

# RECLAMATION

*Managing Water in the West*

**Draft Environmental Assessment**

## **Lindsay-Strathmore Irrigation District 5-year Warren Act Agreement for Kings River Water**

**EA-17-030**



U.S. Department of the Interior  
Bureau of Reclamation  
South-Central California Area Office

**September 2017**

## **Mission Statements**

The Department of the Interior protects and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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# Section 1 Introduction

## 1.1 Background

The Friant-Kern Canal transports water for the Friant Division of the Central Valley Project (CVP), operated by the Bureau of Reclamation (Reclamation). Project water originates from the San Joaquin River, which is stored in Millerton Reservoir. The CVP water released in to the Friant-Kern Canal is used to meet the irrigation and municipal and industrial needs of 27 Friant division CVP contractors.

In recent years, California has experienced droughts that have reduced water supplies to many water districts. As a result of the drought, as well as environmental and regulatory restrictions, Friant Division CVP water service contractors received unprecedented zero percent water supply allocations in 2014 and 2015. The zero allocation follows previous dry years in 2012 and 2013, in which Friant Division CVP contractors received 57 and 62 percent of their Class 1 contract supply, respectively (Reclamation, 2017).

In order to continue meeting their customers' needs, affected contractors are pursuing a range of additional water supplies, such as transfers, pumped groundwater, and other surface water sources.

Lindsay-Strathmore Irrigation District (Lindsay-Strathmore) is located in Tulare County, and is a Friant Division CVP Contractor (Figure 1). During Contract Years 2014 and 2015, Lindsay-Strathmore had to rely on its non-CVP Kaweah River water (covered under separate Warren Act Agreement) to meet its agricultural and domestic water demands. The available supply of this water was not sufficient to meet those demands. Lindsay-Strathmore also has a Warren Act agreement to pump groundwater into the Friant-Kern Canal (up to 3,000 acre-feet), but groundwater subsidence issues and new State of California regulations may curtail future deliveries of this water. To supplement their water supply portfolio, Lindsay-Strathmore intends to participate in programs with Corcoran Irrigation Company (Corcoran) that will provide Lindsay-Strathmore with Kings River water (hereafter referred to as non-CVP water). In order to receive this non-CVP water, Lindsay-Strathmore has requested approval from Reclamation to introduce and convey their purchase non-CVP water in the Friant-Kern Canal.

## 1.2 Need for the Proposed Action

Lindsay-Strathmore does not have adequate water supplies to meet the needs of their customers. The Proposed Action meets the need to provide a conveyance mechanism to deliver supplemental supplies to support existing crops within the district.

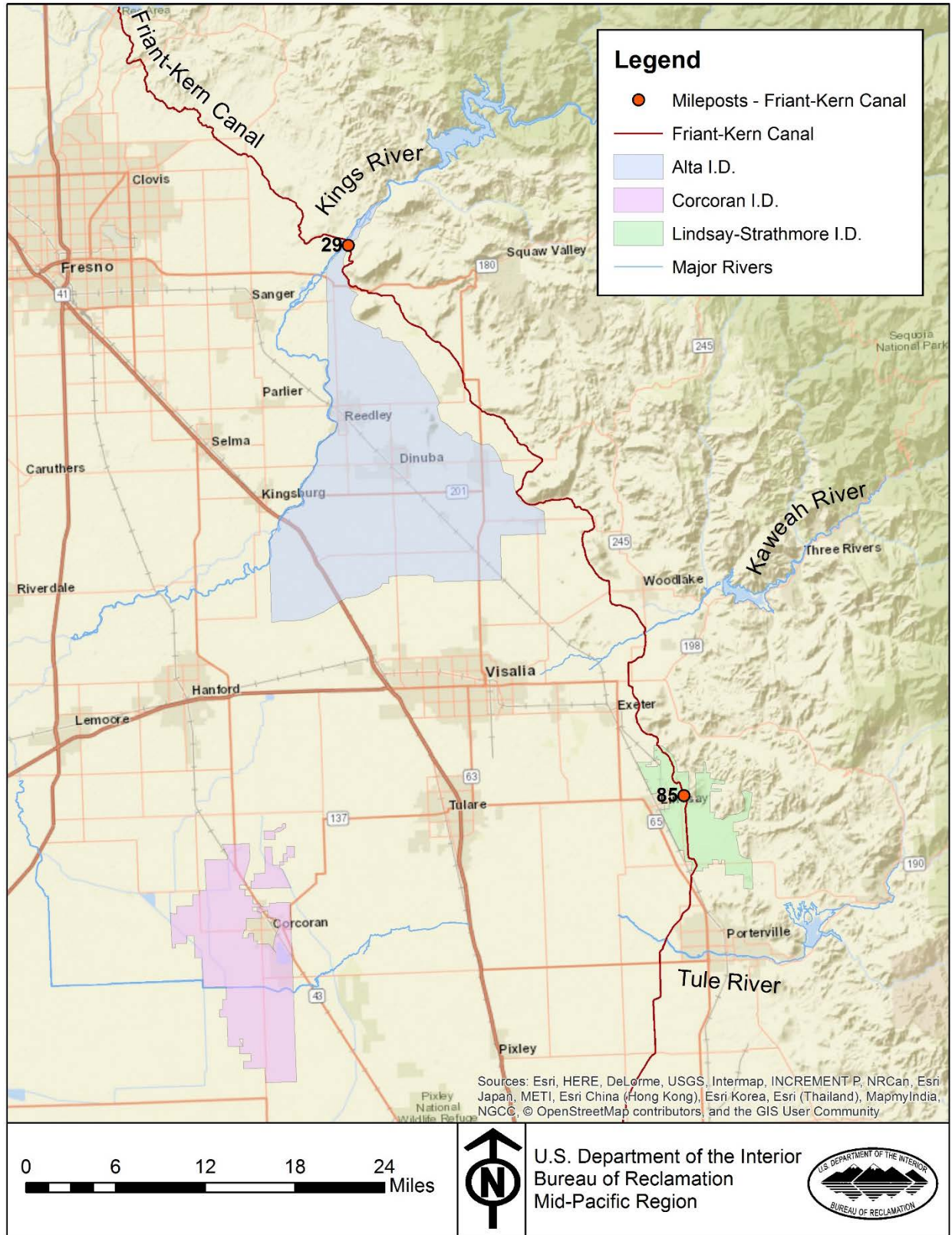


Figure 1 Proposed Action Area relative to the Friant-Kern Canal Milepost 29.10 and 85 (pump stations).

## **Section 2 Alternatives Including the Proposed Action**

This Environmental Assessment considers two possible actions: the No Action Alternative and the Proposed Action. The No Action Alternative reflects future conditions without the Proposed Action and serves as a basis of comparison for determining potential effects to the human environment.

### **2.1 No Action Alternative**

Under the No Action Alternative, Reclamation would not approve the 5-year Warren Act agreement with Lindsay-Strathmore for the annual introduction and conveyance of up to 8,000 acre-feet (AF) of the non-CVP water supplies that will be obtained from Corcoran. Lindsay-Strathmore would continue to receive their CVP water supplies; however, they would have to find an alternate water supply, or use another conveyance method to deliver this non-CVP water. If no other source or conveyance mechanism were found, fallowing of cropland could be necessary, or crops could possibly be lost.

### **2.2 Proposed Action**

#### **2.2.1 Warren Act Agreement**

Reclamation proposes to issue a 5-year Warren Act agreement to Lindsay-Strathmore for the introduction and conveyance of up to 8,000 AF per year of non-CVP water that will be obtained from Corcoran. This agreement would end February 28, 2022. This non-CVP water would be introduced into the Friant-Kern Canal at Milepost 29.10 (Figure 1) from the pumping station owned by Delta Lands Reclamation District No. 770 (Delta Lands). From this point on the Friant-Kern Canal, the non-CVP water is conveyed down the canal to Lindsay-Strathmore's sole delivery point at Milepost 85.55 (Figure 1). Lindsay-Strathmore is also requesting that Milepost 29.10 be added to its list of approved Points of Introduction to the Friant-Kern Canal.

The non-CVP water would only be introduced into the Friant-Kern Canal only when there is excess capacity available, as determined by Reclamation.

No ground disturbance or modification of existing facilities would be needed to complete the Proposed Action.

#### **2.2.2 Operational Transfer**

A transfer from Corcoran to Alta Irrigation District (Alta), both non-CVP contractors, would be necessary, as part of the Proposed Action. Corcoran will continue to use Kings River water and other supplies. Alta will convey Corcoran's Kings River Water to the Delta Lands pumping station.

### 2.2.3 Environmental Commitments

Lindsay-Strathmore must implement the following environmental protection measures to avoid and/or reduce environmental consequences associated with the Proposed Action (Table 1).

Copies of all reports would be submitted to Reclamation.

Table 1 Environmental Commitments

<b>Resource</b>	<b>Protection Measure</b>
Multiple Resources	There will be no construction or modification of water conveyance facilities.
Biological Resources	The Proposed Action would not involve the conversion of any natural land, or land fallowed and untilled for three or more years.

Environmental consequences for resource areas assume the measures specified would be fully implemented.



## Section 3 Affected Environment and Environmental Consequences

This section identifies the potentially affected environment and the environmental consequences involved with the Proposed Action and the No Action Alternative, in addition to environmental trends and conditions that currently exist.

### 3.1 Resources Eliminated from Further Analysis

Reclamation analyzed the affected environment and determined that the Proposed Action did not have the potential to cause direct, indirect, or cumulative adverse effects to the resources listed in Table 1.

Table 2 Resources Eliminated from Further Analysis

Resource	Reason Eliminated
Air Quality	There would be no construction or modification of facilities as a result of the Proposed Action, so there would be no construction-related emissions. Any pumping would make use of existing equipment operating within typical ranges. Therefore no air emissions are anticipated beyond what has already been evaluated and permitted.
Cultural Resources	There would be no impact to Cultural Resources under the No Action Alternative as conditions would remain the same as existing conditions. Reclamation determined on September 19, 2017 that the Proposed Action has no potential to cause effects to historic properties pursuant to 36 CFR Part 800.3(a)(1). See Appendix A for Reclamation's determination.
Environmental Justice	No impact to economically disadvantaged or minority populations would occur under the No Action alternative as conditions would remain the same as existing conditions. The Proposed Action would not cause dislocation, changes in employment, increase flood, drought, disease, and would not disproportionately impact economically disadvantaged or minority populations.
Global Climate Change	The Proposed Action would not result in emissions of greenhouse gases as water would move in existing facilities via gravity. Global climate change is expected to have some effect on the snow pack of the Sierra Nevada and the runoff regime. Current data are not yet clear on the hydrologic changes and how they will affect the San Joaquin Valley. CVP water allocations are made dependent on hydrologic conditions and environmental requirements. Since Reclamation operations are flexible, any changes in hydrologic conditions due to global climate change would be addressed within Reclamation's operation flexibility.
Indian Sacred Sites	The Proposed Action would not limit access to ceremonial use of Indian Sacred Sites on federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites. Therefore, there would be no impacts to Indian Sacred Sites as a result of the Proposed Action.
Indian Trust Assets	The Proposed Action would not impact Indian Trust Assets as there are none in the Proposed Action area.
Land Use	The Proposed Action will allow land in Lindsay-Stratham that was fallowed due to the lack of available water during 2014 and 2015 to be returned to agricultural use. The Proposed Action would not facilitate unplanned growth, land use changes, or conflict with existing land uses. Therefore, there would be no adverse impacts to land use in this area as a result of the Proposed Action.
Recreation	The Proposed Action would not affect Recreation sites in the area.
Socioeconomic Resources	The Proposed Action would have beneficial impacts on socioeconomic resources as the maintaining the pipelines and appurtenances would continue to provide uninterrupted water, this preserving the area's water supply.

## 3.2 Biological Resources

### 3.2.1 Affected Environment

The Proposed Action Area includes the Alta Irrigation District, Corcoran Irrigation District, and Lindsay-Strathmore Irrigation District (Figure 1). No construction is required for this project.

Reclamation requested an official species list for the entire Action area from the U.S. Fish and Wildlife Service (USFWS) on August 2, 2017, by accessing their database: <https://ecos.fws.gov/ipac/> (Consultation Code: 08ESMF00-2017-SLI-2808). Reclamation further queried the California Department of Fish and Wildlife, California Natural Diversity Database (CNDDB) for records of protected species within 10 miles of the project location (CNDDB 2016). The two lists, in addition to other information within Reclamation's files were combined to create the following list (Table 3).

Table 3 Federally Listed Threatened and Endangered Species

Species	Status <sup>1</sup>	Effects <sup>2</sup>	Potential to occur and summary basis for ESA determination <sup>3</sup>
<b>Amphibians</b>			
California red-legged frog ( <i>Rana draytonii</i> )	T	NE	<b>Absent.</b> No longer occurs on valley floor.
California tiger salamander ( <i>Ambystoma californiense</i> )	T, X	NE	<b>Absent.</b> Does not occur in farmlands, lands developed to municipal and industrial use, or conveyance facilities.
<b>Birds</b>			
California condor ( <i>Gymnogyps californianus</i> )	E, X	NE	<b>Absent.</b> Not expected to use farm fields on the valley floor.
Southwestern willow flycatcher ( <i>Empidonax traillii extimus</i> )	E	NE	<b>Absent.</b> Suitable riparian habitat is lacking.
Western snowy plover ( <i>Charadrius alexandrinus nivosus</i> )	T	NE	<b>Possible.</b> In Tulare County, snowy plovers are known to use evaporation basins. These basins will not be affected by the proposed action.
<b>Fish</b>			
Delta smelt ( <i>Hypomesus transpacificus</i> )	T	NE	<b>Absent.</b> Proposed Action is outside the species' range.
<b>Invertebrates</b>			
Conservancy fairy shrimp ( <i>Branchinecta conservatio</i> )	E	NE	<b>Absent.</b> Does not occur in farmlands, lands developed to municipal and industrial use, or conveyance facilities.
Vernal pool fairy shrimp ( <i>Branchinecta lynchi</i> )	T, X	NE	<b>Possible.</b> Proposed action area overlaps with known occurrences, but no habitat change will occur from proposed action.
Vernal pool tadpole shrimp ( <i>Lepidurus packardii</i> )	E, X	NE	<b>Possible.</b> Proposed action area overlaps with known occurrences, but no habitat change will occur from proposed action.

Species	Status <sup>1</sup>	Effects <sup>2</sup>	Potential to occur and summary basis for ESA determination <sup>3</sup>
<b>Mammals</b>			
Fresno kangaroo rat ( <i>Dipodomys nitratooides exilis</i> )	E, X	NE	<b>Absent.</b> Does not occur in farmlands, lands developed to municipal and industrial use, or conveyance facilities.
Giant kangaroo rat ( <i>Dipodomys ingens</i> )	E	NE	<b>Absent.</b> Does not occur in farmlands, lands developed to municipal and industrial use, or conveyance facilities.
San Joaquin kit fox ( <i>Vulpes macrotis mutica</i> )	E	NE	<b>Possible.</b> The foxes can use agricultural lands for foraging, but they must have other habitat nearby that they can use for denning (Warrick et al. 2007). The Proposed Action would not do anything to affect agricultural lands as potential kit fox foraging habitat.
Tipton kangaroo rat ( <i>Dipodomys nitratooides nitratooides</i> )	E	NE	<b>Absent.</b> Does not occur in farmlands, lands developed to municipal and industrial use, or conveyance facilities.
<b>Plant</b>			
Hoover's spurge ( <i>Chamaesyce hooveri</i> )	T, X	NE	<b>Absent.</b> Does not occur in farmlands, lands developed to municipal and industrial use, or conveyance facilities.
Keck's checker-mallow ( <i>Sidalcea keckii</i> )	E, X	NE	<b>Absent.</b> Does not occur in farmlands, lands developed to municipal and industrial, or conveyance facilities.
San Joaquin adobe sunburst ( <i>Pseudobahia peirsonii</i> )	T	NE	<b>Absent.</b> Does not occur in farmlands, lands developed to municipal and industrial use, or conveyance facilities.
San Joaquin Valley Orcutt grass ( <i>Orcuttia inaequalis</i> )	T, X	NE	<b>Absent.</b> Does not occur in farmlands, lands developed to municipal and industrial use, or conveyance facilities.
<b>Reptiles</b>			
Blunt-nosed leopard lizard ( <i>Gambelia sila</i> )	E	NE	<b>Absent.</b> Does not occur in farmlands, lands developed to municipal and industrial use, or conveyance facilities.
Giant garter snake ( <i>Thamnophis gigas</i> )	T	NE	<b>Absent.</b> The species no longer occurs in this part of the valley, and no land use change or construction would occur as part of the Proposed Action.

<sup>1</sup> Status = Status of federally protected species protected under the ESA.

E: Listed as Endangered

NEP: Listed as a nonessential experimental population

NMFS: Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service

T: Listed as Threatened

X: Critical Habitat designated for this species

<sup>2</sup> Effects = ESA Effect determination

MA: Proposed Action may Adversely Affect federally listed species and/or designated critical habitat

NE: No Effect anticipated from the Proposed Action to federally listed species or designated critical habitat

NLAA: Proposed Action Not Likely to Adversely Affect federally listed species

3 Definition of Occurrence Indicators

Present: Species recorded in area and suitable habitat present.

Possible: Species recorded in area and habitat suboptimal.

Unlikely: Species recorded in area but habitat marginal or lacking entirely.

Absent: Species not recorded in study area and suitable habitat absent.

### 3.2.2 Environmental Consequences

#### ***No Action***

Under the No Action alternative, Lindsay-Strathmore would have to rely on their other water supplies and 8,000 acre-feet per year of Kings River water would be retained by Corcoran. Lindsay-Strathmore may need to fallow some of their lands under the No Action alternative if they are unable to receive enough water to meet demands. If agricultural lands are fallowed, there is some potential for federally protected species to temporarily move through, or forage in, the fallowed areas. Newly fallowed fields may provide temporary low quality habitat, but it is unlikely that federally listed species would move into these areas.

#### ***Proposed Action***

The Proposed Action would involve the diversion of 8,000 acre-feet of water from the Kings River, for delivery to Lindsay-Strathmore annually over a 5-year period. The Proposed Action would not involve any construction or changes in land use. The water involved in the Proposed Action would be used to support existing uses within Lindsay Strathmore Irrigation District and would not be used to convert fallowed lands or lands that have been untilled for three or more years. No native lands would be cultivated as a result of the Proposed Action. With the implementation of the environmental commitments included in Table 3, Reclamation has determined that the Proposed Action would result in No Effect to proposed or listed species or Critical Habitat under the Endangered Species Act of 1973, as amended (16 U.S.C. §1531 et seq.), and there would be No Take of birds protected under the Migratory Bird Treaty Act (16 U.S.C. §703 et seq.).

#### ***Cumulative Impacts***

As the Proposed Action is not expected to result in any direct or indirect impacts to biological resources, there would be no cumulative impacts.

## 3.3 Water Resources

### 3.3.1 Affected Environment

#### ***Friant-Kern Canal***

The Friant-Kern Canal carries water over 151.8 miles in a southerly direction from Millerton Lake to the Kern River, four miles west of Bakersfield. The water is used for supplemental and new irrigation supplies in Fresno, Tulare, Kings and Kern Counties. The canal has an initial capacity of 5,000 cubic feet per second that gradually decreases to 2,000 cubic feet per second at its terminus near the Kern River.

***Lindsay-Strathmore Irrigation District***

Lindsay-Strathmore ID is a repayment contractor formed in Tulare County in 1915, with a maximum annual entitlement of 27,500 AF of Friant Division Class 1 water. Land use within Lindsay-Strathmore ID is mainly agricultural, consisting of roughly 15,700 acres of which 15,123 are currently irrigated. Most irrigable acres grow permanent crops; the main crops in Lindsay-Strathmore ID are oranges and olives. In addition, Lindsay-Strathmore ID also provides water to approximately 1,400 homes for municipal and industrial purposes.

When surface water is unavailable, Lindsay-Strathmore ID operates five groundwater wells. Lindsay-Strathmore ID does not overlie a reliable groundwater basin and in addition to surface water runoff flowing into areas down slope from the district, groundwater supplies are inadequate. Lindsay-Strathmore ID does not operate recharge areas or have a conjunctive use program.

**3.3.2 Environmental Consequences*****No Action***

If no action were taken, Lindsay-Strathmore's non-CVP water would not be conveyed in the Friant-Kern Canal. They would have to find an alternate water supply, use another conveyance method to deliver this non-CVP water to their customers' crops. If no alternative conveyance method could be found, Lindsay-Strathmore would likely have to find a way to exchange it for other, usable water supplies, or crops would be fallowed or damaged and/or lost.

***Proposed Action***

The Proposed Action would allow non-CVP Kings River water purchased from Corcoran to be conveyed in CVP facilities when excess capacity is available. This would allow the water to be delivered to Lindsay-Strathmore's service areas for agricultural use. There would be no modification of the Friant-Kern Canal.

The Kings River water is already allocated for use. Corcoran would meet its water needs with water from the State Water Project. The Proposed Action does not represent a new diversion of the water, or a new water right, but an alternate use for existing supply.

The total quantity of water that would be conveyed in the Friant-Kern Canal under the Proposed Action would be limited to 8,000 AF/year through February 28, 2023. The quantity of water pumped into the Friant-Kern Canal would be delivered (less conveyance losses) and used for irrigation purposes. Some of the irrigation water would be lost to evapotranspiration, and some would also percolate back into the aquifer.

Non-CVP water introduced into the Friant-Kern Canal must meet Reclamation's then-current Policy for Accepting Non-Project Water in Friant Division Facilities prior to approval for conveyance (Appendix B). If testing shows that the water does not meet then-current standards, the contractors would not be allowed to discharge into the Friant-Kern Canal until water quality concerns are addressed. This testing program is anticipated to adequately protect the quality of water and limit degradation of other users' supplies.

***Cumulative Impacts***

The Friant-Kern Canal is used to convey water for a variety of users from a variety of sources. The quality of water being introduced is tested regularly in order to limit the potential for degradation of mixed water supplies. This testing program is anticipated to adequately protect the quality of water in the Friant-Kern Canal from the cumulative effects of this and other water conveyance actions.

Although capacity in the Friant-Kern Canal is limited, Friant Water Authority and Reclamation actively operate it in order to balance competing demands. Non-CVP water such as the water which would be conveyed under the Proposed Action has a lower priority than CVP water. Therefore the Proposed Action is not anticipated to cause conflicts or create other cumulative impacts to Friant-Kern Canal operations.

## **Section 4 Consultation and Coordination**

### **4.1 Public Review Period**

Reclamation intends to provide the public with an opportunity to comment on the Draft Finding of No Significant Impact and Draft Environmental Assessment during a 30-day public review period.

### **4.2 List of Agencies and Persons Consulted**

Reclamation is coordinating the Proposed Action with the Lindsay-Strathmore Irrigation District, Alta Irrigation District, and the Corcoran Irrigation District.

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## Section 5 References

California Natural Diversity Database (CNDDDB). 2017. California Department of Fish and Wildlife, Government Version.

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# **Appendix A: Cultural Resources Determination**

**CULTURAL RESOURCES COMPLIANCE**  
**Division of Environmental Affairs**  
**Cultural Resources Branch (MP-153)**

**MP-153 Tracking Number:** 17-SCAO-260

**Project Name:** Lindsay-Strathmore Water District 5-year Warren Act Contract for Kings River Water

**NEPA Document:** EA-17-030

**NEPA Contact:** Stacy Holt, Natural Resources Specialist

**MP 153 Cultural Resources Reviewer:** Joanne Goodsell, Archaeologist

**Date:** September 19, 2017

**JOANNE GOODSSELL** Digitally signed by JOANNE GOODSSELL  
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Reclamation proposes to approve a 5-year Warren Act Contract for Lindsay-Strathmore Irrigation District (Lindsay-Strathmore) to acquire up to 8,000 acre-feet annually of non-Central Valley Project (CVP) Kings River water from Corcoran Irrigation District. This water would be transferred via the Alta Irrigation District and conveyed in the Friant-Kern Canal to Lindsay-Strathmore's delivery point at Milepost 85.55. All water conveyed under this agreement would move through existing facilities. The proposed action involves no new construction, modification of existing facilities, or other ground-disturbing activities.

Reclamation determined the proposed action constitutes an undertaking as defined at 36 CFR § 800.16(y) that has no potential to cause effects to historic properties pursuant to 36 CFR § 800.3(a)(1). As such, Reclamation has no further obligations under Title 54 U.S.C. § 306108, commonly known as Section 106 of the National Historic Preservation Act (NHPA).

This document conveys the completion of the NHPA Section 106 process for this undertaking. This proposed action would not have significant impacts on cultural resources. Please retain a copy of this document in the administrative record for the proposed action. Should changes be made to the proposed action, additional NHPA Section 106 review, possibly including consultation with the State Historic Preservation Officer, may be necessary.

# **Appendix B: Reclamation's Policy for Accepting Non-Project Water into the Friant-Kern and Madera Canals**

# RECLAMATION

*Managing Water in the West*

## **Policy for Accepting Non-Project Water into the Friant-Kern and Madera Canals Water Quality Monitoring Requirements**



Friant-Kern Canal in Tulare County (Credit: Ted Holzem, Mintier & Associates)



U.S. Department of the Interior  
Bureau of Reclamation  
Mid-Pacific Region

March 7, 2008

United States Bureau of Reclamation  
South-Central California Area Office  
and  
Friant Water Authority

Policy for Accepting Non-Project Water into the Friant-Kern and Madera Canals  
Water Quality Monitoring Requirements

This Policy describes the approval process, implementation procedures, and responsibilities of a Contractor requesting permission from the U.S. Bureau of Reclamation (Reclamation) to introduce non-project water into the Friant-Kern and Madera Canals, features of the Friant Division of the Central Valley Project (CVP). The monitoring requirements contained herein are intended to ensure that water quality is protected and that domestic and agricultural water users are not adversely impacted by the introduction of non-project water. The discharge of non-project water shall not in any way limit the ability of either Reclamation or the Friant Water Authority (Authority) to operate and maintain the Canals for their intended purposes nor shall it adversely impact existing contracts or any other agreements. The discharge of non-project water into the Canals will be permissible only when there is excess capacity in the system as determined by the Authority and or Reclamation.

The Contractor shall be responsible for securing other requisite Federal, State or local permits.

Reclamation, in cooperation with the Authority, will consider all proposals to convey non-project water based upon this Policy's water quality criteria and implementation procedures established in this document. Table 1 provides a summary of the Policy's water quality monitoring requirements.

This policy is subject to review and modification by Reclamation and the Authority. Reclamation and the Authority reserve the right to change the water quality monitoring requirements for any non-project water to be conveyed in the Friant-Kern and Madera Canals.

#### **A. Types of Non-Project Water**

This policy recognizes three types of non-project water with distinct requirements for water quality monitoring.

##### **1. "Type A" Non-Project Water**

Water for which analytical testing demonstrates complete compliance with California drinking water standards (Title 22)<sup>1</sup>, plus other constituents of concern recommended by the California Department of Health Services. Type A water must be tested every year for the full list of

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1. Title 22. The Domestic Water Quality and Monitoring Regulations specified by the State of California Health and Safety Code (Sections 4010-4037), and Administrative Code (Sections 64401 et seq.), as amended.

constituents listed in Table 2. No in-prism (within the Canal) monitoring is required to convey Type A water.

## 2. “Type B” Non-Project Water

Water that generally complies with Title 22, but may exceed the Maximum Contaminant Level (MCL) for certain inorganic constituents of concern to be determined by Reclamation and the Authority on a case-by-case basis. This water may be discharged into the Canal over short-intervals. Type B water shall be tested every year for the full list of constituents in Table 2, and more frequently for the identified constituents of concern. Flood Water and Ground Water are Type B non-project water.

Type B water may not be pumped into the Friant-Kern Canal within a half-mile upstream of a delivery point to a CVP Municipal and Industrial contractor. At this time, there are no M & I Contractors served from the Madera Canal.

The introduction of Type B water into the Friant-Kern and Madera Canals will require regular in-prism monitoring to confirm that the CVP water delivered to downstream customers is suitable in quality for their needs. The location, frequency, and parameters of in-prism monitoring will be determined by Reclamation and the Authority on a case-by-case basis.

## 3. “Type C” Non-Project Water

Type C Water is non-project water that originates in the same source as CVP water but that has not been appropriated by the United States. For example, non-project water from a tributary within the upper San Joaquin River watershed, such as the Soquel Diversion from Willow Creek above Bass Lake, is Type C water. Another example is State Water Project water pumped from the California Aqueduct and Cross Valley Canal into the lower Friant-Kern Canal. No water quality analyses are required to convey Type C water through the Friant-Kern or Madera Canals because it is physically the same as Project water.

## **B. Authorization**

The Warren Act (Act of February 21, 1911, ch. 141, 36 Stat. 925), as supplemented by Section 305 of Public Law 102-250, authorizes Reclamation to contract for the carriage and storage of non-project water when excess capacity is available in Federal water facilities. The terms of this Policy are also based on the requirements of the Clean Water Act (33 U.S.C. 1251 et seq.), the Endangered Species Act of 1973 (P.L. 93-205), the National Environmental Policy Act of 1969 (NEPA, 42 U.S.C. 4321 et seq.), the Reclamation Act of 1902 (June 17, 1902 as amended), and the Safe Drinking Water Act of 1974 (P.L. 93-523, amended 1986) and Title XXIV of the Reclamation Projects Authorization and Adjustments Act of 1992 (P.L. 102-575, 106 Stat 4600).

## **C. General Requirements for Discharge of Non-Project Water**

### 1. Contract Requirements

A Contractor wishing to discharge non-project water into the Friant-Kern or Madera Canals must first execute a contract with Reclamation. The contract may be negotiated with Reclamation's South Central California Area Office (SCCAO) in Fresno.

### 2. Facility Licensing

Each non-project water discharge facility must be licensed by Reclamation and the Authority. The license for erection and maintenance of structures may be negotiated with the SCCAO.

### 3. Prohibition When the Canal is Empty

Non-project shall not be conveyed in the Friant-Kern or Madera Canals during periods when the canal is de-watered for maintenance.

## **D. Non-Project Discharge, Water Quality, and Monitoring Program Requirements**

### 1. General Discharge Approval Requirements

Each source of non-project water must be correctly sampled, completely analyzed, and be approved by Reclamation prior to introduction into the Friant-Kern or Madera Canals. The Contractor shall pay the cost of collection and analyses of the non-project water required under this policy<sup>2</sup>.

### 2. Water Quality Sampling and Analyses

Each source of Type A and B non-project water must be tested every year for the complete list of constituents of concern and bacterial organisms listed in Table 2. The analytical laboratory must be approved by Reclamation (Table 3).

### 3. Water Quality Reporting Requirements

Water quality analytical results must be reported to the Contracting Officer for review.

### 4. Type B Water Quality Monitoring

Reclamation will provide a Quality Assurance Project Plan (QAPP) that will describe the protocols and methods for sampling and analysis of Type B non-project water.

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2. Reclamation will pay for the collection and analyses of quarterly baseline samples collected at Friant Dam and Lake Woolomes.



The program may include sampling of canal water upstream and downstream of the Contractor's discharge point into the Friant-Kern or Madera Canal. The location of samples, and the duration and frequency of sampling, and the list of constituents to be analyzed, may be changed upon review of measured trends in concentration of those constituents of concern.

#### **E. Control of Water Quality in the Friant Division**

The quality of CVP water will be considered impaired if the conveyance of the Contractor's non-project water is causing the quality of CVP water to exceed a maximum contaminant level specified in Title 22 (Table 2).

Reclamation, in consultation with the Authority, will direct the Contractor to stop the discharge of non-project water from this source into the Friant-Kern or Madera Canal.

#### **F. Baseline Water Quality Analysis**

Every four months, Reclamation will collect samples of water from the Friant-Kern Canal near Friant Dam and near Lake Woolomes. These samples will be analyzed for Title 22 and many other constituents. The purpose of these samples is to identify the baseline quality of water in the canal. No direct analysis within the Madera Canal will be conducted at this time.

The cost of this analysis will be borne by Reclamation under the CVP Baseline water quality monitoring program.

#### **G. Water Quality Data Review and Management**

All water quality data must be sent to Reclamation for review, verification, and approval. All water quality data will be entered into a database to be maintained by Reclamation. All field notes and laboratory water quality analytical reports will be kept by the Authority. All water quality data will be available upon request to the Contractor and other interested parties.

## Definitions

### CVP or Project water

Water that has been appropriated by the United States for the Friant Division of the CVP. The source of Project water in the Friant Division is the San Joaquin River watershed.

### Non-project water

Water that has not been appropriated by the United States for the Friant Division of the CVP. This includes groundwater, and surface water from other streams and rivers that cross the Friant-Kern and Madera Canals, such as Wutchumna Ditch.

### Maximum Contaminant Level

Usually reported in milligrams per liter (parts per million) or micrograms per liter (parts per billion).

### Non-project discharge system

The pipe and pumps from which non-project water enters the Friant Division.

### Title 22

The Domestic Water Quality and Monitoring Regulations specified by the State of California Health and Safety Code (Sections 4010-4037), and Administrative Code (Sections 64401 et seq.), as amended.

### Type A water

This is non-project water that meets California drinking water standards. This water must be tested every year for the full list of Title 22 constituents. No in-stream monitoring is required to convey Type A water in the Friant Division.

### Type B water

This is non-project water that has constituents that may exceed the California drinking water standards. This water must be tested every year for the full list of Title 22 constituents, plus annually for constituents of concern. Field monitoring is required of each source and of water upstream and downstream of the discharge point.

### Type C water

This is non-project water from the same watershed as Project water that has not been appropriated by the United States for the Central Valley Project. Water from Soquel Creek diversion or the State Water Project are Type C water. No water quality analyses are required to convey this water in the Friant-Kern Canal.

Table 1. Water Quality Monitoring Requirements in the Friant Division

Table 2. Title 22 California Drinking Water Standards

Table 3. List of Labs Approved by Reclamation

Table 1. Water Quality Monitoring Requirements - Friant Division, Central Valley Project

Type of Water	Location	How often will a sample be collected?	What will be measured in the water?	Who will collect samples?
Project Water	Friant	January, April, June, October	Title 22 and bacterial constituents (1) (2)	Reclamation, MP-157
	Lake Woolomes	January, April, June, October	Title 22 and bacterial constituents (1) (2)	Reclamation, MP-157
Type A Non-Project Water		Every year	Title 22 and bacterial constituents (1) (2)	Contractor
Type B Non-Project Water		Every year	Title 22 and bacterial constituents (1) (2)	Contractor
		Every month (5)	Constituents of concern (5)	Contractor
		Every week (5)	EC, turbidity, etc.(3) (5)	Friant Water Authority
Type C Non-Project Water		None required		
Project water	Upstream of each Type B discharge (4)	Every week (5)	EC, turbidity, etc.(3) (5)	Friant Water Authority
	Downstream of each Type B discharge (4)	Every week (5)	EC, turbidity, etc.(3) (5)	Friant Water Authority

Notes:

(1) California Department of Health Services, California Code of Regulations, Title 22, Division 4, Chapter 15, Domestic Water Quality and Monitoring,

[http://www.dhs.ca.gov/ps/ddwem/publications/Regulations/regulations\\_index.htm](http://www.dhs.ca.gov/ps/ddwem/publications/Regulations/regulations_index.htm).

(2) Cryptosporidium, Giardia, total coliform bacteria

(3) Field measurements.

(4) Location to be determined by the Contracting Officer

(5) To be determined by the Contracting Officer, if necessary.

This water quality monitoring program is subject to change at any time by the Contracting Officer.

Revised: 08/16/2007 SCC-107

U.S. Bureau of Reclamation  
 Friant Water Authority  
 Friant Division, California  
 Water Quality Monitoring Requirements

Table 2a. Water Quality Constituents

CONSTITUENT OR PARAMETER	Units	Recommended Method	California DHS Maximum Contaminant Level		CAS Registry Number
<b>Primary Constituents (CCR § 64431)</b>					
Aluminum	µg/L	EPA 200.7	1,000	1	7429-90-5
Antimony	µg/L	EPA 200.8	6	1	7440-36-0
Arsenic	µg/L	EPA 200.8	10	16	7440-38-2
Asbestos	MFL > 10µm	EPA 100.2	7	1	1332-21-4
Barium	µg/L	EPA 200.7	1,000	1	7440-39-3
Beryllium	µg/L	EPA 200.7	4	1	7440-41-7
Cadmium	µg/L	EPA 200.7	5	1	7440-43-9
Chromium	µg/L	EPA 200.7	50	1	7440-47-3
Cyanide	µg/L	EPA 335.4	150	1	57-12-5
Fluoride	mg/L	EPA 300.1	2	1	16984-48-8
Mercury (inorganic)	µg/L	EPA 245.1	2	1	7439-97-6
Nickel	µg/L	EPA 200.7	100	1	7440-02-0
Nitrate (as NO <sub>3</sub> )	mg/L	EPA 300.1	45	1	7727-37-9
Total Nitrate + Nitrite (as Nitrogen)	mg/L	EPA 353.2	10	1	
Nitrite (as Nitrogen)	mg/L	EPA 300.1	1	1	14797-65-0
Selenium	µg/L	EPA 200.8	50	1	7782-49-2
Thallium	µg/L	EPA 200.8	2	1	7440-28-0
<b>Secondary Constituents (CCR § 64449)</b>					
Aluminum	µg/L	EPA 200.7	200	6	7429-90-5
Chloride	mg/L	EPA 300.1	250/500/600	7	16887-00-6
Color	units	SM 2120 B	15	6	
Copper	µg/L	EPA 200.7	1,000	6	7440-50-8
Foaming agents (MBAS)	mg/L	SM 5540 C	0.5	6	
Iron	µg/L	EPA 200.7	300	6	7439-89-6
Manganese	µg/L	EPA 200.7	50	6	7439-96-5
Methyl-tert-butyl ether (MtBE)	µg/L	EPA 524.2	5	6	1634-04-4
Odor - Threshold	threshold units	SM 2150 B	3	6	
Silver	µg/L	EPA 200.7	100	6	7440-22-4
Specific conductance (EC)	µS/cm	SM 2510 B	900/1600/2200	7	
Sulfate	mg/L	EPA 300.1	250/500/600	7	14808-79-8
Thiobencarb	µg/L	EPA 525.2	1	6	28249-77-6
Total dissolved solids (TDS)	mg/L	SM 2540 C	500/1000/1500	7	
Turbidity	NTU	EPA 180.1	5	6	
Zinc	mg/L	EPA 200.7	5	6	7440-66-6

**Table 2a. Water Quality Constituents**

CONSTITUENT OR PARAMETER	Units	Recommended Method	California DHS Maximum Contaminant Level	CAS Registry Number
<b>Other required analyses (CCR § 64449 (b)(2); CCR § 64670)</b>				
Bicarbonate	mg/L	SM 2320B		8
Calcium	mg/L	SM3111B		8,12 7440-70-2
Carbonate	mg/L	SM 2320B		8
Copper	mg/L	EPA 200.7	1.3	14 7440-50-8
Hardness	mg/L	SM 2340 B		8
Hydroxide alkalinity	mg/L	SM 2320B		8,12
Lead	mg/L	EPA 200.8	0.015	14 7439-92-1
Magnesium	mg/L	EPA 200.7		8 7439-95-4
Orthophosphate	mg/L	EPA 365.1		12
pH	units	EPA 150.1		8,12
Silica	mg/L	EPA 200.7		12
Sodium	mg/L	EPA 200.7		8 7440-23-5
Temperature	degrees C	SM 2550		12
<b>Radiochemistry (CCR § 64442)</b>				
Radioactivity, Gross Alpha	pCi/L	SM 7110C	15	3
<b>Microbiology</b>				
Cryptosporidium	org/liter		No MCL, measure for presence (surface water only)	
Fecal Coliform	MPN/100ml		No MCL, measure for presence (surface water only)	
Giardia	org/liter		No MCL, measure for presence (surface water only)	
Total Coliform bacteria	MPN/100ml		No MCL, measure for presence (surface water only)	
<b>Organic Constituents (CCR § 64444)</b>				
<b>EPA 504.1 method</b>				
Dibromochloropropane (DBCP)	µg/L	EPA 504.1	0.2	4 96-12-8
Ethylene dibromide (EDB)	µg/L	EPA 504.1	0.05	4 206-93-4
<b>EPA 505</b>				
Chlordane	µg/L	EPA 505	0.1	4 57-74-9
Endrin	µg/L	EPA 505	2	4 72-20-8
Heptachlor	µg/L	EPA 505	0.01	4 76-44-8
Heptachlor epoxide	µg/L	EPA 505	0.01	4 1024-57-3
Hexachlorobenzene	µg/L	EPA 505	1	4 118-74-1
Hexachlorocyclopentadiene	µg/L	EPA 505	50	4 77-47-4
Lindane (gamma-BHC)	µg/L	EPA 505	0.2	4 58-89-9
Methoxychlor	µg/L	EPA 505	30	4 72-43-5
Polychlorinated biphenyls	µg/L	EPA 505	0.5	4 1336-36-3
Toxaphene	µg/L	EPA 505	3	4 8001-35-2
<b>EPA 508 Method</b>				
Alachlor	µg/L	EPA 508.1	2	4 15972-60-8
Atrazine	µg/L	EPA 508.1	1	4 1912-24-9
Simazine	µg/L	EPA 508.1	4	4 122-34-9

**Table 2a. Water Quality Constituents**

CONSTITUENT OR PARAMETER	Units	Recommended Method	California DHS Maximum Contaminant Level		CAS Registry Number
<b>EPA 515.3 Method</b>					
Bentazon	µg/L	EPA 515	18	4	25057-89-0
2,4-D	µg/L	EPA 515.1-4	70	4	94-75-7
Dalapon	µg/L	EPA 515.1-4	200	4	75-99-0
Dinoseb	µg/L	EPA 515.1-4	7	4	88-85-7
Pentachlorophenol	µg/L	EPA 515.1-4	1	4	87-86-5
Picloram	µg/L	EPA 515.1-4	500	4	1918-02-1
2,4,5-TP (Silvex)	µg/L	EPA 515.1-4	50	4	93-72-1
<b>EPA 524.2 Method (Volatile Organic Chemicals)</b>					
Benzene	µg/L	EPA 524.2	1	4	71-43-2
Carbon tetrachloride	µg/L	EPA 524.2	0.5	4	56-23-5
1,2-Dibromomethane	µg/L	EPA 524.2	0.05		106-93-4
1,2-Dichlorobenzene	µg/L	EPA 524.2	600	4	95-50-1
1,4-Dichlorobenzene	µg/L	EPA 524.2	5	4	106-46-7
1,1-Dichloroethane	µg/L	EPA 524.2	5	4	75-34-3
1,2-Dichloroethane	µg/L	EPA 524.2	0.5	4	107-06-2
1,1-Dichloroethylene	µg/L	EPA 524.2	6	4	75-35-4
cis-1,2-Dichloroethylene	µg/L	EPA 524.2	6	4	156-59-2
trans-1,2-Dichloroethylene	µg/L	EPA 524.2	10	4	156-60-5
Dichloromethane	µg/L	EPA 524.2	5	4	75-09-2
1,2-Dichloropropane	µg/L	EPA 524.2	5	4	78-87-5
1,3-Dichloropropene	µg/L	EPA 524.2	0.5	4	542-75-6
Ethylbenzene	µg/L	EPA 524.2	300	4	100-41-4
Methyl-tert-butyl ether (MtBE)	µg/L	EPA 524.2	13	4	1634-04-4
Monochlorobenzene	µg/L	EPA 524.2	70	4	108-90-7
Styrene	µg/L	EPA 524.2	100	4	100-42-5
1,1,2,2-Tetrachloroethane	µg/L	EPA 524.2	1	4	79-34-5
Tetrachloroethylene (PCE)	µg/L	EPA 524.2	5	4	127-18-4
Toluene	µg/L	EPA 524.2	150	4	108-88-3
1,2,4-Trichlorobenzene	µg/L	EPA 524.2	5	4	120-82-1
1,1,1-Trichloroethane	µg/L	EPA 524.2	200	4	71-55-6
1,1,2-Trichloroethane	µg/L	EPA 524.2	5	4	79-00-5
Trichloroethylene (TCE)	µg/L	EPA 524.2	5	4	79-01-6
Trichlorofluoromethane	µg/L	EPA 524.2	150	4	75-69-4
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	EPA 524.2	1,200	4	76-13-1
Total Trihalomethanes	ug/L	EPA 524.2	80	10	
Vinyl chloride	µg/L	EPA 524.2	0.5	4	75-01-4
Xylene(s)	µg/L	EPA 524.2	1,750	4	1330-20-7
<b>EPA 525.2 Method</b>					
Benzo(a)pyrene	µg/L	EPA 525.2	0.2	4	50-32-8
Di(2-ethylhexyl)adipate	µg/L	EPA 525.2	400	4	103-23-1
Di(2-ethylhexyl)phthalate	µg/L	EPA 525.2	4	4	117-81-7
Molinate	µg/L	EPA 525.2	20	4	2212-67-1
Thiobencarb	µg/L	EPA 525.2	70	4	28249-77-6
<b>EPA 531.1 Method</b>					
Carbofuran	µg/L	EPA 531.1-2	18	4	1563-66-2
Oxamyl	µg/L	EPA 531.1-2	50	4	23135-22-0

**Table 2a. Water Quality Constituents**

CONSTITUENT OR PARAMETER	Units	Recommended Method	California DHS Maximum Contaminant Level		CAS Registry Number
<b>EPA 547 Method</b>					
Glyphosate	µg/L	EPA 547	700	4	1071-83-6
<b>EPA 548.1 Method</b>					
Endothal	µg/L	EPA 548.1	100	4	145-73-3
<b>EPA 549.2 Method</b>					
Diquat	µg/L	EPA 549.2	20	4	85-00-7
<b>EPA 613 Method</b>					
2,3,7,8-TCDD (Dioxin)	µg/L	EPA 1613	0.00003	4	1746-01-6

**Source Data:**

Adapted from Marshack, Jon B. August 2003. A Compilation of Water Quality Goals. Prepared for the California Environmental Protection Agency, Regional Water Quality Control Board.



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Table 2b. Unregulated Chemicals (CCR § 64450)

CONSTITUENT OR PARAMETER	Units	Recommended Method	California Department of Health Services		CAS Registry Number	
			Notification Level	Response Level		
Boron	mg/L	EPA 200.7	1	9, 17	10	7440-42-8
n-Butylbenzene	µg/L	EPA 524.2	260	17	2,600	104-51-8
sec-Butylbenzene	µg/L	EPA 524.2	260	17	2,600	135-98-8
tert-Butylbenzene	µg/L	EPA 524.2	260	17	2,600	98-06-6
Carbon disulfide	µg/L		160	17	1,600	
Chlorate	µg/L	EPA 300.1	0.8	17	8	
2-Chlorotoluene	µg/L	EPA 524.2	140	17	1,400	95-49-8
4-Chlorotoluene	µg/L	EPA 524.2	140	17	1,400	106-43-4
Dichlorofluoromethane (Freon 12)	µg/L	EPA 524.2	1,000	9,17	10,000	75-43-4
1,4-Dioxane	µg/L	SM 8270	3	17	300	123-91-1
Ethylene glycol	µg/L	SM 8015	1,400	17	14,000	107-21-1
Formaldehyde	µg/L	SM 6252	100	17	1,000	50-00-0
n-Propylbenzene	µg/L		260	17	2,600	
HMX	µg/L	SM 8330	350	17	3,500	2691-41-0
Isopropylbenzene	µg/L		770	17	7,700	
Manganese	mg/L		1	17	5	
Methyl isobutyl ketone	µg/L		120	17	1,200	
Napthalene	µg/L	EPA 524.2	17	17	170	91-20-3
n-nitrosodiethylamine (NDEA)	µg/L	1625	0.01	17	0.1	
n-nitrosodimethylamine (NDMA)	µg/L	1625	0.01	17	0.2	
n-nitroso-n-propylamine (NDPA)	µg/L	1625	0.01	17	0.5	
Perchlorate	µg/L	EPA 314	6	9, 17	60	13477-36-6
Propachlor	µg/L	EPA 507 or 525	90	17	900	1918-16-7
p-Isopropyltoluene	µg/L	EPA 524.2	770	17	7,700	99-87-6
RDX	µg/L	SM 8330	0.30	17	30	121-82-4
tert-Butyl alcohol (ethanol)	µg/L	EPA 524.2	12	9,17	1,200	75-65-0
1,2,3-Trichloropropane (TCP)	ug/L	EPA 524.2	0.005	9,17	0.5	96-18-4
1,2,4-Trimethylbenzene	µg/L	EPA 524.2	330	17	3,300	95-63-6
1,3,5-Trimethylbenzene	µg/L	EPA 524.2	330	17	3,300	95-63-6
2,4,6-Trinitrotoluene (TNT)	µg/L	SM 8330	1	17	100	
Vanadium	mg/L	EPA 286.1	0.05	9,17	0.5	7440-62-2

Revised: 05/17/2007

**U.S. Bureau of Reclamation  
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**Notes for Tables 2a and 2b**

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Title 22. California Code of Regulations, California Safe Drinking Water Act and Related Laws and Regulations. February 2007.  
<http://www.dhs.ca.gov/ps/ddwem/publications/lawbook/PDFs/dwregulations-02-06-07.pdf>

- [1] Table 64431-A. Maximum Contaminant Levels, Inorganic Chemicals
- [2] Table 64432-A. Detection Limits for Purpose of Reporting (DLRs) for Regulated Inorganic Chemicals
- [3] Table 64442. Radionuclide Maximum contaminant Levels (MCLs) and Detection Levels for Reporting (DLRs)
- [4] Table 64444-A. Maximum Contaminant Levels Organic Chemicals
- [5] Table 64445.1-A. Detection Limits for Reporting (DLRs) for Regulated Organic Chemicals
- [6] Table 64449-A. Secondary Maximum Contaminant Levels "Consumer Acceptance Levels"
- [7] Table 64449-B. Secondary Maximum Contaminant Levels "Consumer Acceptance Levels"
- [8] § 64449(b)(2)
- [9] Table 64450. Unregulated Chemicals
- [10] Appendix 64481-A. Typical Origins of Contaminants with Primary MCLs
- [11] Table 64533-A. Maximum Contaminant Levels and Detection Limits for Reporting Disinfection Byproducts
- [12] § 64670.(c)
- [13] Table 64678-A. DLRs for Lead and Copper
- [14] § 64678 (d)
- [15] § 64678 (e)
- [16] New Federal standard as of 1/23/2006
- [17] Dept Health Services Drinkig Water Notification Levels (June 2006)

# RECLAMATION

*Managing Water in the West*

Table 3. Approved Laboratory List for the Mid-Pacific Region Environmental Monitoring Branch (MP-157)

<b>Basic Laboratory</b>	<b><u>Address</u></b>	2218 Railroad Avenue Redding, CA 96001 USA
	<b><u>Contact</u></b>	Nathan Hawley, Melissa Hawley, Ricky Jensen
	<b><u>P/F</u></b>	(530) 243-7234 / (530) 243-7494
	<b><u>Email</u></b>	nhawley@basiclab.com (QAO), mhawley@basiclab.com (PM), jcady@basiclab.com (quotes), poilar@basiclab.com (sample custody), khawley@basiclab.com (sample custody)
	<b><u>CC Info</u></b>	nhawley@basiclab.com, jcady@basiclab.com (sample custody)
	<b><u>Methods</u></b>	<i>Approved only for inorganic parameters (metals, general chemistry)</i>
<b>BioVir Analytical Laboratories</b>	<b><u>Address</u></b>	685 Stone Road Unit 6 Benicia, CA 94510 USA
	<b><u>Contact</u></b>	Rick Danielson, Lab Director
	<b><u>P/F</u></b>	(707) 747-5906 / (707) 747-1751
	<b><u>Email</u></b>	red@biovir.com, csj@biovir.com, lb@biovir.com, QAO Jim Truscott jrt@biovir.com
	<b><u>Methods</u></b>	<i>Approved for all biological and pathogenic parameters</i>
<b>Block Environmental Services</b>	<b><u>Address</u></b>	2451 Estand Way Pleasant Hill, CA 94523 USA
	<b><u>Contact</u></b>	David Block
	<b><u>P/F</u></b>	(925) 682-7200 / (925) 686-0399
	<b><u>Email</u></b>	dblock@blockenviron.com
	<b><u>Methods</u></b>	<i>Approved for Toxicity Testing.</i>
<b>California Laboratory Services</b>	<b><u>Address</u></b>	3249 Fitzgerald Road Rancho Cordova, CA 95742
	<b><u>Contact</u></b>	Raymond Osowski
	<b><u>P/F</u></b>	(916) 638-7301 / (916) 638-4510
	<b><u>Email</u></b>	rayo@californialab.com
	<b><u>Methods</u></b>	<i>Approved for Chromium VI</i>
<b>Caltest Analytical Laboratory</b>	<b><u>Address</u></b>	1885 North Kelly Road Napa, CA 94558
	<b><u>Contact</u></b>	Bill Svoboda, Project Manager x29
	<b><u>P/F</u></b>	(707) 258-4000 / (707) 226-1001
	<b><u>Email</u></b>	bsvoboda@caltestlab.com
	<b><u>Methods</u></b>	<i>Approved for all inorganic parameters and biological parameters</i>
<b>Columbia Environmental Resource Center</b>	<b><u>Address</u></b>	4200 New Haven Road Columbia, MO 65201 USA
	<b><u>Contact</u></b>	Tom May, Research Chemist
	<b><u>P/F</u></b>	(573) 876-1858 / (573) 876-1896
	<b><u>Email</u></b>	tmay@usgs.gov
	<b><u>Methods</u></b>	<i>Approved for mercury in biological tissue</i>
<b>Data Chem Laboratories</b>	<b><u>Address</u></b>	960 West LeVoy Drive Salt Lake City, UT 84123-2547 USA
	<b><u>Contact</u></b>	Bob DiRienzo, Kevin Griffiths-Project Manager, Rand Potter - Project Manager, asbestos
	<b><u>P/F</u></b>	(801) 266-7700 / (801) 268-9992
	<b><u>Email</u></b>	griffiths@datachem.com, Potter@datachem.com Invoicing: (Justin) pate@datachem.com
	<b><u>Methods</u></b>	<i>Approved for asbestos, metals, organochlorine pesticides and PCBs in solids</i>
<b>Dept. of Fish &amp; Game - WPCL</b>	<b><u>Address</u></b>	2005 Nimbus Road Rancho Cordova, CA 95670 USA
	<b><u>Contact</u></b>	David B. Crane
	<b><u>P/F</u></b>	(916) 358-2858 / (916) 985-4301
	<b><u>Email</u></b>	dcrane@ospr.dfg.ca.gov
	<b><u>Methods</u></b>	<i>Approved only for metals analysis in tissue.</i>
<b>Frontier Geosciences</b>	<b><u>Address</u></b>	414 Pontius North Seattle, WA 98109 USA
	<b><u>Contact</u></b>	Shelly Fank - QA Officer, Matt Gomes-Project Manager
	<b><u>P/F</u></b>	(206) 622-6960 / (206) 622-6870
	<b><u>Email</u></b>	shellyf@frontiergeosciences.com, mattg@frontiergeosciences.com
	<b><u>Methods</u></b>	<i>in low level metals analysis.</i>

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	<b><u>Methods</u></b>	<i>Approved for all inorganic and organic parameters in drinking water.</i>
<b>Montgomery Watson/Harza Laboratories</b>	<b><u>Address</u></b>	750 Royal Oaks Drive Ste. 100 Monrovia, CA 91016 USA
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<b><u>Methods</u></b>	<i>Approved for all inorganic and organic parameters in drinking water</i>	
<b>Olson Biochemistry Laboratories</b>	<b><u>Address</u></b>	SDSU: Box 2170, ACS Rm. 133 Brookings, SD 57007 USA
	<b><u>Contact</u></b>	Nancy Thiex, Laboratory Director
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<b><u>Methods</u></b>	<i>Approved only for low level selenium analysis.</i>	
<b>Severn Trent Laboratories</b>	<b><u>Address</u></b>	880 Riverside Parkway West Sacramento, CA 95605 USA
	<b><u>Contact</u></b>	Jeremy Sadler
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	<b><u>Methods</u></b>	<i>Approved for all inorganic parameters and hazardous waste organics <b>except for Ammonia as Nitrogen</b> . Ag analysis in sediment, when known quantity is present, request 6010B</i>
<b>Sierra Foothill Laboratory, Inc.</b>	<b><u>Address</u></b>	255 Scottsville Blvd, Jackson, CA 95642
	<b><u>Contact</u></b>	Sandy Nurse (Owner) or Dale Gimble (QA Officer)
	<b><u>P/F</u></b>	(209) 223-2800 / (209) 223-2747
	<b><u>Email</u></b>	sandy@sierralab.com, CC: dale@sierralab.com
	<b><u>Methods</u></b>	<i>Approved for all inorganic parameters, microbiological parameters, acute and chronic toxicity.</i>
<b>Twining Laboratories, Inc.</b>	<b><u>Address</u></b>	2527 Fresno Street Fresno, CA 93721 USA
	<b><u>Contact</u></b>	Jim Brownfield (QA Officer), Sample Control (for Bottle Orders)
	<b><u>P/F</u></b>	(559) 268-7021 / (559) 268-0740
	<b><u>Email</u></b>	JimB@twining.com cc. to JosephU@twining.com
	<b><u>Methods</u></b>	<i>Approved only for general chemistry and boron analysis.</i>
<b>U.S. Geological Survey - Denver</b>	<b><u>Address</u></b>	Denver Federal Center Building 20, MS 973 Denver, CO 80225 USA
	<b><u>Contact</u></b>	Stephen A. Wilson
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	<b><u>Methods</u></b>	<i>Approved only for inorganic parameters in soil .</i>
<b>USBR Technical Service Center Denver Soils</b>	<b><u>Address</u></b>	Denver Federal Center Building 67, D-8750 Denver, CO 80225-0007 USA
	<b><u>Contact</u></b>	Juli Fahy or Stan Conway
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	<b><u>Email</u></b>	jfahy@do.usbr.gov
	<b><u>Methods</u></b>	<i>Approved only for general physical analysis in soils.</i>
<b>Western Environmental Testing Laboratories</b>	<b><u>Address</u></b>	475 East Greg Street # 119 Sparks, NV 89431 USA
	<b><u>Contact</u></b>	Ginger Peppard (Customer Service Manager), Andy Smith (Lab Director), Michelle Kramer
	<b><u>P/F</u></b>	(775) 355-0202 / (775) 355-0817
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	<b><u>Methods</u></b>	<i>Approved only for inorganic parameters (metals, general chemistry).</i>

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