneficial use and to explain how this calculation will help determine contract quantity.

We are concerned that plant evapo-transpiration data used to compute crop water use (such as Bulletin 113) is open to dispute. Thus, the Bureau should take care in developing its historical documentation of beneficial use as well as any future projections. In addition to technical questions regarding water use, long-term projection (25 years) of future use by existing contractors is subject to many unforeseeable factors (technology, economics, potential water transfers, etc). This is especially true for agricultural use. For the purpose of establishing a determination of future beneficial use, we would strongly recommend a different approach. We suggest considering a less technically detailed "certification" of expected future beneficial use, backed up by terms in the contract that monitor compliance and continued beneficial use.

Step 3, examining comprehensively the water sources available to the contractor, is very important. In fact it appears to draw on information required in the Contractor's water conservation plans. Several potential sources such as water exchanges, transfers, and groundwater, may be difficult to document and/or project. The EIS should clearly document how this step is done, disclose assumptions made regarding groundwater use, transfers, and exchanges and discuss limitations in information which could affect conclusions regarding water supplies available to water contractors.

In regards to Step 4, we urge the Bureau to clearly state how it intends to use the water needs analysis in determining contract quantities. EPA does not regard the purpose of contract renewals as using CVP contract supplies to "fill a gap" between calculated needs and available supplies. Instead, we believe the Bureau has a number of tools to help improve water management and supply reliability and to help ensure a sustainable water balance between supply and demand. Available tools include water transfers, conservation, pricing, irrigation efficiencies, operational flexibilities, market-

based incentives, water acquisition, conjunctive use, voluntary temporary or permanent land fallowing, and wastewater reclamation and recycling. We urge the Bureau to use these tools to improve water management and supply reliability and to factor the use of these tools into its evaluation of contract quantities. In this step, one might incorporate assurances that water would not go to waste, go to environmentally harmful areas, and would support water quality objectives. We suggest that short-term integrated demand/supply management be the first focus with long-term integrated demand/supply management as a goal.

In conclusion, we suggest the Bureau document historical beneficial use of CVP water; certify expected future beneficial use; help users plan and implement supply reliability measures through other programs; and equitably allocate supplies expected to be available from the existing CVP.

Shortages

EPA is concerned with contract quantities which consistently exceed available water supply, thus creating "shortages". Contract supply commitments should be tailored to reflect supplies reasonably expected to be available under varying conditions (e.g., wet versus dry years). We fear that retaining contract quantities which exceed available supplies gives the impression of unreliable commitments and may imply a "need" to develop additional supplies. Often development of "new supplies" is only reallocation of scarce water from environmental in-stream beneficial uses to consumptive uses.

EPA advocates an approach which is focused on efficient use and management of existing scarce water supplies. The quantity of allocated water in the contracts should be based on existing, developed project supplies and not on contractors' needs, demands, or anticipated additional supplies. We strongly urge the Bureau to avoid contract quantity commitments exceeding expected supplies and to avoid allocating shortages relative to inflated supply commitments.

From the contractors' perspective, there may be times when shortages are unavoidable and will need to be addressed. As stated above, EPA advocates the use of multiple tools by the Bureau to help contractors plan and manage for supply reliability, including during shortage periods.

Environmental Needs

The needs assessment must include full consideration of environmental needs. EPA believes that it is inappropriate for the renewal contracts to account for environmental restrictions solely through the use of a "shortage provision." A shortage provision is an appropriate mechanism for providing flexibility in the event of future unanticipated environmental or other impositions on CVP water use. However, it should not be used to implement existing environmental obligations under the CWA or ESA. These existing obligations should be evaluated in the needs analysis and factored into the assessment of water quantities available for contracts.

Documentation of Beneficial Use

Beneficial use must be clearly defined. For instance, the needs assessment should state the dates between which the beneficial use measurement was taken, rationale for this measurement period, how beneficial use will be interpreted, and whether and how differences in seasons and type of water use will be considered.

Groundwater and water reuse is also of concern. CVP water replenishes groundwater in certain areas through a number of "paths," such as canal seepage, over-irrigation, and spreading of high flow (flood) waters. This use should be documented. We request the Bureau disclose whether this use is being counted as historical beneficial use, and if it would be counted in a contractor's future water "need." We note that there are areas, such as the San Joaquin, where this casual "conjunctive use" of surface/groundwater has not stabilized groundwater levels or acted as a beneficial use. In fact, irrigation may contribute to severe water quality problems.

The CVPIA PEIS states that the right to reuse seepage and return flows has been covered in all alternatives and would not need to be revisited in subsequent NEPA documents (Ch VI-8). EPA questions whether any real impact analysis associated with reuse has been done. There is the question of actually documenting water balance within a basin, including amounts of seepage and return flows, and amounts of on-farm and downstream reuse. We note that this detailed information appears not to be available in many cases and that this issue has been raised in CALFED, as well. Changes in on-farm and within-district efficiency may well affect other uses within a basin by altering the quantity, timing, and quality of water available. On another page (VI-10) the CVPIA PEIS admits that implementation of water conservation measures was not handled at a site specific level, and suggests possibly including this topic in the contract renewal EISs. This is an analysis which is best done at a site and case-specific level. We urge the Bureau to follow-up on the suggestion in the CVPIA PEIS to

evaluate implementation of reuse and water conservation measures and their potential effect on quantity, timing, and quality of water available.

Reservation of Rights

EPA understands that there have been ongoing discussions about a "right to renew", and/or about the meaning of and continued applicability of language in the "1956 Act." EPA's view of the 1956 Act was presented in full at the time of the CEQ referral in 1989. See Letter from Gerald Yamada to Chairman A. Alan Hill dated April 13, 1989. EPA believes the 1956 Act discussion of renewals was largely superseded by the explicit provisions in the CVPIA addressing contract renewals. See CVPIA Section 3404. Under the CVPIA, after the first 25 year contract, additional renewals or extensions are clearly at the Secretary's discretion. While recognizing the legitimate desire of all parties to reserve possible legal arguments, EPA believes it would be inappropriate for the Bureau to grant a right to renew or other legal advantage to contractors in the renewal contract greater than they are entitled to receive under the explicit language of the CVPIA.

Water Supply and Demand

We strongly believe the Bureau should utilize tools such as pricing, conservation, conjunctive use, and monitoring and accounting to help improve supply reliability and ensure a more balance between water supply and demand.

Pricing

It has been demonstrated over the last decade that variable pricing of water can significantly influence water demand and supply. Pricing which accurately reflects the economic and environmental costs of water increases the ability to ensure scarce supplies are used efficiently. The contract renewal EISs should include an in-depth discussion of pricing and how it will be utilized by the Bureau and within water districts. We urge the Bureau to reevaluate the tiered pricing structure which is based upon contract quantities. Although there are price incentives to avoid excessive water use at the high end, these price incentives are rarely triggered in some areas due to the infrequent use or inability to provide these large contract quantities.

The EISs should also fully evaluate the Ability-to-pay policy and the Bureau's ability to ensure project repayment. We urge the Bureau not to utilize the ability to pay subsidy, especially given the need to repay project costs.

Conservation

Conservation can play a critical role in managing water demand and supply. We note that the Reclamation Reform Act states the Secretary of the Interior shall use all legal existing authorities to encourage conservation and that CVPIA Section 3045 encourages use of variable pricing and conservation. We urge the Bureau to consider conservation as a project goal and to describe ways to encourage conservation. The EISs should include a discussion of National Energy Policy Act requirements, how conservation affects water markets, demonstration of compliance with water conservation plans, reclamation methods and efforts, and improved irrigation technologies. Consistency with CALFED goals should be clearly demonstrated. Water use efficiency is a major component of the CALFED Program, thus close coordination with CALFED will be necessary to ensure consistency, where appropriate, in methodologies for computing efficiencies and benefits, and to ensure complementary objectives. We advocate use of conservation performance requirements in the contracts and strong assurances that certain levels of conservation will be attained.

As promised in the Reclamation Water Conservation Criteria – 1999, prospective renewal contractors should be required to have an adequate water management plan in place and to have demonstrated good progress in implementing that plan. Contract terms should make clear that future CVP supplies are conditioned on continuing conservation efforts, including, in the context of the conservation plans, shortage management. In particular, EPA advocates full implementation of the documentation and coordinated planning of use of supplies available to the contractor, including ground water; and the water measurement elements. We also urge incorporation of a shortage management element. Conservation and shortage management issues will vary from area to area.

For CVPIA, water measurement devices are required for contract renewal [3405(b)]. We understand this requirement can be addressed in an approved, adequate conservation plan. We also note that there is a lot of debate regarding the sort of measurement or metering requirements which are appropriate. The EIS should describe the debate and clearly state which measurement devices or metering requirements are considered by the Bureau to be appropriate for contract renewals.

Groundwater

Groundwater is a critical element in water supply and demand. Not only is it an alternative source to surface water supply, if used prudently, groundwater can provide significant flexibility in meeting demand at different times and from a number of different water sources. The EIS should fully document groundwater sources - how, when, and

by whom groundwater is used. Identify information gaps and where there are no direct groundwater measurements. The EIS should document the historical and anticipated (in alternatives) relationship between CVP surface supplies and groundwater. There should also be documentation of long-term groundwater trends within basins. We note that portions of the Sacramento, around urbanizing areas, are over drafted, and that major areas in the San Joaquin and Tulare basins are seriously over drafted. EPA is concerned with potential tradeoffs between surface water and groundwater use. We urge the Bureau to carefully evaluate the long-term implications of providing CVP surface water to avoid groundwater overdraft.

EPA supports the creation of groundwater management basins and institutional mechanisms to collect information, manage, and monitor groundwater use throughout California. The scoping materials from the Bureau suggest that one of the renewal-related actions under consideration is "conversion to conjunctive use." If the Bureau may propose "conversion to conjunctive use" in some areas, which we consider a promising concept, then the EIS should address the need for measurement and management of the combined resources of surface and groundwater supplies to stabilize supplies over the long term. Note that the appropriate management unit might not be the contracting district, unless the district is quite large (e.g., Westlands).

The conjunctive use issues flagged in the scoping materials lead us to suspect that developing an effective conjunctive use program and offering this as an implementable contract option could take longer than the contract renewal time frame. Perhaps the Bureau should consider making "managed conjunctive use" a separate program. For the purpose of the contract renewals, sufficient information should be disclosed about the objectives, requirements, and suitable locations for conjunctive use so that it can be included as an option within the contracts.

Monitoring and Accounting

Effective and sustainable management of CVP water supplies depends on an accurate knowledge of water supply availability and water use. This knowledge can only be obtained through monitoring and accounting of water supply and demand. We urge the Bureau to make a firm commitment to timely and accurate monitoring and accounting. This commitment should include dedicated funding for this effort.

NEPA Issues**EIS versus EA**

The Bureau should clearly describe the criteria for determining whether an EA or EIS is the appropriate level of NEPA analysis. These criteria should consider cumulative effects, how the Service areas or Districts are bundled, whether the potential impacts are bounded by existing environmental or programmatic analyses, and whether prior environmental analyses have provided information at a sufficient level of detail to meaningfully assess alternatives, impacts, and mitigation measures. We recommend the Bureau clearly state which contract renewals will be considered for EIS level analysis. EPA believes an EIS should be presumed the correct level for analysis of the long-term contract renewals, especially for areas with known or suspected irrigation caused water quality problems, groundwater overdraft, and incomplete information on ecosystem needs. An EIS level of evaluation is especially appropriate given the complex and controversial issues surrounding the needs assessment, reallocation of water to all CVP purposes, and management of California's scarce water supply in the context of high demand. Clearly describe whether unit wide evaluations will be made and whether there will be contract by contract evaluations.

Purpose and Need

It is EPA's view that the central federal action is water service contract renewals and that the purpose of this action should be to set out terms through these contracts through which existing CVP supplies will be distributed for beneficial use in the future. The project purpose should also embrace managing CVP supplies, by both the Bureau and contractors, in ways which will improve supply reliability and promote ecosystem protection and water quality. The concept of distribution should include allocation through contracts to specific parties and contract terms permitting exchanges and transfers in order to ensure the contracts allow use of the water for all beneficial uses recognized in State law. For example, distribution should consider avoidance of areas, such as selenium-loaded areas, where the use would likely result in environmental harm or waste of the water. Supply reliability can be addressed in part by the quantities made available, scheduling and rescheduling flexibility, wheeling options, conservation practices, and other management strategies. We note that reliability of stated contract supplies would be undermined by a significant discrepancy between the contract quantity and supplies which the Bureau can reasonably expect to make available. Good management of the resource should be assured through terms requiring conservation planning, implementation, and monitoring.

In summary, the purpose and need statement should reflect the intent to use renewal of existing contracts to provide contractors with assurance of reliable, long-term water supply; support the Bureau's environmental protection and restoration responsibilities pursuant to CVPIA and other applicable laws; promote water conservation; support appropriate water transfers; and to promote balanced, sustainable use of ground and surface water supplies.

In 1992 EPA and the Bureau had extensive discussions regarding the purpose and need for the proposed Friant contract renewal EIS (Friant Contract Renewal EIS EPA/BOR Agreements, February 1992). We believe many of the issues discussed are still applicable and incorporate these discussions by reference.

Baseline

The selection of the No Action alternative is a critical step in the environmental analysis since it provides the baseline for comparison with other action alternatives. It is EPA's position that the "no action" alternative is not a no impact baseline. EPA believes strongly that to interpret the "no action" alternative as having "no impacts" is inconsistent with NEPA regulations. Continuation of the existing management situation would constitute a discretionary commitment of resources that is, effectively, an action affecting the environment. The alternatives analysis of the EIS should portray the environmental consequences of every alternative..." in comparative form, thus sharply defining the issues and providing a clear basis for choice among options for the decisionmaker and the public." (40 CFR Part 1502.14).

The EIS should document existing conditions; explain the changes which have occurred (e.g., pre-project and past impacts); and describe the ecosystem restoration objectives of the CVPIA and CALFED. Furthermore, the EIS should adequately document cumulative impacts, including past, present and reasonably foreseeable actions. Past cumulative effects greatly influenced the "existing conditions" which should be documented in the EIS and represent deficiencies (adverse impacts) which may be perpetuated under the action and no action alternatives. Furthermore, we do not believe it is sufficient to establish compliance with certain environmental protection laws (such as the Endangered Species Act and Clean Water Act), where the status quo may reflect unacceptable conditions and trends resulting from on-going activities, including water diversions. Nor will "current conditions" provide adequate guidelines for gauging desired levels of environmental restoration and enhancement. Information in the EIS should assist in establishing the possible deficiencies in current conditions and defining restoration and enhancement goals (EPA Scoping Comments, Friant Contract Renewal EIS, January 1991). In addition, it is our position that mitigation measures (defined in 40 CFR 1508.20) should be addressed for adverse effects of alternatives

measured relative to current conditions, rather than relative to the expected future conditions under "no action" (Friant Contract Renewal EIS EPA/BOR Agreements, February 1992).

Consistent with the CVPIA PEIS, the contract renewal action and EIS should also be premised on the supplies which may be available in the future given the existing storage and conveyance system. This configuration should be retained in all alternatives. EPA does not consider adding onto or changing the configuration of this storage and conveyance system as within the scope of the contract renewal action.

Alternatives

Geographic Scope

Given the potential divergent supply options, we urge the Bureau to carefully consider the geographic scope for the environmental analysis. We recommend development of criteria to help determine the appropriate scale for analysis. For example, if conversion to conjunctive use is considered, the analysis might require a basin-wide view versus a district-wide view. Regardless of the water supply option, the EIS should evaluate the potential environmental impacts wherever they may occur. If significant adverse impacts are documented, the EIS should consider ways of mitigating these impacts.

Development of Alternatives

The CVPIA PEIS did not describe or evaluate specific contract alternatives or strategies. Thus, we believe it is critical that the EIS on contract renewals fulfill this need by evaluating different contract strategies and alternatives. We urge the Bureau to develop alternative contract terms and conditions which provide strong incentives for water conservation, tiered pricing, conservation goals and performance requirements, water transfers, reopener clauses, flexibility, restoration goals, project repayment, and monitoring. We also recommend consideration of elements common to all alternatives.

All reasonable alternatives should be considered including those which may be beyond the Bureau's current statutory authorities or those contrary to the initial priorities for the CVP established by Congress in 1937. For example, the Bureau should consider alternatives which provide water for other CVP purposes such as fisheries. We advocate evaluation of an alternative which provides a set dedicated yield with a mechanism to provide flexibility to adapt to changes in water supply and demand. Variations could include tiered contract quantities or guaranteed lifeline amounts.

Again, we urge an approach which focuses on demand management and effective, efficient use of existing supplies.

Cumulative Impacts

Full disclosure of indirect and cumulative impacts is of specific concern. NEPA requires evaluation of indirect and cumulative effects which are caused by the action (40 CFR 1508.8(b) and 1508.7). Indirect effects may include growth-inducing effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems." (40 CFR 1508.9(b)). CEQ regulations also state that the EIS should include the "means to mitigate adverse environmental effects." (40 CFR 1502.16(h)). This provision applies to indirect effects as well as direct effects. Changes in water quality or downstream effects which may be indirectly caused by Contract terms and conditions, constitute indirect effects and should be evaluated in the EISs. These indirect effects and appropriate mitigation measures for adverse impacts should be fully disclosed in the EISs.

We recommend the long-term contract renewal EISs include a full evaluation of cumulative impacts at different landscape scales, e. g. Unit-wide, District-wide. The EISs should also include a summary of the CVP-wide cumulative impact analysis provided by the CVPIA PEIS.

Fish and Wildlife Issues

We recognize the significant progress made through the CVPIA in addressing region-wide past adverse cumulative impacts to fish and wildlife from historical operations of the CVP. However, the CVPIA and its PEIS has not addressed all local or district specific impacts. For example, fish and wildlife issues within the Upper San Joaquin River (i.e., Friant Unit) were not adequately addressed in the CVPIA. Thus additional evaluation may be appropriate when considering direct, indirect, and cumulative impacts to fish and wildlife in the context of specific contract renewals. The contract renewal EISs should evaluate the ability to restore or enhance fish and wildlife habitat and wetlands which have been affected by water diversions and by changes in flows, timing, and water quality as a result of CVP water supplies. This evaluation should "follow the impacts" and examine the impacts that may extend beyond the contract boundary.

EPA advocates evaluating Endangered Species Act and Clean Water Act compliance, requirements, and possible reallocation of water for environmental compliance as part of the contract renewal process. To do otherwise, may result in lost

opportunities and the inability to reallocate water for environmental requirements without extensive "takings" litigation. The evaluation of environmental requirements should consider flows, temperature needs, seasonality, and other water quality components and factors of critical importance to threatened and endangered species.

Water Quality Issues

We suggest the Bureau consider the water quality standards discussions and agreements made in 1992 in regards to the Friant Contract Renewal EIS (Friant Contract Renewal EIS EPA/BOR Agreements, February 1992) which are incorporated by reference. EPA continues to believe that water requirements to meet water quality standards and protect beneficial uses established by either the EPA or the State of California (State), pursuant to the federal Clean Water Act, must be satisfied before calculating water available for contract renewals. Due to the need to meet water quality standards, we wish to highlight the need for flexibility in the contracts' terms to ensure adaptability to potential changes in water policy and water quality standards.

General Water Quality Comments

1. Potential impacts to surface and ground water quality should be fully evaluated in the contract renewal EISs. The evaluation should include discussions on drainage and return flow quality; the role of agricultural chemicals (e.g., pesticides, fertilizers); management of discharges; and the impacts of water quality on crops, aquatic resources, and wildlife.
2. The EISs should discuss the proposed contract renewals compliance with State and local water quality management plans and State-adopted, EPA-approved water quality standards. EPA recommends that the project be fully coordinated with the appropriate Regional Water Quality Control Board to ensure protection of water quality and maintenance of beneficial uses.
3. Evaluate the potential of proposed contract renewals to cause adverse aquatic impacts such as increased siltation and turbidity in surface water sources; changes in water quality and quantity; changes in dissolved oxygen, and temperature; and habitat deterioration. Include a discussion on in-stream flow impacts of water diversions and return flows.
4. Identify sensitive aquatic sites such as wetlands which are currently present. Outline past and potential beneficial uses of these areas, and disclose potential impacts from the proposed project.

5. Discuss specific monitoring programs that are in place or will be implemented to determine potential impacts on surface and drinking water quality and beneficial uses. Evaluate whether maintenance and protection of water quality can be guaranteed.

General Comments

Environmental Justice

In keeping with Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (EO 12898), the EIS should describe the measures taken by the Bureau to: 1) fully analyze the environmental effects of the proposed Federal action on minority communities, e.g. Indian Tribes, and low-income populations, and 2) present opportunities for affected communities to provide input into the NEPA process. The intent and requirements of EO 12898 are clearly illustrated in the President's February 11, 1994 Memorandum for the Heads of all Departments and Agencies.

Comments on Water Demands Workshop Handouts

These comments are based upon a review of only the Handouts. The commentator was unable to attend the Workshop. Thus, we recognize the comments below may have been addressed during the Workshop and verbal presentations.

1. Demands overhead chart. The development of estimates for future use should include estimates for environmental needs. In addition, future use estimates must consider the potential effects of different pricing structures, efficiency measures and methodologies (e.g., improved irrigation methods, cropping patterns), land retirement, groundwater management (e.g., conjunctive use), water reclamation and recycling, and water transfers.
2. Why? overhead chart. Beneficial use should be clearly described, including the period used to measure beneficial use and criteria for determining what is beneficial use.
3. Process overhead chart. In addition to the principles to be considered, the process should consider modernization (e.g., improved agricultural practices), beneficial uses beyond historical agricultural use (e.g., fish and wildlife, water quality), and conservation. We urge the Bureau to take an approach which encourages a trend towards low water use, high value crops.
4. Residential Demand overhead chart. The description of residential demand should describe the underlying assumptions regarding type of appliances, water efficiency

requirements, and type of landscaping. For instance, the requirements of the National Energy Policy Act should be described and fully integrated into the determination of residential demand.

5. Non-Residential Demand overhead chart. We urge the Bureau to consider a method of determining non-residential demand which is not based upon the historical amount of water used. Given the requirements of the National Energy Policy Act and significant advances in non-residential water use conservation, we believe a method based upon historical water use may result in an unrealistically high estimate of demand. As for residential demand, the underlying assumptions regarding appliances, water efficiency, and landscaping should be clearly described.

6. 1a. Interior Demand overhead chart. The Bureau should describe the assumptions used to determine gpcd. Conservation and requirements of the National Energy Policy Act should be fully integrated into the determination of interior demand.

7. 1b. Landscape Demand overhead chart. Assumptions regarding the type of landscaping and irrigation methods should be provided. Again, the National Energy Policy Act and conservation requirements should be integrated into the demand calculations.

8. 3a. Unaccounted for beneficial uses overhead chart. Other beneficial uses which must be considered include environmental and in-stream beneficial uses. For instance, non-residential water use could supply incidental beneficial uses, e.g. settling ponds, discharges to wetlands.

Miscellaneous Comments

1. If references to previous documents are used, the DEIS should provide a summary of critical issues, assumptions, and decisions complete enough to stand alone without depending upon continued referencing of the other documents.

Responses to Comment Letter 13 – U.S. Environmental Protection Agency, Region IX (2000)

- 13-1: Ample opportunity for public comment was provided during the contract negotiation process, which extended over several years, including the 60-day comment period allowed for the negotiated contracts and the two 30-day comment periods for the two drafts of the EA on the proposed water service contracts. Because the contract renewals essentially maintain the status quo with respect to environmental effects, EAs rather than EISs were prepared for the contract renewals, except in those cases in which land use changes driven by other forces in the respective service areas created the potential for controversy, or, as in the case of the Sacramento River Settlement contracts, where the sheer volume of water involved in the form of water diverted under senior water rights made the contracts attractive targets for court challenges. Also see response to comment 6-1.
- 13-2: This comment is now moot. The Record of Decision on the CVPIA PEIS was released on December 7, 2000.
- 13-3: Reclamation disagrees, particularly with respect to the Updated Draft EA and the ten long-term water service contract renewals it addresses. Considerable attention is given to the evolving nature of the districts involved, where land uses are expected to remain constant or nearly so. Groundwater (overdraft issues) and water quality were not considered issues that would be affected by the renewal of existing contracts because the proposed financial and administrative changes would not change either the volumes of water under contract or the places of use. Moreover, the service areas covered by this EA lack substantial groundwater resources. While Shasta County has large groundwater resources, they underlie areas outside the service areas of these contracts.
- 13-4: Comment noted.
- 13-5: The subject of this EA is the renewal of existing contracts with financial and administrative changes but no changes in either the volumes of water under contract or the places of use. The contracts do not over commit resources because the full quantities are only delivered when the water is available. Moreover, commitments can be reversed, as happened with the provision of 800,000 acre-feet for environmental use under the CVPIA.
- 13-6: Comment noted.
- 13-7: Comment noted.

LETTER 14



Pacific Coast Federation Of Fishermen's Associations

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DT: Dec 8, 2000 FX#: 916 978-5599

TO: Bureau of Reclamation Attn: Al Candlish

FM: Zeko Grader

RE: CVP

Page 1 of 3 For Info Call _____

Message: _____

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BY FAX

7 December 2000

Bureau of Reclamation
Mid-Pacific Division
Att: Al Candlish
2800 Cottage Way
Sacramento, CA 95825-1898

Re: Comments on Draft Environmental Assessments [EAS] for Renewal of Existing Long-term Water Service Contracts for Central Valley Project [CVP]

Dear Mr. Candlish

The Pacific Coast Federation of Fishermen's Associations [PCFFA] represents the men and women of the West Coast's professional fishing fleet. Our members are engaged in fisheries that depend directly on the quality of CVP-impacted rivers, estuaries, and nearshore ocean environments.

We have reviewed the 6 December letter by Congressman George Miller to Secretary Babbitt on the subject of these proposed contract renewals, including the insufficiency of their environmental review, and that of the Trinity County Board of Supervisors of the same date on the subject. We concur and echo the concerns and recommendations Congressman Miller and Trinity County.

PCFFA has been engaged in this very CVP contract renewal issue for more than 15 years. Our testimony before the Council on Environmental Quality a dozen years ago contributed to the Administration's decision that CVP contract renewals would be the subject of comprehensive environmental review. We pressed for, and secured that same comprehensive environmental review policy when Congress deliberated the Central Valley Project Improvement Act [CVPIA] four years later.

The Bureau's current proposal to skirt the public policy developments of the past 15 years and to deliberately thwart the intent of the CVPIA by offering long-term, guaranteed-renewable water sales contracts without consideration of the effect they and their proposed successors may have on California's rivers, estuaries, and nearshore environments is inexplicable, unacceptable, and will certainly lead straight back to the political turmoil and litigation which surrounded the issue in the mid-1980s. 14-1

The livelihoods of California's professional fishermen depend upon and deserve the Bureau's responsible conduct of CVP management. We view the proposal to proceed with the proposed contract renewals without adequate National Environmental Policy Act review not only as irresponsible but as a clear violation of CVPIA policy. 14-2

Sincerely,

W. F. "Zeke" Grader
Executive Director

Responses to Comment Letter 14 – Pacific Coast Federation of Fisherman Associations (2000)

14-1: Comment noted.

14-2: Comment noted.

LETTER 15

From: Tom Stokely <tstokely@trinityalps.net>
 To: <acandlish@mp.usbr.gov>
 Date: 12/8/00 2:37PM
 Subject: Comments on Draft EA for CVP Contract Renewals

Dear Mr. Candlish,

Please accept this on behalf of the County of Trinity. A hard copy letter should have already arrived or will arrive shortly. I will also fax you the letter below.

Sincerely,

Tom Stokely,
 Senior Planner
 Trinity County Planning Dept.
 PO Box 156
 Hayfork, CA 96041
 530-628-5949

TRINITY COUNTY BOARD OF SUPERVISORS
 P.O. BOX 1258
 WEAVERVILLE, CA 96093-1258

December 6, 2000

Bureau of Reclamation
 Mid-Pacific Division
 Attn: Al Candlish
 2800 Cottage Way
 Sacramento, CA 95825-1898

Re: Draft Environmental Assessments (EAs) for Renewal of Existing Long-term Water Service Contracts for Central Valley Project (CVP)

Dear Mr. Candlish:

The Board of Supervisors recommends that the Draft Environmental Assessments for renewal of CVP long-term water service contracts not be approved. The impacts of this proposed federal action are significant and cannot be approved under a Finding of No Significant Impact. A comprehensive CVP-wide EIS for water contract renewals should be prepared.

The cumulative impacts of renewing 25 long-term water service contracts is a significant cumulative impact which requires preparation of an EIS.

As demonstrated in Table ES -1 from the "Trinity River Mainstem Fishery Restoration EIS/EIR" (USFWS, Trinity County, Hoopa Valley Tribe and BOR, November, 2000), there are significant impacts from blanket renewal of long-term CVP water service contracts. This can be seen in the

15-1

ALC 01 12-11-00

difference between the "Existing Conditions (1995) base year and the No Action Alternative in the year 2020. In particular, renewal of contracts from the American River Division will increase CVP demand by 320,000 acre-feet per year by the year 2020. This significant impact will manifest itself with reduced carryover storage in Shasta and Trinity reservoirs, with resultant impacts to recreation, as well as listed species in the Trinity River such as coho and steelhead, and impacts to the Sacramento River listed species such as winter and spring chinook. This is evidenced by increases in violation of Trinity and Sacramento river temperature compliance, and Shasta Lake carryover storage requirements per the 1993 NMFS Biological Opinion.

As a result of the October 20, 2000 ESA consultation by NMFS on the Trinity River Mainstem Fishery Restoration EIS, Trinity Lake carryover storage should not go below 600,000 acre-feet. A comprehensive EIS on CVP contract renewals should evaluate impacts to this Trinity Lake carryover storage requirement for protection of the Trinity River's fishery.

We are extremely disappointed that without adequate public review and input, Interior reversed its contract negotiation position very recently and changed contract terms so that the "contract total" for water quantities would be unchanged from existing contracts even though historic deliveries have been far less. Renewal of these contracts which includes this "paper water" will continue to result in contracts for water delivery well beyond available CVP supplies. As a county of origin for the CVP, we believe the citizens and resources of Trinity County will be significantly harmed by this overcommitment of water.

15-2

We are also extremely disappointed that Interior reversed its position, again without adequate public review and input, of the tiered pricing provisions of the Central Valley Project Improvement Act (CVPIA) so that these provisions would apply only to the "contract total," not the "base" water supply. Such a position will not encourage water conservation, nor will it assure long-term repayment of the CVP by water contractors.

15-3

The EA's do not adequately analyze the above impacts in a singular or cumulative sense with other ongoing actions CVP-wide. A Finding of No Significant Impact would not be justifiable in this case. In addition, the EAs do not analyze adequately the cumulative effect of applying these policies to remaining CVP water service delivery contracts which have not yet expired - in other words, all CVP water service contracts.

15-4

The contracts should be renegotiated to reflect the legal requirements of CVPIA, then a CVP-wide contract renewal EIS should be prepared to deal with the above issues cumulatively. A Finding of No Significant Impacts is not justifiable.

Sincerely,
out

December 6, 2000

Bureau of Reclamation
Mid-Pacific Division
Attn: Al Candlish
2800 Cottage Way
Sacramento, CA 95825-1898

Re: Draft Environmental Assessments (EAs) for Renewal of Existing Long-term Water Service Contracts for Central Valley Project (CVP)

Dear Mr. Candlish:

The Board of Supervisors recommends that the Draft Environmental Assessments for renewal of CVP long-term water service contracts not be approved. The impacts of this proposed federal action are significant and cannot be approved under a Finding of No Significant Impact. A comprehensive CVP-wide EIS for water contract renewals should be prepared.

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As demonstrated in Table ES -1 from the "Trinity River Mainstem Fishery Restoration EIS/EIR" (USFWS, Trinity County, Hoopa Valley Tribe and BOR, November, 2000), there are significant impacts from blanket renewal of long-term CVP water service contracts. This can be seen in the difference between the "Existing Conditions (1995) base year and the No Action Alternative in the year 2020. In particular, renewal of contracts from the American River Division will increase CVP demand by 320,000 acre-feet per year by the year 2020. This significant impact will manifest itself with reduced carryover storage in Shasta and Trinity reservoirs, with resultant impacts to recreation, as well as listed species in the Trinity River such as coho and steelhead, and impacts to the Sacramento River listed species such as winter and spring chinook. This is evidenced by increases in violation of Trinity and Sacramento river temperature compliance, and Shasta Lake carryover storage requirements per the 1993 NMFS Biological Opinion.

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provisions of the Central Valley Project Improvement Act (CVPIA) so that these provisions would apply only to the "contract total," not the "base" water supply. Such a position will not encourage water conservation, nor will it assure long-term repayment of the CVP by water contractors.

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The contracts should be renegotiated to reflect the legal requirements of CVPIA, then a CVP-wide contract renewal EIS should be prepared to deal with the above issues cumulatively. A Finding of No Significant Impacts is not justifiable.

Sincerely,

TRINITY COUNTY BOARD OF SUPERVISORS

Ralph Modine, Chairman

TRINITY COUNTY BOARD OF SUPERVISORS

Responses to Comment Letter 15 - Trinity County Board of Supervisors (2000)

- 15-1: Since this comment was written, the flows in the Trinity River have been set by a judicial opinion, and the contract renewals have no effect on the Trinity River's flows. Also see the response to comment 6-56.
- 15-2: As noted in response 15-1, the flows in the Trinity River have already been established by a judicial order and will not be affected by these contract renewals. Moreover, should area of origin rights be upheld by the courts and changes in operations required by the State Water Resources Control Board, Reclamation would adjust its operations as required by law.
- 15-3: The comment appears to be asking for either the types of analyses presented in the CVPIA PEIS or those finalized in the 2004 OCAP Biological Opinions. In either case, the analyses requested, which are appropriately addressed in these other documents, are beyond the scope of this EA.
- 15-4: See response to comment 7-4.



LETTER 16 STATE OF CALIFORNIA

Governor's Office of Planning and Research
State Clearinghouse and Planning Unit



Jan Boel
Acting Director

Arnold
Schwarzenegger
Governor

October 13, 2004

Buford Holt
U.S. Bureau of Reclamation
16349 Shasta Dam Boulevard
Shasta Lake, CA 96019

Subject: Updated Draft EA for the Long-Term Contract Renewal
SCH#: 2000114007

Dear Buford Holt:

The enclosed comment (s) on your Environmental Assessment was (were) received by the State Clearinghouse after the end of the state review period, which closed on October 4, 2004. We are forwarding these comments to you because they provide information or raise issues that should be addressed in your final environmental document.

The California Environmental Quality Act does not require Lead Agencies to respond to late comments. However, we encourage you to incorporate these additional comments into your final environmental document and to consider them prior to taking final action on the proposed project.

Please contact the State Clearinghouse at (916) 445-0613 if you have any questions concerning the environmental review process. If you have a question regarding the above-named project, please refer to the ten-digit State Clearinghouse number (2000114007) when contacting this office.

Sincerely,

Terry Roberts

Terry Roberts
Senior Planner, State Clearinghouse

Enclosures
cc: Resources Agency

OFFICIAL FILE COPY RECEIVED	
OCT 15 2004	
BUREAU OF RECLAMATION NORTHERN CALIFORNIA OFFICE	
CDD#	340

Classification	END-8.00
Project	GE
Control No.	4002081 J.W.
Folder No.	650

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
TEL (916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

State Clearinghouse Data Base

SCH# 2000114007
Project Title Updated Draft EA for the Long-Term Contract Renewal
Lead Agency U.S. Bureau of Reclamation

Type EA Environmental Assessment
Description Project is the proposed renewal of long-term water service contracts for M&I and agricultural use to 10 water districts. The contract terms would be consistent with CVPIA. The proposed water service contracts would deliver up to 55,050 AF/year. M&I-only contracts would be renewed up to 40 years. Contracts with ag water or ag and M&I would be renewed for up to 25 years.

Lead Agency Contact

Name Buford Holt
Agency U.S. Bureau of Reclamation
Phone (530) 275-1554 Fax
email
Address 16349 Shasta Dam Boulevard
City Shasta Lake State CA Zip 96019

Project Location

County Shasta, Trinity
City Redding
Region
Cross Streets
Parcel No.
Township Range Section Base

Proximity to:

Highways
Airports
Railways
Waterways Central Valley Project - Shasta and Trinity River Divisions
Schools
Land Use

Project Issues Agricultural Land; Archaeologic-Historic; Cumulative Effects; Economics/Jobs; Landuse; Population/Housing Balance; Water Supply; Wildlife

Reviewing Agencies Resources Agency; Regional Water Quality Control Bd., Region 5 (Redding); Department of Parks and Recreation; Native American Heritage Commission; Department of Health Services; Reclamation Board; Department of Fish and Game, Region 1; Department of Water Resources; Caltrans, District 2; State Water Resources Control Board, Division of Water Rights; State Water Resources Control Board, Clean Water Program

Date Received 08/03/2004 Start of Review 09/03/2004 End of Review 10/04/2004

Note: Blanks in data fields result from insufficient information provided by lead agency.

LETTER 16

Responses to Comment Letter 16 – State Clearinghouse and Planning Unit (2004)

Letter 16 contains no comments.

DEPARTMENT OF TRANSPORTATION

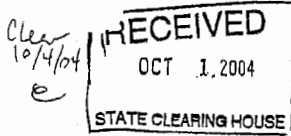
P.O. BOX 486073
REDDING, CA 96049-6073
PHONE (530) 225-3369
FAX (530) 225-3020

LETTER 17



*Flex your power!
Be energy efficient*

IGR/CEQA Review
Sha-Tri-Admin
Long-Term Contracts Renewal
Draft EA FONSI
SCH# 2000114007



October 1, 2004

Mr. Buford Holt
U.S. Bureau of Reclamation
16349 Shasta Dam Boulevard
Shasta Lake, CA 96019

Dear Mr. Holt:

Caltrans District 2 has reviewed the Draft Environmental Assessment and Draft Finding of No Significant Impact submitted on behalf of the U.S. Bureau of Reclamation, for the proposed long-term Ventral Valley Project water service contract between Reclamation and Contractors within the Shasta and Trinity River Divisions.

Based on the project information submitted, approval of this project will not adversely impact facilities under our jurisdiction; therefore, we have no comment.

Thank you for providing us the opportunity to review this project. If you have any questions, or if the scope of this project changes, please call me at 225-3369.

Sincerely,

MARCELINO GONZALEZ
Local Development Review
District 2

Responses to Comment Letter 17 – California Department of Transportation (2004)

Letter 17 contains no comments.

LETTER 18

STATE OF CALIFORNIA

Arnold Schwarzenegger, Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 384
SACRAMENTO, CA 95814
(916) 653-4082
(916) 657-5390 - Fax



October 5, 2004



Mr. Buford Holt
U.S. Bureau of Reclamation
16349 Shasta Dam Blvd.
Shasta Lake City, CA 96019

Re: Updated Draft Environmental Assessment for the Long-Term Contract Renewal, Shasta and Trinity River Diversions

SCH# 200114007

2000114007

Dear Mr. Holt:

Thank you for the opportunity to comment on the above referenced Environmental Assessment.

Section 800.2 of the Federal Section 106 process (36 CFR PART 800) requires that agencies consult with Native American tribes in order to provide them with "a reasonable opportunity to identify (their) concerns about historic properties, advise on the identification and evaluation of historic properties, including those of traditional religious and cultural importance, articulate (their) views on the undertaking's effects on such properties, and participate in the resolution of adverse effects."

Enclosed is a list of Native American individuals/organizations who may have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. The Commission makes no recommendation of a single individual or group over another. By contacting all those listed, your organization will be better prepared to address claims of failure to consult with the appropriate tribe or group. A minimum of two weeks must be allowed for responses following notification. If there has been no response following the two week period, we recommend that you follow-up by telephone to ensure that the information was received.

Lack of surface evidence of archeological resources does not preclude the existence of archeological resources. Lead agencies should include provisions for accidentally discovered archeological resources during construction per California Environmental Quality Act (CEQA), Public Resources Code §15064.5 (f); Health and Safety Code §7050.5; and Public Resources Code §5097.98 mandate the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery and should be included in all environmental documents. If you have any questions, please contact me at (916) 653-6251.

18-1

Sincerely,

Carol Gaubatz
Program Analyst

cc: State Clearinghouse

10/05/2004 08:08 FAX 916 657 5390

NAHC

002

Native American Contacts Shasta County October 5, 2004

Carol Y. Bowen
1797 Shasta Street
Anderson, CA 96007
(530) 365-0940

Wintun

Pit River Tribe Environmental Office
Sharon Elmore, Cultural Information Officer
37014 Main Street
Burney, CA 96013
(530) 335-5062

Ajumawi Band Cultural Resources Representative
Leta Nalton
PO Box 1253
Burney, CA 96013

Pit River

Pit River Tribe of California
Jessica Jim, Chairperson
37014 Main Street
Burney, CA 96013

Pit River
Achomawi - Atsugewi
Wintun

(530) 335-5421
(530) 335-3140 Fax

~~Illmawi Band Cultural Resources Representative~~

~~Cecelia Silvas
P.O. Box 48
Fall River Mills, CA 96028
(916) 335-2777~~

~~Pit River - Illmawi~~

~~Pit River Tribe of California
Virginia Sutter, Tribal Administrator
37014 Main Street
Burney, CA 96013~~

~~Pit River
Achomawi - Atsugewi
Wintun~~

~~(530) 335-5421
(530) 335-3140 Fax~~

Itsatawi Band Cultural Resources

Vivian Martinez
3520 Park Street
Shasta Lake, CA 96019
(530) 241-6119

Pit River

Pit River Tribe of California
Michelle Berditschewsky, Environmental Coordinator
37014 Main Street
Burney, CA 96013

Pit River
Achomawi - Atsugewi
Wintun

(530) 335-5062

Madesi Band Cultural Resource Representative

Angel Winn
PO Box 141
Montgomery, CA 96065

Pit River

Redding Rancheria
Tracy Edwards, Chairperson
2000 Redding Rancheria Road
Redding, CA 96001

Wintun
Pit River
Yana

(530) 225-8979
Fax: (530) 241-1879

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Updated Draft Environmental Assessment for the Long-Term Contract Renewal, SCH# 200114007, Shasta County.

LETTER 18

Native American Contacts
Shasta County
October 5, 2004

Redding Rancheria
 Barbara Murphy, Chief Executive Officer
 2000 Redding Rancheria Road Wintu
 Redding, CA 96001 Pit River
 Yana
 (530) 225-8979
 Fax: (530) 241-1879

Roaring Creek Rancheria
 PO Box 52 Pit River
 Montgomery 96065
 CA
 (530) 335-5421

Winnemem Wintu Tribe

Caleen Sisk-Franco, Tribal Chair
 14840 Bear Mountain Road Wintu
 Redding, CA 96003
 winnemem@msn.com
 (530) 275-2737
 (530) 275-4193 FAX

Wintu Educational and Cultural Council
 Robert Burns
 12138 Lake Blvd. Wintu
 Redding, CA 96003
 (530) 246-3313

Wintu Tribe and Toyon-Wintu Center
 2675 Bechelli Lane Wintu
 Redding 96001
 CA

wintu_tribe@hotmail.com
 (530) 226-8088
 (530) 223-2879 - Gene Malone
 (530) 242-1374 - Carol Sinclair

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.6 of the Health and Safety Code, Section 5097.54 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Updated Draft Environmental Assessment for the Long-Term Contract Renewal, SCH# 200114067, Shasta County.

Responses to Comment Letter 18 - Native American Heritage Commission (2004)

18-1: Because the proposed action consists solely of the renewal of long-term water service contracts, it does not involve any construction. Therefore, it does not involve the potential for discovering archaeological resources.

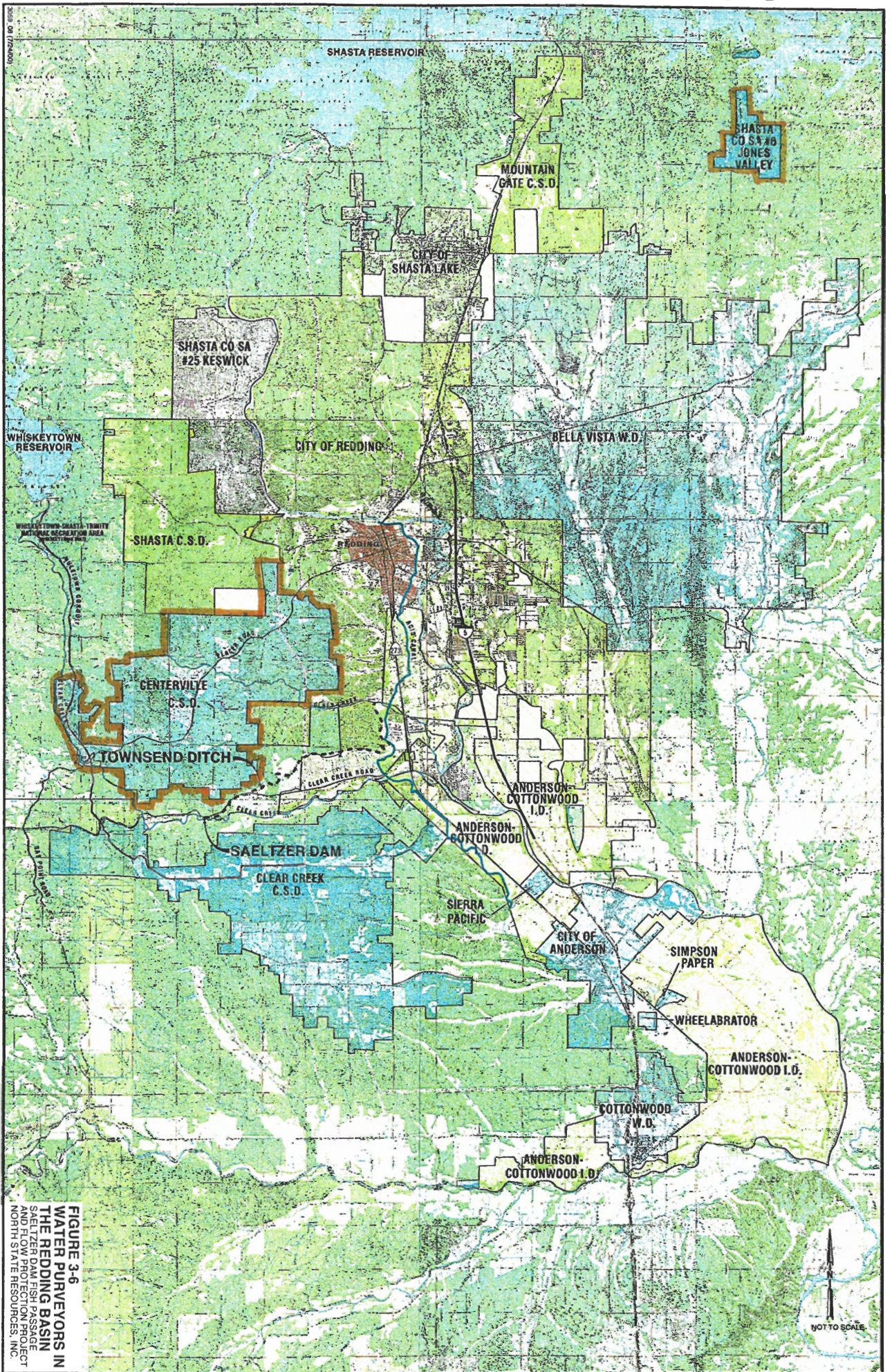
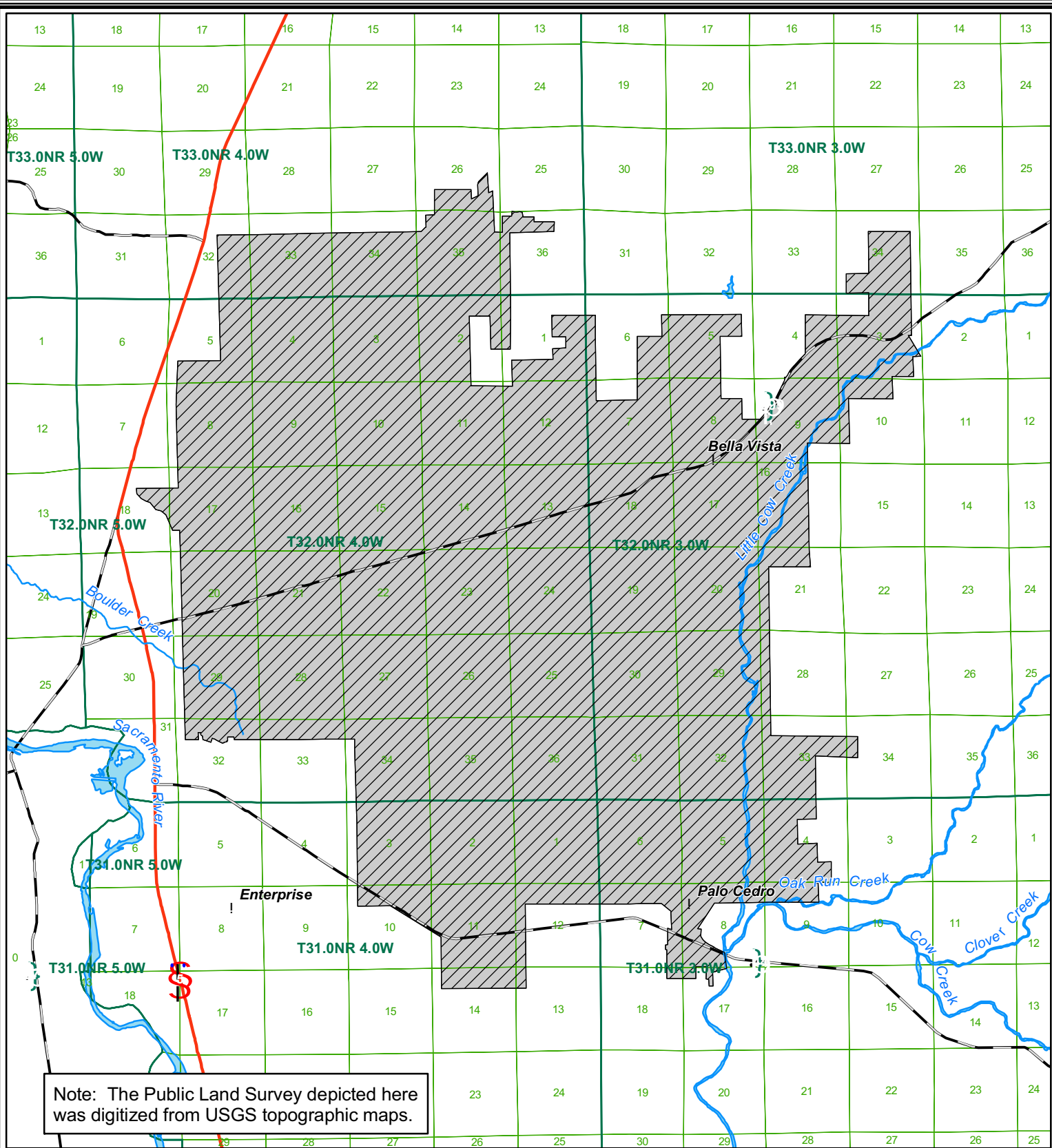


FIGURE 3-6
WATER PURVEYORS IN
THE REDDING BASIN
 SAELTZER DAM FISH PASSAGE
 AND FLOW PROTECTION PROJECT
 NORTH STATE RESOURCES, INC.



APPENDIX G

Contractor Service Area Maps

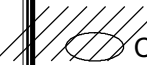



Note: The Public Land Survey depicted here was digitized from USGS topographic maps.

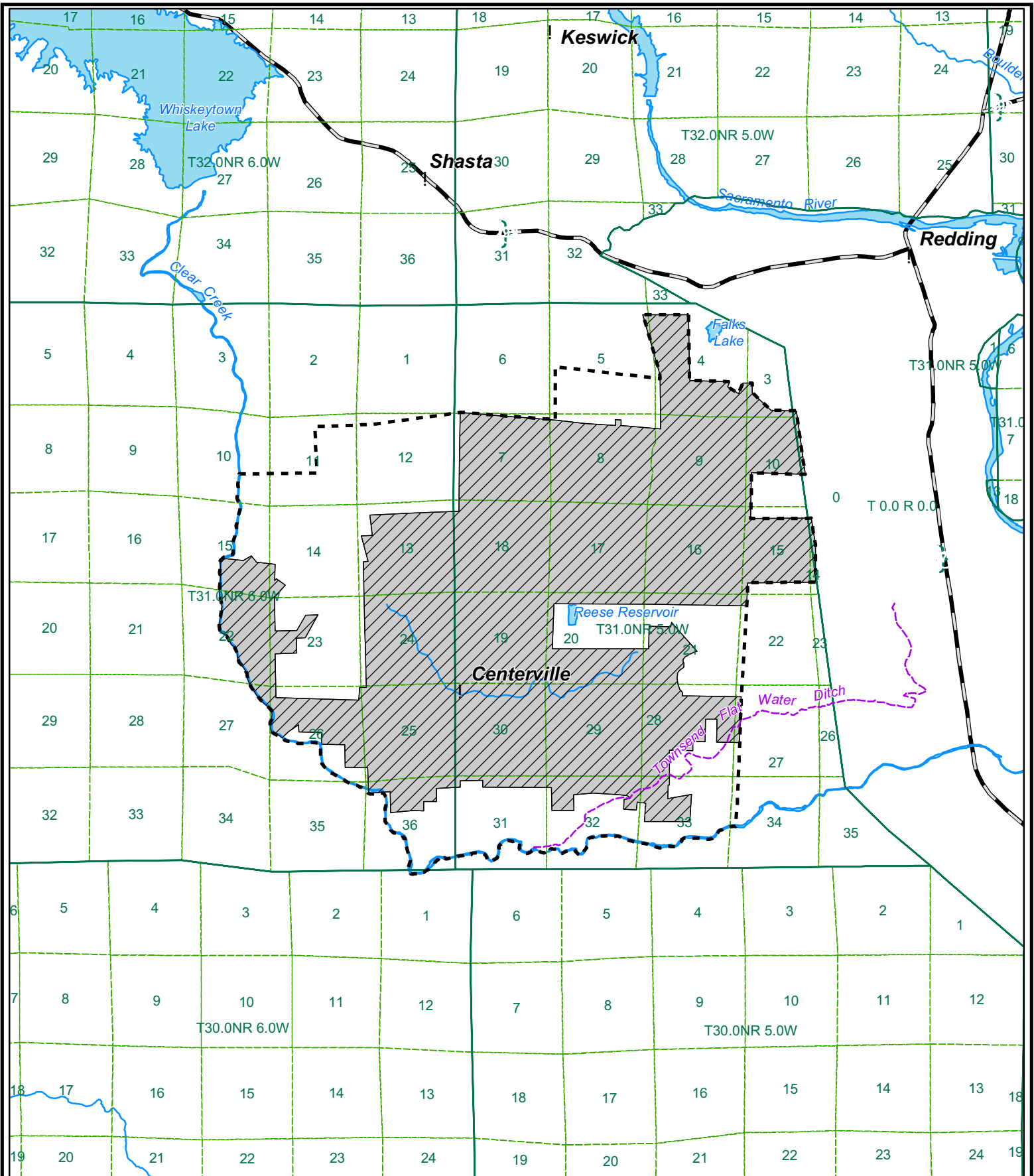
Bella Vista Water District

Contract No. 14-06-200-851A-LTR1
Exhibit A



-  Contractor's Service Area
-  District Boundary








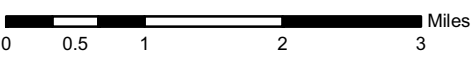
Centerville Community Services District

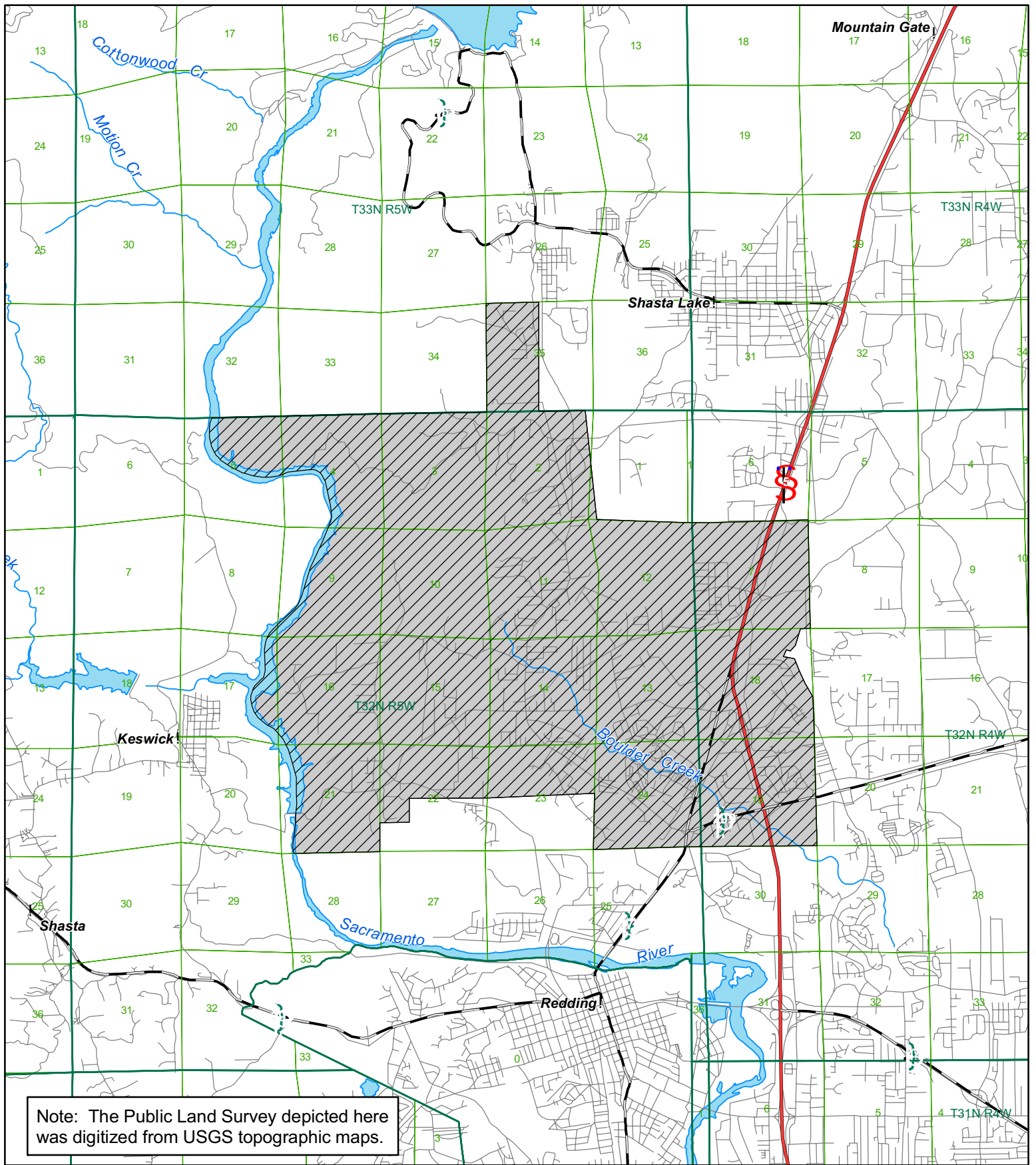
Contract No. 14-06-200-3367X-LTR1

Exhibit A





-  Contractor's Service Area
-  District Boundary
-  Sphere of Influence



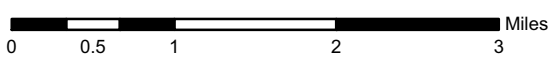


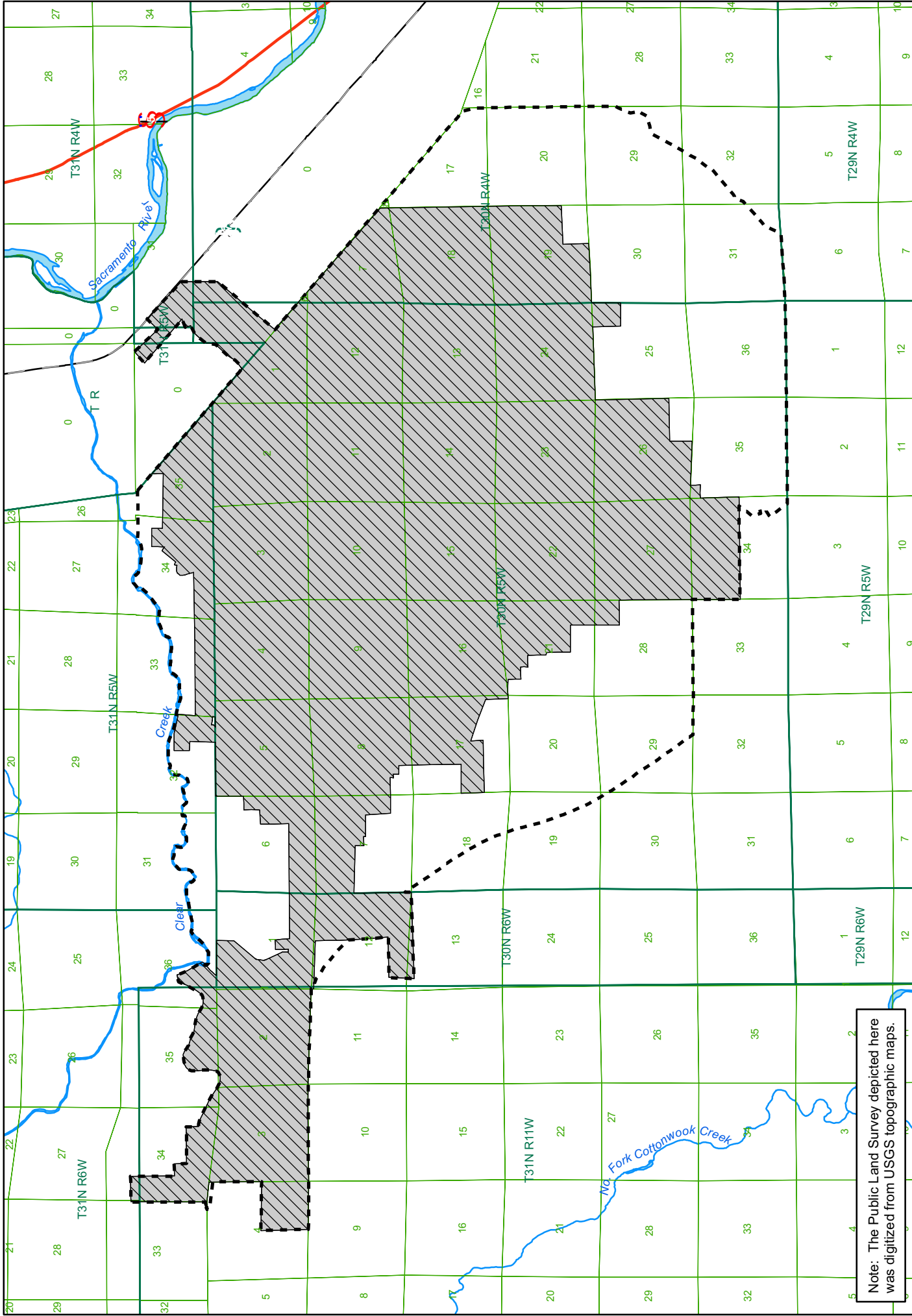
Note: The Public Land Survey depicted here was digitized from USGS topographic maps.

-  Contractor's Service Area
-  District Boundary

City of Redding (Buckeye)

Contract No. 14-06-200-5272A-LTR1
Exhibit A





Note: The Public Land Survey depicted here was digitized from USGS topographic maps.

Clear Creek Community Service District

Exhibit A

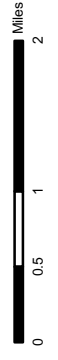
Contract No. 14-06-200-489A-LTR1

Contractor's Service Area

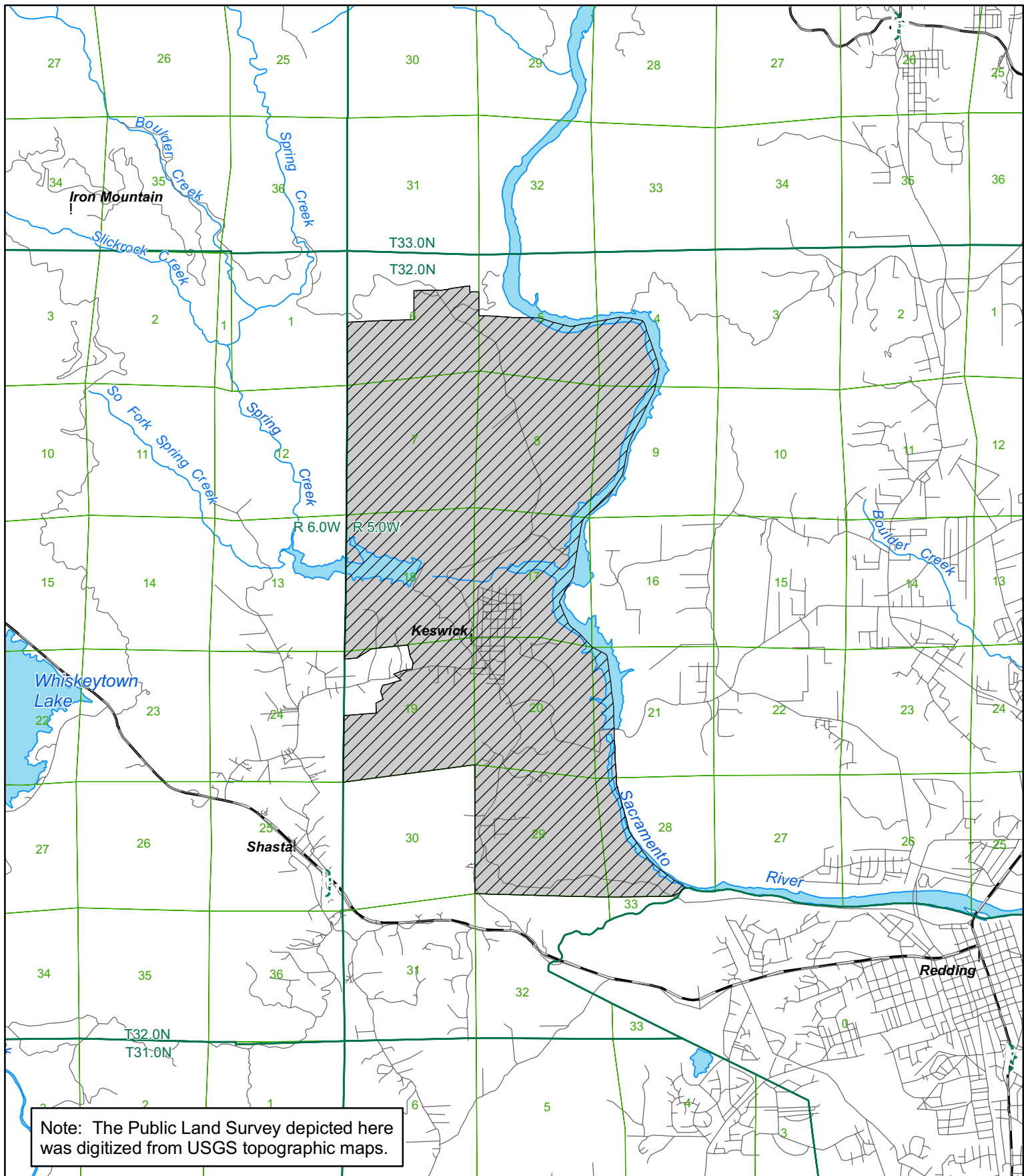
 District Boundary

 Sphere of Influence

Date: October 13, 2004
 File Name: N:\districts\contracts\clear_creek\clear_itr.mxd



416-208-2959



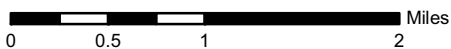
Shasta County Service Area No. 25 - Keswick

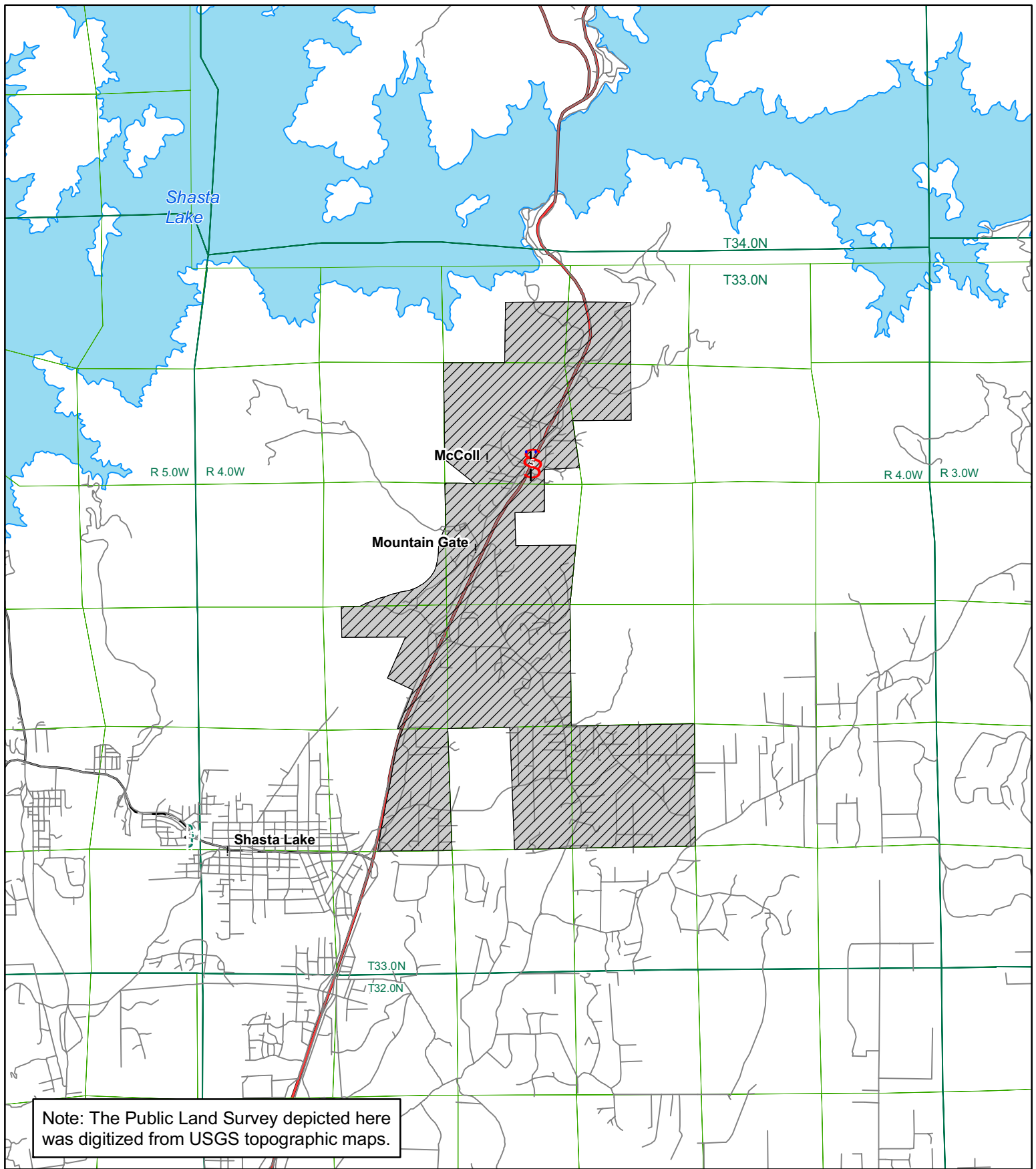
Contract No. 14-06-200-1307A-LTR1

Exhibit A



-  Contractor's Service Area
-  District Boundary



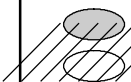



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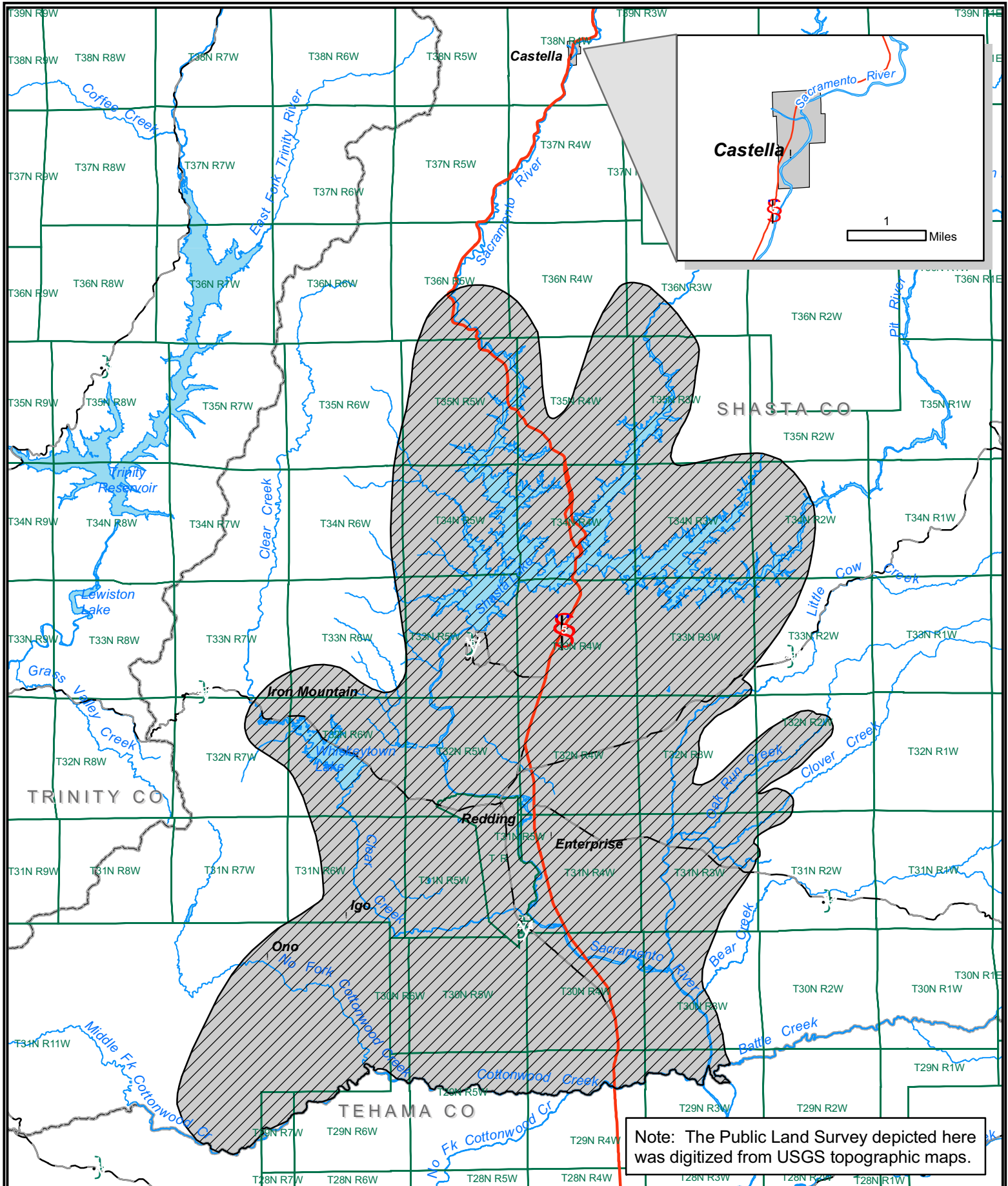
Mountain Gate Community Services District

Contract No. 14-06-200-6998-LTR1

Exhibit A

 District Boundary
 Contractor's Service Area







Shasta County Water Agency

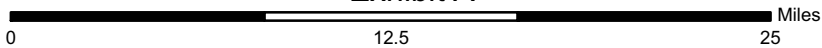
Contract No. 14-06-200-3367A-LTR1

Exhibit A

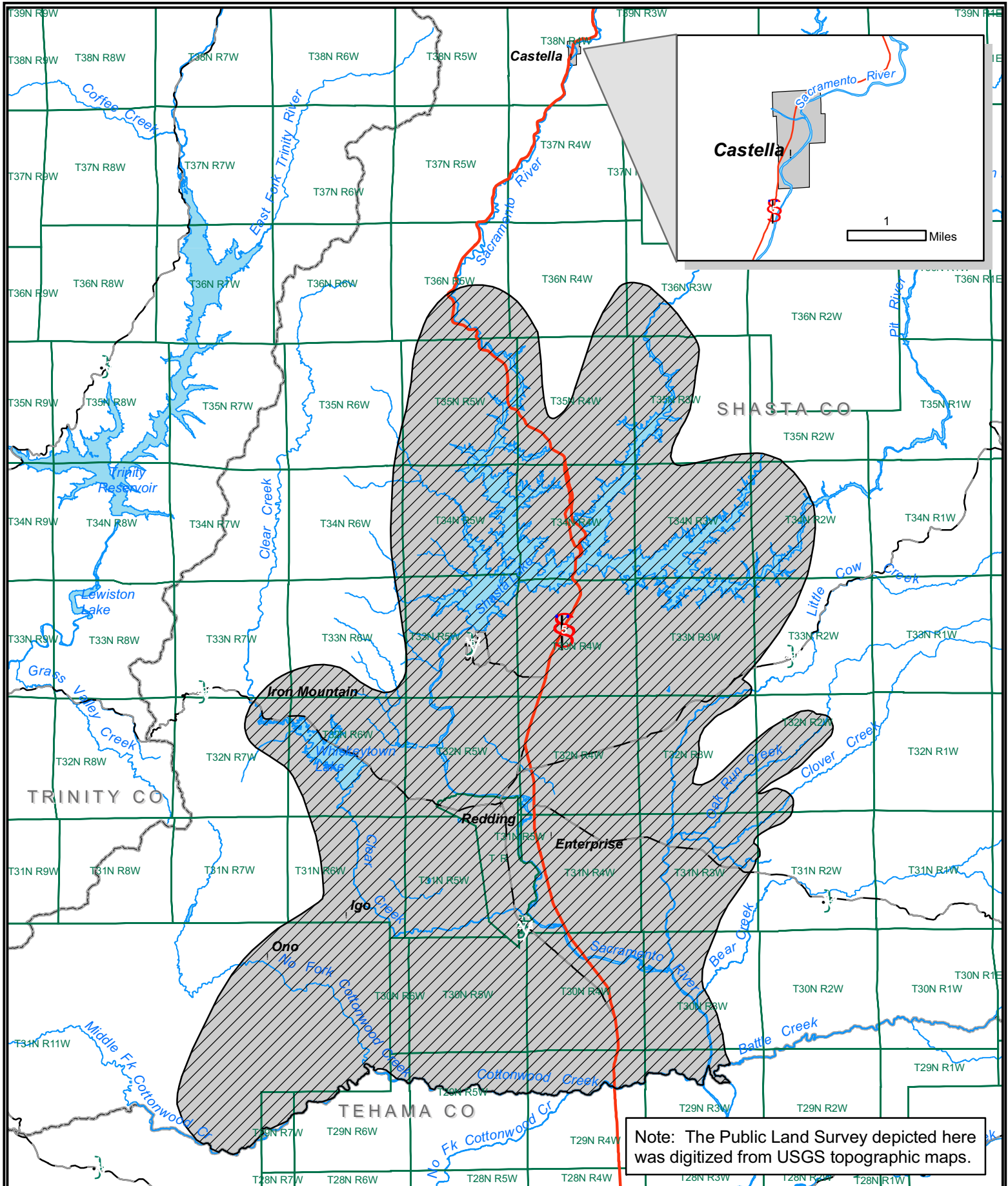


-  District Boundary
-  Contractor's Service Area

Date: October 12, 2004
 File Name: N:\districts\contracts\shasta_co_wa\shasta_co_wa.mxd



214-202-8





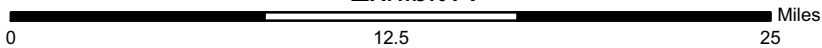
Shasta County Water Agency

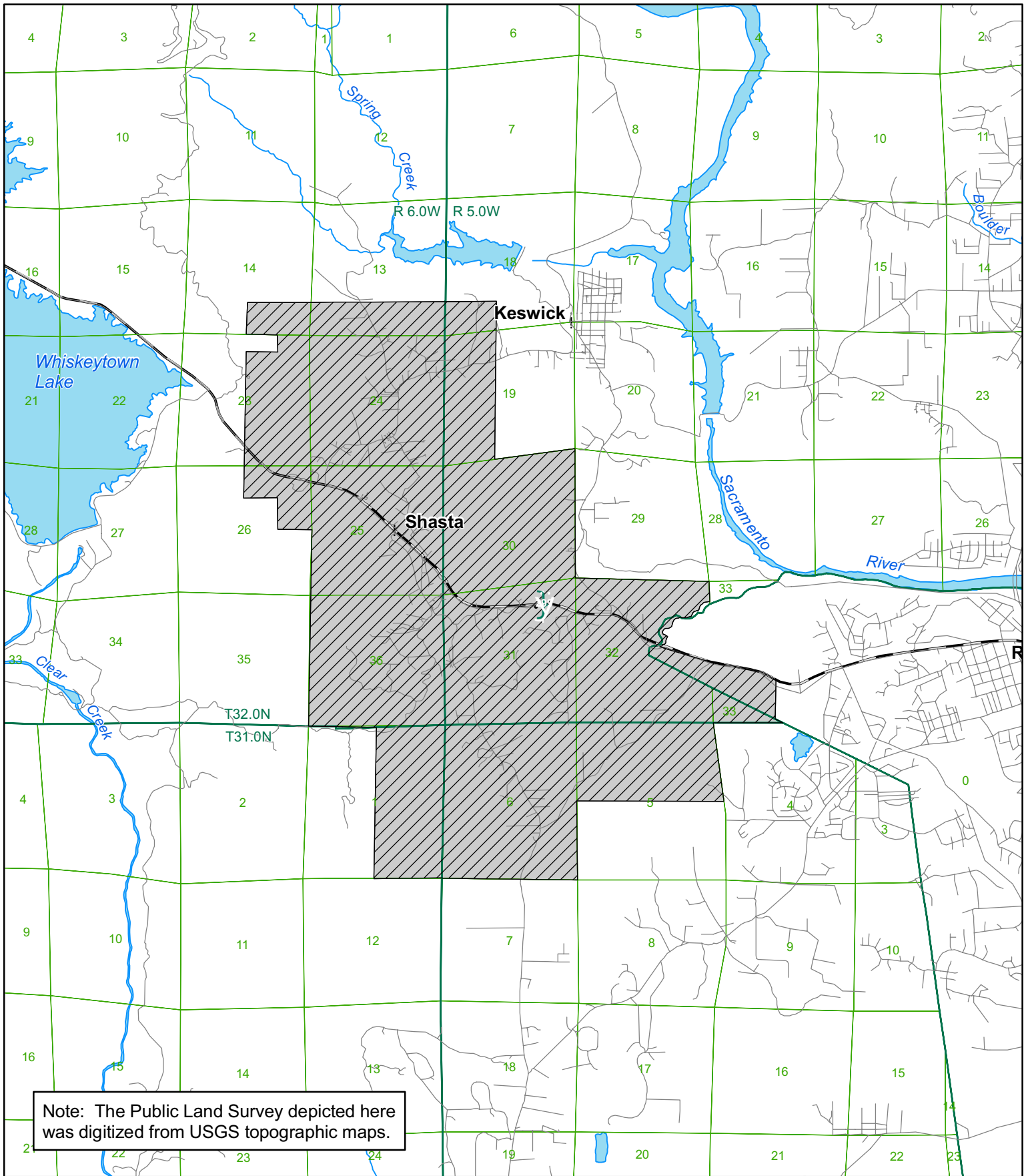
Contract No. 14-06-200-3367A-LTR1

Exhibit A



-  District Boundary
-  Contractor's Service Area





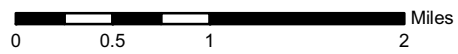
Note: The Public Land Survey depicted here was digitized from USGS topographic maps.

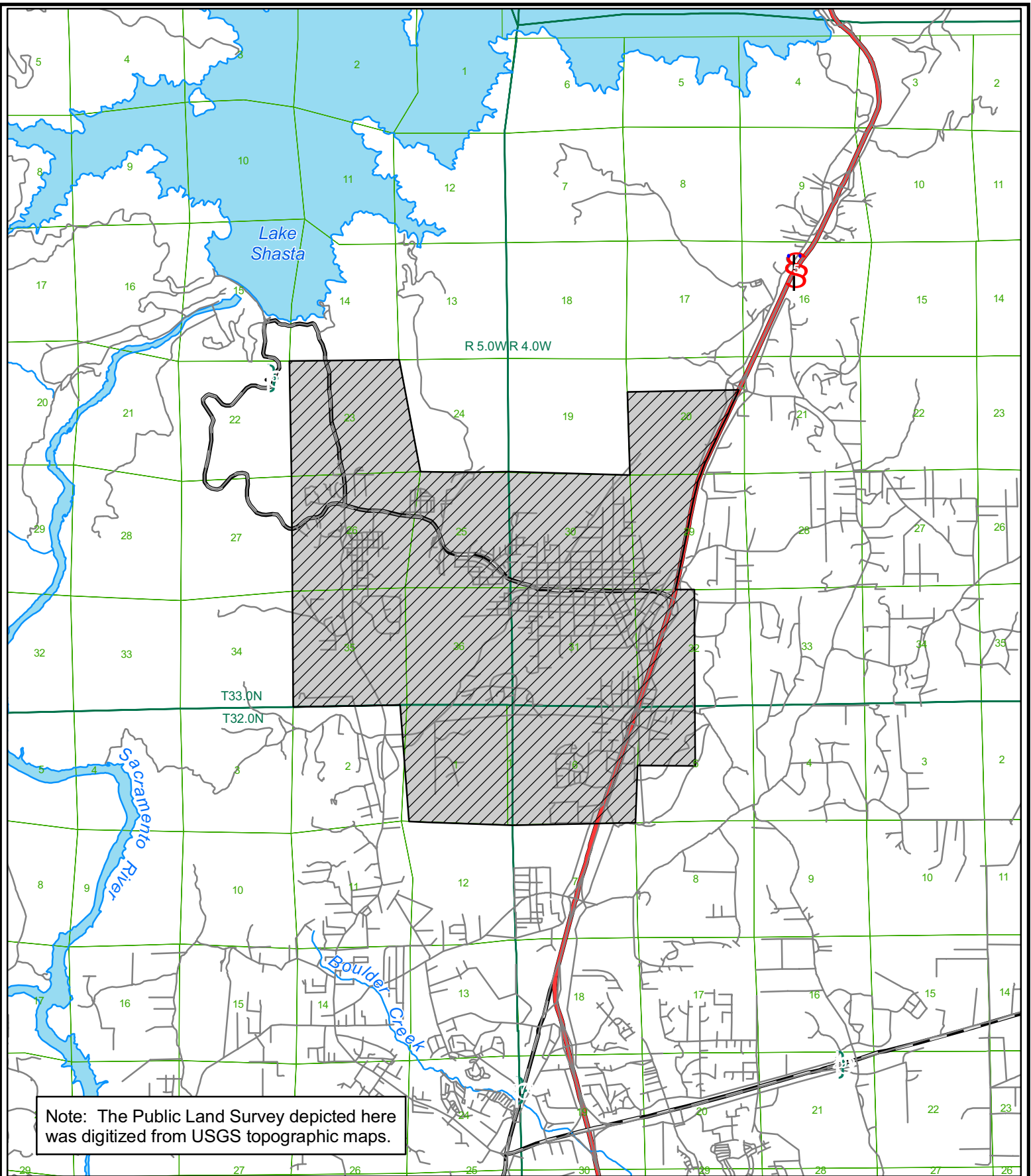
Shasta Community Services District

Contract No. 14-06-200-862A-LTR1

Exhibit A

-  Contractor's Service Area
-  District Boundary



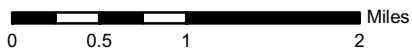


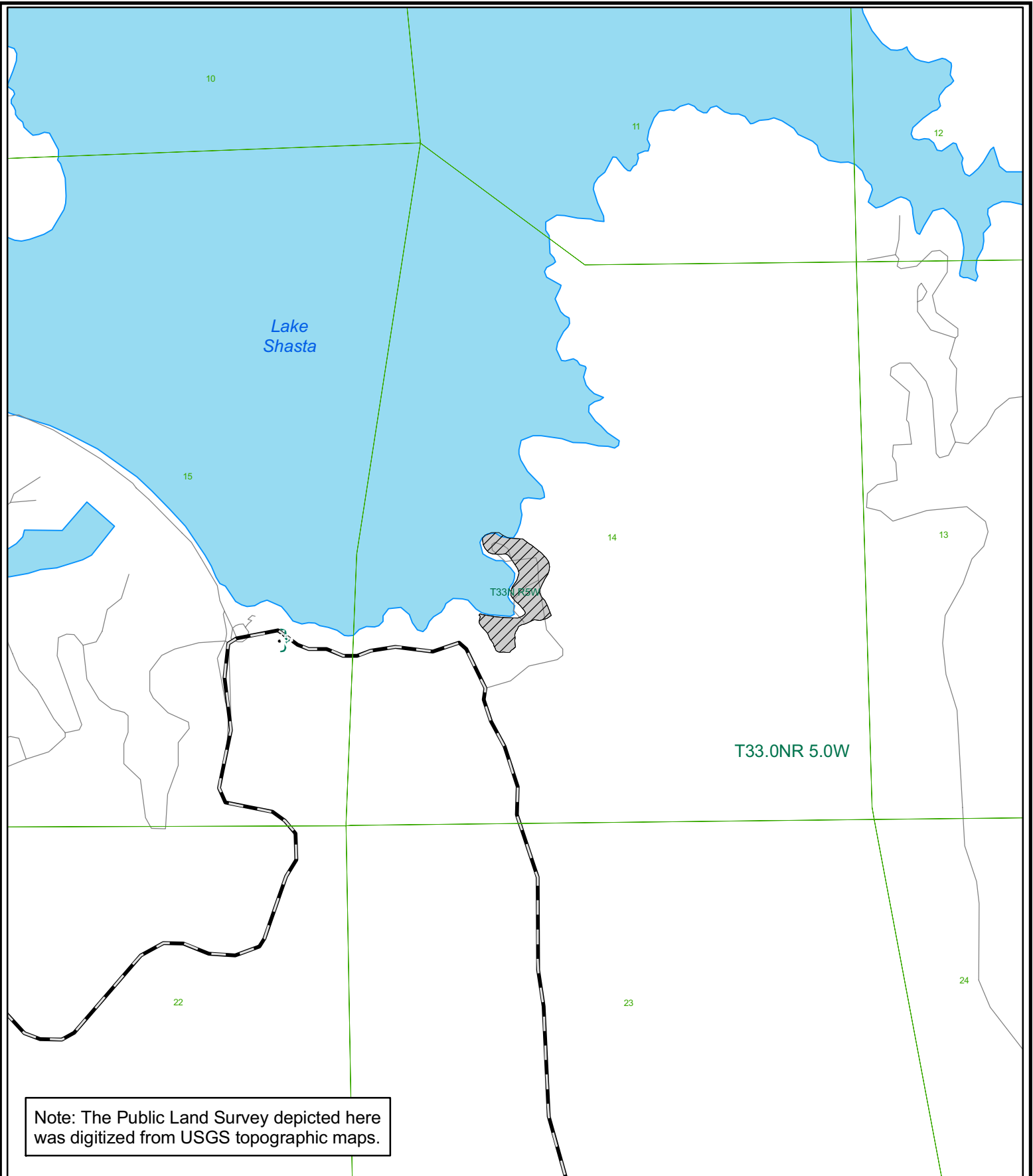
Note: The Public Land Survey depicted here was digitized from USGS topographic maps.

City of Shasta Lake

Contract No. 4-07-20-W1134-LTR1

Exhibit A

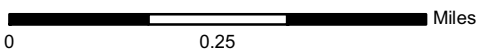






U.S. Forest Service - Centimudi Marina

Contract No. 14-06-200-3464A-LTR1

Exhibit A



-  Contractor's Service Area
-  District Boundary



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In reply refer to:
1-1-04-I-2949

NOV 12 2004

Memorandum

To: Area Manager, Northern California Area Office, Bureau of Reclamation,
Sacramento, California

From: *Peter A. Cross*
Field Supervisor, Sacramento Fish and Wildlife Office, Sacramento, California

Subject: Conclusion of Informal Consultation on Long-Term Renewal of Six Water-
Service Contracts in the Shasta, Trinity, and Sacramento River Divisions and
Request for Supplemental Information for Six Others

This memorandum is in response to your April 13, 2004, letter requesting formal consultation on the proposed long term renewal of Central Valley Project water service contracts in the Shasta, Trinity, and Sacramento River Divisions of the Northern California Area Office. Your request was received by the U.S. Fish and Wildlife Service (Service) on April 14, 2004. This response is in accordance with the Endangered Species Act of 1973, as amended.

Conclusion of Informal Consultation

We have reviewed the information provided in your April 13, 2004 letter; the accompanying Biological Assessments for long-term contract renewals provided for the Shasta and Trinity River Divisions (dated August 2003) and the Black Butte, Corning Canal, and Tehama-Colusa Canal Units (dated April 2004); supplemental information provided by your office and by the U.S. Bureau of Reclamation (Reclamation) Mid-Pacific Regional Office, including GIS data; and other information available to us. We have determined that the proposed renewal of long term water service contracts is not likely to adversely affect listed species or critical habitat in the following six water districts:

Shasta and Trinity Divisions

City of Redding
City of Shasta Lake
Clear Creek Community Services

Sacramento River Division

Orland-Artois
Corning
Thomes Creek

TAKE PRIDE
IN AMERICA 

There are either no listed species or critical habitat within the action area (defined for this analysis as the water service area of each water district) or, if listed species or critical habitat are present or likely to occur within the action area, we do not believe that there will be measurable direct or indirect effects on them as a result of the proposed action.

This concludes informal consultation on the six water service contracts listed above. No further action is needed unless: (1) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered; (2) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered; or (3) a new species is listed or critical habitat designated that may be affected by the action; and (4) discretionary Federal agency involvement or control over the action is maintained (or is authorized by law). Reclamation should continue to monitor these actions and review this determination as needed based on the reinitiation criteria.

Based on the information provided in your April 13, 2004 letter; the accompanying Biological Assessments for long-term contract renewals provided for the Shasta and Trinity River Divisions (dated August 2003); the Feather Water District (dated April 2004) and the Black Butte, Corning Canal, and Tehama-Colusa Canal Units (dated April 2004); supplemental information provided by your office and by the Reclamation Mid-Pacific Regional Office, including GIS data; and other information available to us, we have determined that ground-truthing specific areas within the districts is necessary to determine adverse affects, as appropriate, for the Kirkwood Water District and the Proberta Water District.

We are coordinating with Reclamation staff to facilitate those efforts. Once our analysis is complete, we will issue our determination for the two districts listed above.

Initiation of Formal Consultation and Request for Supplemental Information

This request for supplemental information addresses deficits in the biological assessments. Until we receive the supplemental information we cannot proceed with the formal consultations. The requested information is consistent with the *Central Valley Project Improvement Act*, the *Biological Opinion on Implementation of the CVPIA and Continued Operation and Maintenance of the CVP* (Service File # 1-1-98-F-0124) (CVPIA Opinion), and is pursuant to the regulations governing interagency consultations (50 CFR §402.14(c)).

- A. Please provide Water Needs Assessments for the following districts, or written confirmation that they receive less than the minimum delivery to require a Water Needs Assessment: Black Butte Unit, Mountain Gate, Keswick, USFS, Centerville Community Services, and Shasta Community Services. Please provide us with the appropriate Water Needs Assessments so that we may begin formal consultation on these districts.

This represents the Service's review of the actions presented in your April 13, 2004, request for formal consultation on long-term renewal of the six water service contracts listed above in the Shasta, Trinity, and Sacramento River Divisions.

If you have questions regarding the proposed project, please contact Allison Arnold or Jan Knight at (916) 414-6620 or (916) 414-6645.



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In reply refer to:
1-1-04-F-0227

AUG 17 2004

Mr. Michael J. Ryan
Area Manager
U.S. Bureau of Reclamation
Northern California Area Office
16349 Shasta Dam Boulevard
Shasta Lake, California 96019-8400

Subject: Conclusion of Informal Consultation on Long Term Renewal of Sixteen Water Service Contracts in the Shasta, Trinity, and Sacramento River Divisions, and Request for Supplemental Information on Nine Other Water Districts

Dear Mr. Ryan:

This memorandum is in response to your April 13, 2004, letter requesting formal consultation on the proposed long term renewal of Central Valley Project water service contracts in the Shasta, Trinity, and Sacramento River Divisions of the Northern California Area Office. Your request was received by the U.S. Fish and Wildlife Service (Service) on April 14, 2004. This response is in accordance with the Endangered Species Act of 1973, as amended.

Conclusion of Informal Consultation

We have reviewed the information provided in your April 13, 2003 letter, the accompanying Biological Assessments for long-term contract renewals provided for the Shasta and Trinity River Divisions (dated August 2003), the Feather Water District (dated April 2004), and the Black Butte, Corning Canal, and Tehama-Colusa Canal Units (dated April 2004), supplemental information provided by your office and by the U.S. Bureau of Reclamation (Reclamation) Mid-Pacific Regional Office, including GIS data, and other information available to us, and determined that the proposed renewal of long term water service contracts is not likely to adversely affect listed species or critical habitat in the following 16 water districts:

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Shasta and Trinity Divisions
Shasta County Water Agency
Bella Vista
Shasta CSD
Mountain Gate CSD
Feather

Sacramento River Division
Kanawha
Stony Creek
4-E
Corning
Orland-Artois
La Grande*
Westside*
Davis*
Colusa County*
County of Colusa*
Dunnigan*

There are either no listed species or critical habitat within the action area (defined for this analysis as the water service area of each water district) or, if listed species or critical habitat are present or likely to occur within the action area (water districts marked by an asterisk *), we do not believe that there will be measurable direct or indirect effects on them as a result of the proposed action. However, we are still analyzing possible adverse affects to listed species by operation and maintenance of conveyance facilities in the water districts marked with an asterisk (*). We are addressing the effects of these actions in a separate, ongoing area-wide consultation with your office because it is our understanding that information is not uniformly available on operation and maintenance of federal conveyance facilities at the water district level.

This concludes informal consultation on the 16 water service contracts listed above. No further action is needed unless: (1) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered; (2) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered; or (3) a new species is listed or critical habitat designated that may be affected by the action, and (4) discretionary Federal agency involvement or control over the action is maintained (or is authorized by law). Reclamation should continue to monitor these actions and review this determination as needed based on the reinitiation criteria.

Based on the information provided in your April 13, 2003 letter, the accompanying Biological Assessments for long-term contract renewals provided for the Shasta and Trinity River Divisions (dated August 2003), the Feather Water District (dated April 2004), and the Black Butte, Corning Canal, and Tehama-Colusa Canal Units (dated April 2004), supplemental information provided

by your office and by the Reclamation Mid-Pacific Regional Office, including GIS data, and other information available to us, we have determined that ground-truthing specific areas within some districts is necessary to determine adverse affects, as appropriate, for the following districts:

City of Redding
City of Shasta Lake
Clear Creek CSD
Kirkwood
Orland-Artois
Corning
Proberta
Thomes Creek

We are coordinating with Reclamation staff to facilitate those efforts. Once our analysis is complete, we will issue our determination for those districts listed above.

Initiation of Formal Consultation and Request for Supplemental Information

This request for supplemental information addresses deficits in the four biological assessments. Until we receive the supplemental information we cannot proceed with the formal consultations. The requested information is consistent with the *Central Valley Project Improvement Act*, the *Biological Opinion on Implementation of the CVPIA and Continued Operation and Maintenance of the CVP* (Service File # 1-1-98-F-0124) (CVPIA Opinion), and is pursuant to the regulations governing interagency consultations (50 CFR §402.14(c)).

- A. Exhibit A is missing from all draft contracts currently on display for public review and comment on Reclamation's web site. Please provide us with all appropriate Exhibit A's so that we fully understand the proposed action.
- B. Please provide Water Needs Assessments for the following districts, or written confirmation that they receive less than the minimum delivery to require a Water Needs Assessment: Black Butte Unit, Mountain Gate, Keswick, USFS, Centerville Community Services, and Shasta Community Services. Please provide us with the appropriate Water Needs Assessments so that we may begin formal consultation on these districts.


This represents the Service's review of the actions presented in your April 13, 2004, request for formal consultation on the proposed Long-term Contract Renewals for Northern California Area Offices located in Shasta, Tehama, Glenn, Colusa, and Yolo counties, California.

Mr. Micheal J. Ryan

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If you have questions regarding the proposed Long Term Renewal of Water Service Contracts project, please contact Allison Arnold or Jan Knight at (916) 414-6620 or -6645.

Sincerely yours,

A handwritten signature in black ink that reads "Kenneth D. Sanchez". The signature is written in a cursive style with a large, prominent "K" and "S".

Kenneth D. Sanchez
Acting Field Supervisor

cc:

USBR, Sacramento, CA, (Attn: Frank Michny)

USBR, Shasta Lake, CA, (Attn: Buford Holt)

CDFG, Red Bluff, CA, (Attn: Paul Ward)