RECLAMATION
Managing Water in the West

Draft Environmental Assessment

Ivanhoe Irrigation District 5 Year Warren Act Agreement for up to 6,500 Acre-Feet of Kaweah River Water in the Friant-Kern Canal

EA-17-044

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

March 2018

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.

Contents

Section 1 Introduction

1.1 Background

Ivanhoe Irrigation District (Ivanhoe) is located in Tulare County and is a Friant Division Repayment Contractor with a Class 1 contract supply of up to 6,500 acre-feet and a Class 2 contract supply of up to 500 acre-feet. Ivanhoe wants to supplement its available water supply with Kaweah River water when Central Valley Project (CVP) water allocations are reduced or not made available.

In 2014, Reclamation analyzed a 5-year Warren Act (Agreement) for conveyance of non-CVP water in federal facilities in EA/FONSI 14-037 (Reclamation 2014). In that EA the affected contractors pursued a range of supplemental water supplies, such as transfers, pumped groundwater and other surface water sources. Seven of the districts purchased a total of 8,250 acre-feet (AF) of non-CVP Kaweah River water from the Wutchumna Mutual Water Company, which they delivered for agricultural use by way of the Friant-Kern Canal. These Agreements expire on February 28, 2019.

Based on specific environmental commitments, Reclamation determined that the proposed Agreements would not significantly affect the quality of the human environment and a Finding of No Significant Impacts (FONSI) was issued on August 4, 2014. Both the Environmental Assessment (EA) and FONSI (Reclamation 2014) are hereby incorporated by reference.

In the current Proposed Action, the districts would introduce the Kaweah River water into the Friant-Kern Canal using Lindsay-Strathmore Irrigation District's turnout at Friant-Kern Canal Milepost (MP) 69.13. There are three Friant Division Repayment contractors downstream of Milepost 69.13 which have Kaweah River water Agreements that could partake in this Proposed Action. They are Lindsay-Strathmore, Exeter Irrigation District, and Terra Bella Irrigation District.

In addition to the existing Agreement, Ivanhoe is requesting an additional 5-year Agreement to have up to 6,500 acre-feet annually of non-CVP Kaweah River water obtained from Wutchumna Water Company, Longs Ditch Company, Foothill Ditch Company, Hamilton Ditch Company, and Hawkeye Ditch Company (collectively referred to as Company), conveyed in the Friant-Kern Canal. This Kaweah River water is separate from the 8,250 acre-foot block that the seven contractors purchased in 2014.

1.2 Need for the Proposed Action

Ivanhoe needs to insure they have an adequate water supplies to meet the needs of their customers. The purpose of the Proposed Action is to provide a conveyance mechanism to deliver supplemental water supplies to support existing crops within the districts.

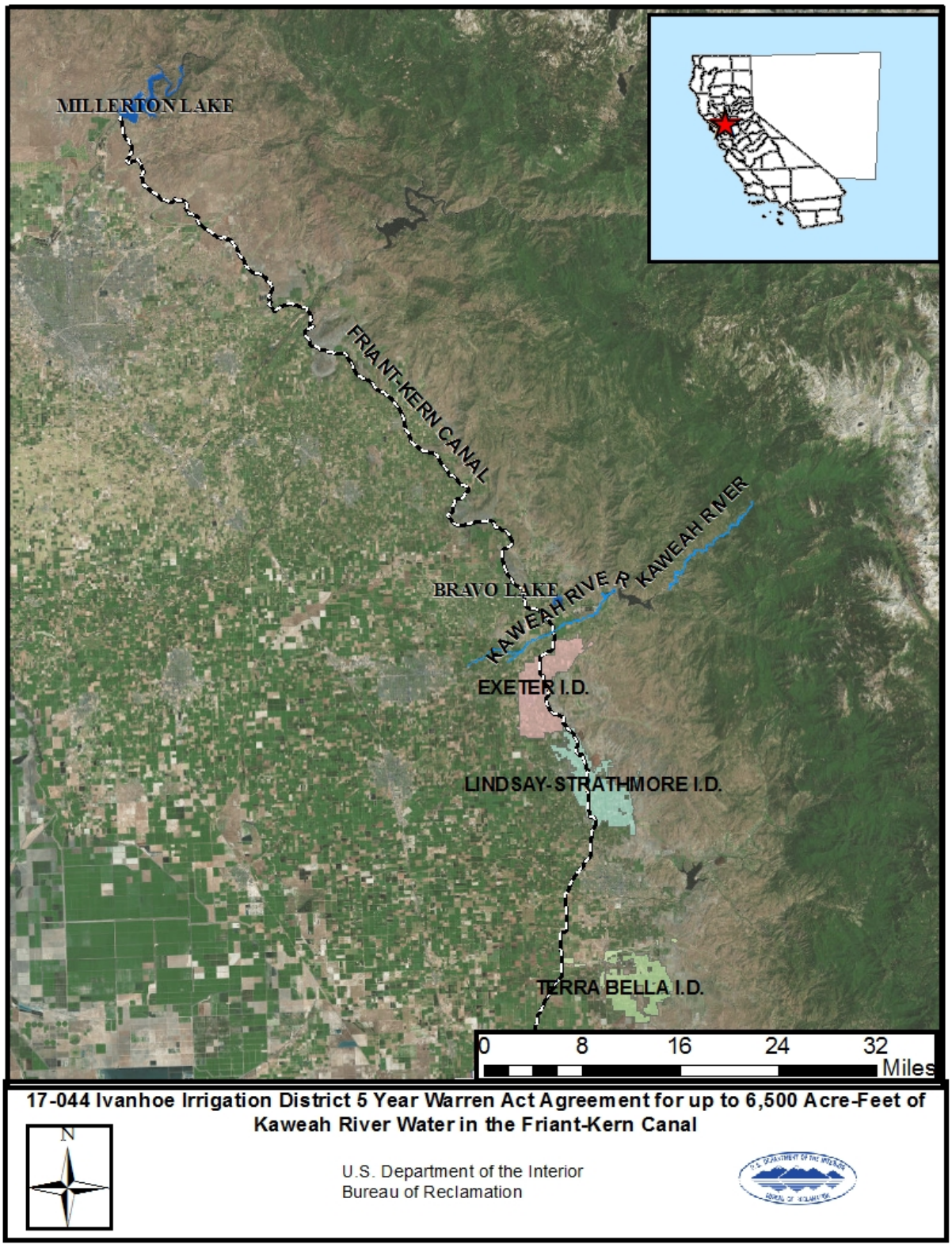

Figure 1 Proposed Action Area

THIS PAGE IS INTENTIONALLY LEFT BLANK

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 a 5-year Agreement with Ivanhoe for the introduction and conveyance in the Friant-Kern Canal of up to 6,500 acre-feet annually of non-CVP Kaweah River purchased from the Company. Ivanhoe would have to take delivery of this water via non-Federal conveyance routes.

2.2 Proposed Action

Reclamation would approve a 5-year Agreement with Ivanhoe to receive up to 6,500 acre-feet annually of non-CVP Kaweah River Water. The Kaweah River water would be introduced into the Friant-Kern Canal at Milepost 69.13. Ivanhoe's delivery points (Mileposts 65.04R, 67.05R, and 68.13R) are upstream of Milepost 69.13 and so Ivanhoe would enter into transfer agreements with the three Friant Division contractors downstream. This would allow Ivanhoe to transfer the Kaweah River water to them while being transferred a like amount of their Friant Division CVP water from Millerton Reservoir.

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

No ground disturbance or modification of existing facilities would be needed in order to convey water under the Proposed Action.

2.2.1 Environmental Commitments

Ivanhoe must implement the following environmental protection (Table 1).

Table 1 Environmental Protection Measures and Commitments

Resource	**Protection Measure**
Biological	Water would not be used to place untilled or new lands into production, or to convert undeveloped land to other uses.
Biological	No new construction or modification of existing facilities may

Resource	Protection Measure
	occur in order to complete the Proposed Action
Biological	The Proposed Action would not alter the flow regime of natural watercourses such as rivers, streams, creeks, ponds, pools, wetlands, etc., so as to have a detrimental effect on fish or wildlife or their habitats.

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 1 Resources Eliminated from Further Analysis

Resource	Reason Eliminated
Air Quality	No new construction or new facilities would be needed under the Proposed Action to transfer water between the Districts. In addition, delivery of water to the Districts would be from existing facilities with or without the Proposed Action and is therefore part of the existing conditions. As there would be no change from existing conditions, a conformity analysis is not required and there would be no impact to air quality as a result of the Proposed Action.
Cultural Resources	The Proposed Action consists of water management actions that would convey through existing Reclamation facilities. As no construction or modification of facilities would be needed in order to complete the Proposed Action, Reclamation has determined that these activities have 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	The Proposed Action would not cause dislocation, changes in employment, or increase flood, drought, or disease nor would it disproportionately impact economically disadvantaged or minority populations.
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.
Global Climate Change	No new construction or new facilities are proposed. Some pumping would be required to move water under the Proposed Action, but power usage would be within the typical range for the facilities involved and are a part of the baseline condition. No greenhouse gas emissions are anticipated outside normal operational fluctuations. As such, there would be no additional impacts to global climate change. 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.

3.2 Biological Resources

3.2.1 Affected Environment

On February 27, 2018, Reclamation requested an official species list from the United States Fish and Wildlife Service (Service) via the Service's website, http://ecos.fws.gov/ipac, (Consultation Code: 08ESMF00-2018-SLI-1355). The list covers the Proposed Action Area. The California Department of Fish and Wildlife's California Natural Diversity Database (CNDDB) was also queried for records of protected species within the vicinity of the Proposed Action Area (CNDDB 2018). The information collected above was combined with information within Reclamation's files to determine the species and designated critical habitat protected under the Endangered Species Act (ESA; 16 USC 1531 et seq.), as amended, in addition to other protected species, that could occur within the Project Action Area.

A majority of special-status species named on the official species list have no potential to be present in the Proposed Action Area due to a lack of suitable habitat (Table 2)

Table 2 Federally Listed Threatened and Endangered Species

Species	***Status[1]***	***Effects[2]***	***Occurrence in the Proposed Action Area[3]***
Amphibians			
California red-legged frog (*Rana draytonii*)	T	NE	**Absent.** No suitable habitat in action area. No longer occurs on valley floor, therefore no effect to the species.
California tiger salamander (*Ambystoma californiense*)	T, X	NE	**Present.** Project Action area overlaps occurrence records and critical habitat, but no ground disturbance, land use change or construction would occur as part of the Proposed Action. Therefore there will be no effect to the species or its critical habitat.
Birds			
Burrowing owl (*Athene cunicularia*)	MB	NT	**Possible.** May occur on banks of conveyance facilities and edges of agricultural fields in burrows. No ground disturbance or land use change would occur as part of the Proposed Action and therefore no take of this species, including from water conveyance.
California condor (*Gymnogyps californianus*)	E, X	NE	**Present.** At periphery of Lindsey-Strathmore ID. Species not expected to use agricultural fields on the valley floor or conveyance facilities. No habitat alteration and the conveyance of water would not affect designated critical habitat, therefore

Species	***Status[1]***	***Effects[2]***	***Occurrence in the Proposed Action Area[3]***
			no effects to the species or habitat.
Southwestern willow flycatcher (*Empidonax traillii extimus*)	E	NE	**Absent.** Suitable riparian habitat lacking in action area and none would be affected by the proposed action, therefore No effect to this species.
Swainson's hawk (*Buteo swainsonii*)	MB	NT	**Possible.** May forage in agricultural fields. Proposed action would not alter or convert habitat which may be used by this species, therefore there would be No Take of this species.
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	T	NE	**Absent.** Extensive cottonwood-willow riparian forest habitat required by this species does not exist within the action area and none would be affected.
Crustaceans			
Conservancy fairy shrimp (*Branchinecta conservatio*)	E	NE	**Absent.** Species does not occur in farmlands, lands developed to M&I use, or in conveyance facilities. No ground disturbance or habitat alteration, therefore no effect to species.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	T, X	NE	**Present.** Project action area overlaps occurrence records and critical habitat. No ground disturbance or habitat alteration from the proposed action, therefore no effect to the species or its critical habitat.
Vernal pool tadpole shrimp (*Lepidurus packardi*)	E, X	NE	**Possible.** No ground disturbance or habitat alteration will occur from the proposed action, therefore no effect to the species or its critical habitat.
Fish			
Delta smelt (*Hypomesus transpacificus*)	T	NE	**Absent.** Proposed Action Area is outside the species' range.
Insects			
Valley elderberry longhorn	T, X	NE	**Possible.** Project action area overlaps elderberry shrub habitat. No Critical habitat

Species	***Status[1]***	***Effects[2]***	***Occurrence in the Proposed Action Area[3]***
beetle (*Desmocerus californicus dimorphus*)			in action area. No disturbance of vegetation or ground disturbance or habitat alteration from the proposed action, therefore no effect to the species or its critical habitat.
Mammals			
American badger (*Taxidea taxus*)	CSC	NE	**Possible.** No ground disturbance or habitat alteration will occur from the proposed action, therefore there will be no effect to the species.
Fresno kangaroo rat (*Dipodomys nitratoides exilis*)	E	NE	**Absent.** No suitable habitat in action area. Species does not use farmlands or lands developed to M&I use. Conveyance of water in the Friant-Kern Canal would not affect the species.
San Joaquin kit fox (*Vulpes mactotis mutica*)	E	NE	**Present.** Can forage in agricultural lands and travel along the conveyance right-of-way. Requires denning habitat nearby (Warrick et al. 2007) to agricultural lands. No ground disturbance or habitat alteration so no effect on potential use by kit fox. Water conveyance would not affect use of right-of-way, therefore no effect to species.
Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*)	E	NE	**Absent.** Does not occur in action area. Absent from active farmlands, lands developed to M&I use, and the conveyance facilities. No alteration of habitat or ground disturbance and therefore no effect to this species.
Plants			
Fleshy Owl's-clover (*Castilleja campestris ssp. succulenta*)	T, X	NE	**Absent.** Does not occur in farmlands, lands developed to M&I use, or at conveyance facilities. No ground disturbance or habitat alteration, therefore no effect to the species or critical habitat.
Hoover's spurge (*Chamaesyce hooveri*)	T, X	NE	**Absent.** Does not occur in farmlands, lands developed to M&I use, or at conveyance facilities. No ground disturbance or habitat alteration, therefore no effect to the species

Species	***Status[1]***	***Effects[2]***	***Occurrence in the Proposed Action Area[3]***
			or critical habitat.
Keck's checker-mallow (*Sidalcea keckii*)	E, X	NE	**Absent.** Does not occur in farmlands, lands developed to M&I, or at conveyance facilities. No ground disturbance or habitat alteration, therefore no effect to the species or critical habitat.
San Joaquin Orcutt grass (*Orcuttia inaequalis*)	T, X	NE	**Absent.** Critical Habitat is adjacent to Friant-kern Canal right-of-way. Does not occur in farmlands, lands developed to M&I use, or at conveyance facilities. No ground disturbance or habitat alteration, therefore no effect to the species or critical habitat.
San Joaquin adobe sunburst (*Pseudobahia peirsonii*)	T	NE	**Possible.** Does not occur in farmlands, lands developed to M&I use. Occurs adjacent to Friant-kern Canal near Friant. No ground disturbance or habitat alteration, and water conveyance in canal would have no effect, therefore no effect on the species.
Reptiles			
Blunt-nosed leopard lizard (*Gambelia sila*)	E	NE	**Absent.** Does not occur in farmlands, lands developed to M&I use. No ground disturbance or habitat alteration. Water conveyance would not effect this species, therefore no effect to species.
Giant garter snake (*Thamnophis gigas*)	T	NE	**Absent.** Species not present in the Action Area. No land use change or effects to waterways from the Proposed Action, therefore no effect to species.

1 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

2 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, Reclamation would not approve the Agreement for Ivanhoe to convey up to 6,500 acre-feet annually of non-project Kaweah River water in the Friant-Kern Canal. The districts involved would use other water supplies to keep currently farmed lands in production. Because conditions would remain the same as existing conditions, there would be no impact to biological resources.

Proposed Action

Under the Proposed Action, equal amounts of water would be exchanged among districts and water supplies would be applied in an equivalent manner, irrespective of its source and water will only transported when there is excess water and excess capacity in the Friant-Kern Canal. There would be no habitat alteration (including Critical habitat), ground disturbance, modification of existing facilities, or construction required for this project.

The San Joaquin kit fox, other listed and non-listed species and any migrating birds could continue to use the Proposed Action Area as under the No Action alternative.

Based upon the nature of this Action and full implementation of the environmental commitments (Table 1), Reclamation has determined there would be 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.). In addition, there would be no take of birds protected under the Migratory Bird Treaty Act (16 U.S.C. §703 et seq.).

Cumulative Impacts

Because the Proposed Action would not result in any direct or indirect impacts to federally listed species or critical habitat, it would not contribute cumulatively to any impacts on these resources.

3.3 Water Resources

3.3.1 Affected Environment

The affected environment is the same as previously covered in EA-14-037 and is hereby incorporated by reference.

Kaweah River

The Kaweah River originates in the Sequoia National Park. From the park it flows southwesterly to Lake Kaweah to Terminus Dam into the San Joaquin Valley. Wutchumna Ditch Company withdraws this water from the Kaweah River for delivery into Bravo Lake. From Bravo Lake it is delivered in to the Wutchumna Ditch where it flows to Milepost 69.13 and into the Friant-Kern Canal. Ivanhoe requests its Kaweah River water through Lindsay-Strathmore which owns the turnout.

3.3.2 Environmental Consequences

No Action

Ivanhoe would not receive up to 6,500 acre-feet of non-CVP Kaweah River Water and would not enter into transfer agreements with downstream Friant Division contractors. They would have to find an alternate water supply or use another conveyance method to deliver this non-CVP water to their customers' crops. If no alternative conveyance method could be found, the districts would likely have to find a way to exchange it for other, usable water supplies, or crops would be fallowed.

Proposed Action

The Kaweah River water is already allocated for use, and would be made available through a combination of land fallowing and groundwater substitution. 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 up to 6,500 AF/year through February 28, 2023.

Non-CVP water introduced into the Friant-Kern Canal must meet Reclamation's then-current *Policy for Accepting Non-CVP Water in Friant Division Facilities* prior to approval for conveyance (see 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 the 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.

THIS PAGE IS INTENTIONALLY LEFT BLANK

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 with the following regarding the Proposed Action:

- Ivanhoe Irrigation District
- Lindsay-Strathmore Irrigation District
- Terra Bella Irrigation District
- Friant Water Authority
- Wutchumna Water Company
- Longs Ditch Company
- Foothill Ditch Company
- Hamilton Ditch Company
- Hawkeye Ditch Company.

THIS PAGE IS INTENTIONALLY LEFT BLANK

Section 5 References

Bureau of Reclamation (Reclamation). 2014. EA/FONSI 14-037 Kaweah River Water Warren Act agreements.

California Department of Fish and Wildlife (DFW). 2018. California Natural Diversity Database (CNDDB), Government Version.

Warrick, G. D., H. O. Clark, Ir., P. A. Kelly, D. F. Williams, and B. L. Cypher . 2007. Use of agricultural lands by San Joaquin kit foxes. Western North American Naturalist 67:270- 277.

RECLAMATION
Managing Water in the West

Draft FINDING OF NO SIGNIFICANT IMPACT

Ivanhoe Irrigation District 5 Year Warren Act Agreement for up to 6,500 Acre-Feet of Kaweah River Water in the Friant-Kern Canal

FONSI-17-044

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

March 2018

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.

BUREAU OF RECLAMATION
South-Central California Area Office, Fresno, California

FONSI-17-044

Ivanhoe Irrigation District 5 Year Warren Act Agreement for up to 6,500 Acre-Feet of Kaweah River Water in the Friant-Kern Canal

Prepared by: Kate Connor Natural Resources Specialist	Date
Concurred by: Ned Gruenhagen Wildlife Biologist	Date
Concurred by: Rain L. Emerson Environmental Compliance Branch Chief	Date
Approved by: Michael P. Jackson, P.E. Area Manager	Date

Introduction

In accordance with section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969, as amended, the Bureau of Reclamation (Reclamation) has released this draft Finding of No Significant Impact (FONSI) which is supported by Reclamation's Environmental Assessment (EA)-17-044, *Ivanhoe Irrigation District 5 Year Warren Act Agreement for up to 6,5000 Acre-Feet of Kaweah River Water in the Friant-Kern Canal,* hereby incorporated by reference, for public review. No final decision shall be made on the FONSI until public review has been completed and comments, if any, considered.

Background

Ivanhoe Irrigation District (Ivanhoe) is located in Tulare County and is a Friant Division Repayment Contractor with a Class 1 contract supply of up to 6,500 acre-feet and a Class 2 contract supply of up to 500 acre-feet. Ivanhoe wants to supplement its available water supply with Kaweah River water when Central Valley Project (CVP) water allocations are reduced or not made available.

In 2014, Reclamation analyzed a 5-year Warren Act (Agreement) for conveyance of non-CVP water in federal facilities in EA/FONSI 14-037 (Reclamation 2014). In that EA the affected contractors pursued a range of supplemental water supplies, such as transfers, pumped groundwater and other surface water sources. Seven of the districts purchased a total of 8,250 acre-feet (AF) of non-CVP Kaweah River water from the Wutchumna Mutual Water Company, which they delivered for agricultural use by way of the Friant-Kern Canal. These Agreements expire on February 28, 2019.

Based on specific environmental commitments, Reclamation determined that the proposed Agreements would not significantly affect the quality of the human environment and a Finding of No Significant Impacts (FONSI) was issued on August 4, 2014. Both the Environmental Assessment (EA) and FONSI (Reclamation 2014) are hereby incorporated by reference.

In the current Proposed Action, the districts would introduce the Kaweah River water into the Friant-Kern Canal using Lindsay-Strathmore Irrigation District's turnout at Friant-Kern Canal Milepost (MP) 69.13. There are three Friant Division Repayment contractors downstream of Milepost 69.13 which have Kaweah River water Agreements that could partake in this Proposed Action. They are Lindsay-Strathmore, Exeter Irrigation District, and Terra Bella Irrigation District.

In addition to the existing Agreement, Ivanhoe is requesting an additional 5-year Agreement to have up to 6,500 acre-feet annually of non-CVP Kaweah River water obtained from Wutchumna Water Company, Longs Ditch Company, Foothill Ditch Company, Hamilton Ditch Company, and Hawkeye Ditch Company (collectively referred to as Company), conveyed in the Friant-Kern Canal. This Kaweah River water is separate from the 8,250 acre-foot block that the seven contractors purchased in 2014.

Alternatives Considered

No Action

Under the No Action Alternative, Reclamation would not approve a 5-year Warren Act Agreement with Ivanhoe for the introduction and conveyance in the Friant-Kern Canal of up to 6,500 acre-feet annually of non-CVP Kaweah River purchased from the Company. Ivanhoe would have to take delivery of this water via non-Federal conveyance routes.

Proposed Action

Reclamation would approve a 5-year Agreement with Ivanhoe to receive up to 6,500 acre-feet annually of non-CVP Kaweah River Water. The Kaweah River water would be introduced into the Friant-Kern Canal at Milepost 69.13. Ivanhoe's delivery points (Mileposts 65.04R, 67.05R, and 68.13R) are upstream of Milepost 69.13 and so Ivanhoe would enter into transfer agreements with the three Friant Division contractors downstream. This would allow Ivanhoe to transfer the Kaweah River water to them while being transferred a like amount of their Friant Division CVP water from Millerton Reservoir.

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

No ground disturbance or modification of existing facilities would be needed in order to convey water under the Proposed Action.

Environmental Commitments

Ivanhoe shall implement the environmental protection measures listed in Table 1 of EA-17-044 to reduce environmental consequences associated with the Proposed Action. Environmental consequences for resource areas assume the measures specified would be fully implemented.

Findings

In accordance with NEPA, Reclamation's South-Central California Area Office determined that the approval of the Proposed Action is not a major federal action that will significantly affect the quality of the human environment; consequently, an environmental impact statement is not required.

The following reasons are why the impacts from the proposed action are not significant:

- The proposed action will not significantly affect public health or safety (40 CFR 1508.27(b)(2)).

- The proposed action will not significantly affect natural resources and unique geographical characteristics such as proximity to historic or cultural resources; parks, recreation, and refuge lands; wilderness areas; wild or scenic rivers; national natural landmarks; sole or principal drinking water aquifers; prime farmlands; wetlands (Executive Order (EO) 11990); flood plains (EO 11988); national monuments; migratory birds; and other ecologically significant or critical areas (40 CFR 1508.27(b)(3) and 43 CFR 46.215(b)).

- There is no potential for the effects to be considered highly controversial (40 CFR 1508.27(b)(4)).

- The proposed action will not have possible effects on the human environment that are highly uncertain or involve unique or unknown risks (40 CFR 1508.27(b)(5)).

- The proposed action will neither establish a precedent for future actions with significant effects nor represent a decision in principle about a future consideration (40 CFR 1508.27(b)(6)).

- The proposed action will not have cumulatively significant impacts (40 CFR 1508.27(b)(7)).

- The proposed action will not significantly affect historic properties (40 CFR 1508.27(b)(8)).

- The proposed action will not significantly affect listed or proposed threatened or endangered species, or its habitat that has been determined to be critical under the Endangered Species Act of 1973 (40 CFR 1508.27(b)(9)).

- The proposed action will not threaten a violation of Federal, State, tribal or local law or requirements imposed for the protection of the environment (40 CFR 1508.27(b)(10)).

- The proposed action will not affect any Indian Trust Assets (512 DM 2, Policy Memorandum dated December 15, 1993).

- Implementing the proposed action will not disproportionately affect minorities or low-income populations and communities (EO 12898).

- The proposed action will not limit access to, and ceremonial use of, Indian sacred sites on Federal lands by Indian religious practitioners or adversely affect the physical integrity of such sacred sites (EO 13007 and 512 DM 3).

Appendix A: Cultural Resources Determination

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

MP-153 Tracking Number: 18-SCAO-047

Project Name: Ivanhoe Irrigation District 5 Year Warren Act Agreement for up to 6,500 Acre-Feet of Kaweah River Water in the Friant-Kern Canal

NEPA Document: CEC-17-044

NEPA Contact: Kate Connor, Natural Resource Specialist

MP 153 Cultural Resources Reviewer: Scott Williams, Archaeologist

Date: December 14, 2017

Reclamation is proposing to approve a 5-year Warren Act Agreement for Ivanhoe to convey up to 6,500 acre-feet annually of non-project Kaweah River water in the Friant-Kern Canal. This is the type of undertaking that does not have the potential to cause effects to historic properties, should such properties be present, pursuant to the NHPA Section 106 regulations codified at 36 CFR § 800.3(a)(1). Reclamation has no further obligations under NHPA Section 106, pursuant to 36 CFR § 800.3(a)(1).

The Kaweah River water would be introduced into the Friant-Kern Canal at Milepost 69.13. Ivanhoe's delivery points (Mileposts 65.04R, 67.05R, and 68.13R) are upstream of Milepost 69.13 which would make it necessary for Ivanhoe to enter into transfer agreements with downstream Friant Division contractors. These agreements would allow Ivanhoe to transfer the Kaweah River water to them while being transferred a like amount of their Friant Division project water from Millerton Reservoir. There are three Friant Division Repayment contractors downstream of Milepost 69.13 which have Kaweah River water Warren Act Agreements that could partake in this action. They are Lindsay-Strathmore Irrigation District, Exeter Irrigation District, and Terra Bella Irrigation District. No construction is required for this project.

This document is intended to convey the completion of the NHPA Section 106 process for this undertaking. I concur with item 8 that this action would not have significant impacts on properties listed, or eligible for listing, on the National Register of Historic Places as determined by Reclamation (LND 02-01) (43 CFR 46.215 (g). Please retain a copy in the administrative record for this action. Should changes be made to this project, additional NHPA Section 106 review, possibly including consultation with the State Historic Preservation Officer, may be necessary. Thank you for providing the opportunity to comment.

Appendix B: Policy for Accepting Non-CVP Water in Friant Division Facilities

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)[1], 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

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[2].

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.

---

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 theses 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 - 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.*
(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
Primary Constituents (CCR § 64431)					
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 NO3)	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
Secondary Constituents (CCR § 64449)					
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
Other required analyses (CCR § 64449 (b)(2); CCR § 64670)					
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	
Radiochemistry (CCR § 64442)					
Radioactivity, Gross Alpha	pCi/L	SM 7110C	15	3	
Microbiology					
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)		
Organic Constituents (CCR § 64444)					
EPA 504.1 method					
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
EPA 505					
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
EPA 508 Method					
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
EPA 515.3 Method					
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
EPA 524.2 Method (Volatile Organic Chemicals)					
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
EPA 525.2 Method					
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
EPA 531.1 Method					
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
EPA 547 Method					
Glyphosate	µg/L	EPA 547	700	4	1071-83-6
EPA 548.1 Method					
Endothal	µg/L	EPA 548.1	100	4	145-73-3
EPA 549.2 Method					
Diquat	µg/L	EPA 549.2	20	4	85-00-7
EPA 613 Method					
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.

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

Table 2b. Unregulated Chemicals (CCR § 64450)

CONSTITUENT OR PARAMETER	Units	Recommended Method	California Department of Health Services Notification Level		Response Level	CAS Registry Number
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
Friant Water Authority
Friant Division, California
Water Quality Monitoring Requirements

Notes for Tables 2a and 2b

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 644442. 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)

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

Fruit Growers Laboratory	**Address**	853 Corporation Street Santa Paula, CA 93060 USA
	Contact	David Terz, QA Director
	P/F	(805) 392-2024 / (805) 525-4172
	Email	davidt@fglinc.com
	Methods	*Approved for all inorganic and organic parameters in drinking water.*
Montgomery Watson/Harza Laboratories	**Address**	750 Royal Oaks Drive Ste. 100 Monrovia, CA 91016 USA
	Contact	Allen Glover (project manager), Bradley Cahoon (quotes)
	P/F	(916) 374-8030, 916-996-5929 (AG-cell) / (916) 374-8061
	Email	Allen.Glover@us.mwhglobal.com, Bradley.Cahoon@us.mwhglobal.com
	CC Info	cc. Sam on all communications to Allen. Samer.Momani@us.mwhglobal.com
	Methods	*Approved for all inorganic and organic parameters in drinking water*
Olson Biochemistry Laboratories	**Address**	SDSU: Box 2170, ACS Rm. 133 Brookings, SD 57007 USA
	Contact	Nancy Thiex, Laboratory Director
	P/F	(605) 688-5466 / (605) 688-6295
	Email	Nancy.Thiex@sdstate.edu
	CC Info	For re-analysis: contact Zelda McGinnis-Schlobohm and Nancy Anderson
		Zelda.Schobohm@SDSTATE.EDU, Nancy.Anderson@SDSTATE.EDU
		For analysis questions only: just CC. Nancy Anderson
	Methods	*Approved only for low level selenium analysis.*
Severn Trent Laboratories	**Address**	880 Riverside Parkway West Sacramento, CA 95605 USA
	Contact	Jeremy Sadler
	P/F	(916) 374-4381 / (916) 372-1059
	Email	jsadler@stl-inc.com
	Methods	*Approved for all inorganic parameters and hazardous waste organics* ***except for Ammonia as Nitrogen*** *.* *Ag analysis in sediment, when known quantity is present, request 6010B*
Sierra Foothill Laboratory, Inc.	**Address**	255 Scottsville Blvd, Jackson, CA 95642
	Contact	Sandy Nurse (Owner) or Dale Gimble (QA Officer)
	P/F	(209) 223-2800 / (209) 223-2747
	Email	sandy@sierralab.com, CC: dale@sierralab.com
	Methods	*Approved for all inorganic parameters, microbiological parameters, acute and chronic toxicity.*
Twining Laboratories, Inc.	**Address**	2527 Fresno Street Fresno, CA 93721 USA
	Contact	Jim Brownfield (QA Officer), Sample Control (for Bottle Orders)
	P/F	(559) 268-7021 / (559) 268-0740
	Email	JimB@twining.com cc. to JosephU@twining.com
	Methods	*Approved only for general chemistry and boron analysis.*
U.S. Geological Survey - Denver	**Address**	Denver Federal Center Building 20, MS 973 Denver, CO 80225 USA
	Contact	Stephen A. Wilson
	P/F	(303) 236-2454 / (303) 236-3200
	Email	swilson@usgs.gov
	Methods	*Approved only for inorganic parameters in soil .*
USBR Technical Service Center Denver Soils	**Address**	Denver Federal Center Building 67, D-8750 Denver, CO 80225-0007 USA
	Contact	Juli Fahy or Stan Conway
	P/F	(303) 445-2188 / (303) 445-6351
	Email	jfahy@do.usbr.gov
	Methods	*Approved only for general physical analysis in soils.*
Western Environmental Testing Laboratories	**Address**	475 East Greg Street # 119 Sparks, NV 89431 USA
	Contact	Ginger Peppard (Customer Service Manager), Andy Smith (Lab Director), Michelle Kramer
	P/F	(775) 355-0202 / (775) 355-0817
	Email	ginger@WETLaboratory.com, andy@WETLaboratory.com, michelle@WETLaboratory.com
	Methods	*Approved only for inorganic parameters (metals, general chemistry).*

Revised: 04/16/2007 MP-157