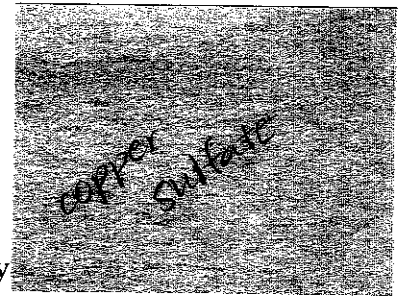


FRIANT

WATER USERS AUTHORITY

March 5, 2004



Kole M. Upton
Chairman of the Board

Harvey A. Bailey
Vice Chairman

Marvin L. Hughes
Secretary/Treasurer

Dan Fufts
General Manager

Gary W. Sawyers
General Counsel

Mr. Philip S. Isorena
Senior Water Resources Control Engineer
California Environmental Protection Agency
State Water Resources Control Board, Division of Water Quality
1001 I Street
Sacramento, CA 95814

Subject: Draft National Pollutant Discharge Elimination System (NPDES) permit for the application of aquatic pesticides – CEQA Documentation and other State Implementation Plan Section 5.3 Requirements

Dear Mr. Isorena:

The Friant Water Users Authority (FWUA) operates and maintains the Friant-Kern Canal (FKC), a conveyance feature of the Central Valley Project. The FWUA consists of twenty-two member water, irrigation and public utility districts serving the agricultural water needs of some one million acres and 15,000 mostly small family farms on the east side of the southern San Joaquin Valley (Madera, Fresno, Tulare and Kern County). Friant Division water supplies are also relied upon by several cities and towns, including the City of Fresno, as a major portion of their municipal and industrial water supplies.

As a special district of the State of California responsible for the operation and maintenance of the FKC, the FWUA is eligible for the Statewide Aquaticide National Pollutant Discharge Elimination System (NPDES) Permit (Permit) currently in draft form as:

WATER QUALITY ORDER NO. 2004 - _ - DWQ

*STATEWIDE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
PERMIT FOR DISCHARGE OF AQUATIC PESTICIDES FOR AQUATIC WEED
CONTROL IN IRRIGATION SYSTEMS, DRINKING WATER CANALS, AND SURFACE
WATER IMPOUNDMENTS THAT ARE WATERS OF THE UNITED STATES
GENERAL PERMIT NO. CAG _____*

Friant Water Users Authority provides the enclosed information in accordance with the requirements of Section 5.3 (Exceptions) of the State Water Resources Control Board's *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP). Section 5.3 of the SIP requires submittal of the following:

Main Office
854 N. Harvard Avenue
Lindsay, CA 93247

Phone: 559-562-6305
Fax: 559-562-3496

Construction and Maintenance Offices
860 Second Street
Orange Cove, CA 93646

Phone: 559-626-4444
Fax: 559-626-4457

332 Norwalk
Delano, CA 93215

Phone: 661-725-0800
Fax: 661-725-9545

Sacramento Office
1521 I Street
Sacramento, CA 95814

Phone: 916-441-1931
Fax: 916-441-1581

Website: www.fwua.org

1. "A detailed description of the proposed action, including the proposed method of completing the action."

This information is contained in the Initial Study and Mitigated Negative Declaration prepared by Friant Water Users Authority pursuant to Requirements of the California Environmental Quality Act (CEQA), included herein in the attached Appendix A.

2. "A time schedule"

The above referenced Initial Study contains information on the schedule associated with discharges for which a categorical exemption is sought. To summarize, a seasonal exception is sought for intermittent, periodic discharges to natural rivers when treatment is needed anytime throughout the irrigation season. The estimated schedule for these discharges could be any time between the months of March and October, lasting for no more than a period of several hours out of every 10 to 14 day period throughout that irrigation calendar interval.

3. "A discharge and receiving water quality monitoring plan (before project initiation, during the project, and after completion of the project, with the appropriate quality assurance and quality control procedures)"

Within the above referenced Initial Study and Mitigated Negative Declaration, the Friant Water Users Authority indicated that it would conduct monitoring in accordance with the State Water Resources Control Board's monitoring and reporting program pursuant to the Statewide NPDES Permit forecasted to be adopted on March 18, 2004. No other monitoring program is therefore advanced.

4. "CEQA Documentation"

CEQA documents are attached hereto in Appendix A, and include;

- Notice of Determination
- Friant Water Users Authority's Board Resolution and;
- Notice of Availability,
- Initial Study / Mitigated Negative Declaration / CEQA Checklist,

In accordance with CEQA requirements, necessary documents were posted in local newspapers and/or with the county clerks' offices of Fresno, Tulare and Kern in addition to the Office of Planning and Research's State Clearinghouse. The Notice of Determination is currently in its 30 day review period and was filed with the aforementioned Counties and the State Clearinghouse on March 2, 2004. No comments were received by the Authority during the environmental assessment's 30-day public review period.

5. "Contingency Plans"

In the event that a categorical exception is not obtained, Friant Water Users Authority would no longer be able to make timely deliveries to many of its water users (irrigation districts) and impacts would be manifested in reduced agricultural

production in the south eastern San Joaquin Valley. The operation of all delivery gates in the Friant-Kern Canal (FKC) to control discharges during treatment periods is not feasible, not only due to the inertial mass of the significant quantity of water conveyed within the FKC, but due to the impact that this major fluctuation (bounce) in deliveries would have on the water users' systems. Without the ability to control algae in the FKC, the implementation of highly water efficient irrigation methods employed by farmers served by FKC water will not be possible. In the event that an exception is not granted, irrigation methods by end users may need to revert to less water conservative means.

6. "Identification of alternate water supply"

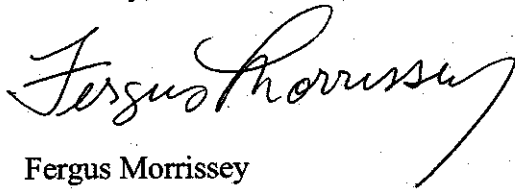
The existing water supply conveyed by the FKC is Central Valley Project water, water rights for which were obtained by the United States Department of Interior as a primary water source to supplement groundwater resources and therefore reduce groundwater overdraft throughout California. Farming's pre-Central Valley Project dependence upon groundwater was rapidly leading to its failure in the San Joaquin Valley. Without this water supply, irrigated agriculture will revert to a dependence on groundwater leading to the failure averted as a result of the Central Valley Project's implementation.

7. Residual Waste Disposal Plans

The operation of the FKC does not result in operational spills or the release of residuals to those environments whose beneficial use (e.g. cropland) would be impacted by the minute concentrations of aquaticides contained in a fraction of their water supply delivered during treatment periods of the FKC. In light of this, there are no residual waste disposal plans.

It is hoped that the information provided herein fulfills the SIP exception requirements. If there is any clarification or additional information that the State Board requires in order to process the request for a SIP exception sought by Friant Water Users Authority relative to the Statewide Aquaticide NPDES Permit, please contact me at your earliest convenience at (559) 562-6305.

Sincerely,



Fergus Morrissey
Staff Engineer

CC: William H. Luce, Jr., Area Manager, USBR, w/o enclosure
Ronald D. Jacobsma, Interim General Manager, FWUA, w/o enclosure
Mario Santoyo, Water, Environmental & Facilities Resources Manager, w/o enclosure

APPENDIX A

CEQA DOCUMENTATION

NOTICE OF DETERMINATION

FRIANT WATER USERS AUTHORITY BOARD RESOLUTION

*Resolution Of
Friant Water Users Authority
Board Of Directors
Adoption of a Mitigated Negative Declaration for Aquaticide Use in
Accordance with the Statewide NPDES Aquaticide Permit
No. 04-05*

WHEREAS, the Friant Water Users Authority is required by regulations of the California Environmental Protection Agency (EPA) and the State Water Resources Control Board to comply with the terms of the Statewide National Pollutant Discharge Elimination (NPDES) Aquaticide Draft Permit # CAG_____ (Permit adoption date March 18, 2004 at which time a CAG number will be assigned) for the discharge of aquatic pesticides to surface waters of the United States; and

WHEREAS, attached as Exhibit A is the Mitigated Negative Declaration prepared for the Project on behalf of the Authority and the Project is described in the Mitigated Negative Declaration; and

WHEREAS, on January 27, 2004, Friant Water Users Authority issued a Notice of Availability and Mitigated Negative Declaration/Finding for a 30-day public review period from January 27, 2004 to February 25, 2004.

Attached as Exhibit B are copies of comments received during the public review period.

NOW, THEREFORE, BE IT RESOLVED:

1. The Board of Directors has considered the proposed Mitigated Negative Declaration together with all comments received during the public review process.
2. The Board finds that on the basis of the Mitigated Negative Declaration and the comments received that there is no substantial evidence that the Project would have a significant effect on the environment, and hereby reaffirms the Mitigated Negative Declaration, and adopts the response to comments, attached hereto as Exhibit C.
3. The Board finds that the Mitigated Negative Declaration reflects the Board's independent judgment.
4. No environmental impact report has been prepared for the Project because all potential adverse impacts have been avoided and/or mitigated through additions to the Project description; and

BE IT FURTHER RESOLVED THAT:

1. The Mitigated Negative Declaration for the NPDES project and its findings are adopted, and Ronald D. Jacobsma is hereby directed to execute it on behalf of the Authority.
2. The NPDES Permit, discharges and all associated activities described in the Mitigated Negative Declaration are approved.

3. Ronald D. Jacobsma is directed to execute, and Authority staff is directed to file a Notice of Determination for the Project, attached hereto as Exhibit D.

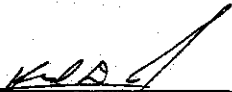
BE IT FURTHER RESOLVED THAT Authority staff and consultants are authorized and directed to take such other actions as they deem necessary or appropriate to carry out the intent of the foregoing resolutions.

UNANIMOUSLY PASSED AND ADOPTED by the Board of Directors of the Friant Water Users Authority this 26th day of February, 2004.

Certificate of Secretary

I hereby certify that I am the duly appointed, qualified and acting Secretary of the Friant Water Users Authority Board of Directors, with its offices at 854 North Harvard, Lindsay, California 93247; that the foregoing Resolution was duly adopted at a meeting of the Board of Directors of the Friant Water Users Authority duly held at Visalia, California on the 26th day of February, 2004, at which time a quorum of said Board of Directors was at all times present and acting, and that said Resolution has not been rescinded or amended in whole or in part, but remains in full force and effect.

In witness whereof, I have hereunto set my hand this 26th day of February, 2004.



Ronald D. Jacobsma
Assistant Secretary-Treasurer
Board of Directors
Friant Water Users Authority

STATE CLEARINGHOUSE CORRESPONDENCE



Arnold
Schwarzenegger
Governor

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit



RECEIVED

MAR - 1 2004

FWUA

Jan Boel
Acting Deputy
Director

February 26, 2004

Mario Santoyo
Friant Water Users Authority
854 North Harvard Avenue
Lindsay, CA 93247-1715

Subject: National Pollutant Discharge Elimination System Permit for the Operation and Maintenance of the
Friant-Kern Canal
SCH#: 2004011124

Dear Mario Santoyo:

The State Clearinghouse submitted the above named Negative Declaration to selected state agencies for review. The review period closed on February 25, 2004, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Terry Roberts
Director, State Clearinghouse

Document Details Report
State Clearinghouse Data Base

SCH# 2004011124
Project Title National Pollutant Discharge Elimination System Permit for the Operation and Maintenance of the
Lead Agency Friant-Kern Canal
Friant Water Users Authority

Type Neg Negative Declaration
Description Mitigated Declaration for application for National Pollutant Discharge Elimination System (NPDES) Permit.

Lead Agency Contact

Name Mario Santoyo
Agency Friant Water Users Authority
Phone 559-562-6305 **Fax**
email
Address 854 North Harvard Avenue
City Lindsay **State** CA **Zip** 93247-1715

Project Location

County Fresno, Tulare, Kern
City Fresno, Visalia, Bakersfield
Region

Cross Streets

Parcel No.

Township

Range

Section

Base

Proximity to:

Highways

Airports

Railways

Waterways Friant-Kern Canal

Schools

Land Use Federal Land

Project Issues Toxic/Hazardous; Water Quality; Biological Resources

Reviewing Agencies Resources Agency; Department of Fish and Game, Region 4; Department of Parks and Recreation; Department of Water Resources; Caltrans, District 6; Native American Heritage Commission; State Lands Commission; Department of Toxic Substances Control; State Water Resources Control Board, Division of Water Quality; Regional Water Quality Control Bd., Region 5 (Fresno)

Date Received 01/27/2004 **Start of Review** 01/27/2004 **End of Review** 02/25/2004

NOTICE OF AVAILABILITY/MITIGATED NEGATIVE DECLARATION/INITIAL
STUDY

FILED

NOTICE OF AVAILABILITY FOR PUBLIC REVIEW

JAN 26 2004

MITIGATED NEGATIVE DECLARATION

By Maria C. Allen
FRESNO COUNTY CLERK
DEPUTY

This is to advise that the Friant Water Users Authority (FWUA) has prepared a Mitigated Negative Declaration for the project identified below. As mandated by State law, the minimum public review period for this document is 30 days. The documentation referenced in the draft Mitigated Negative Declaration is available for review at the FWUA office, 854 North Harvard Avenue, Lindsay, California, 93247.

The comment period for this document closes on February 25, 2004 at 4:30 p.m. Testimony at any future public hearings may be limited to those issues raised during the public review period either orally or submitted in writing by 4:30 p.m. the day the comment period closes.

Project Title: National Pollutant Discharge Elimination System Permit for the Operation and Maintenance of the Friant-Kern Canal (FKC).

Project Location: FKC from Millerton Lake, Fresno County, through Tulare County to the Kern River, Bakersfield, Kern County.

Project Description: The NPDES Permit for which this report is made provides for the categorical exception from numeric water quality criteria and objectives for priority pollutants for the application of aquatic pesticides by public entities in the exercise of resource or pest management activities. As a special district of the State of California, the FWUA is eligible for coverage under, and is applying for a General NPDES Permit relating to the application of aquaticicides directly to the FKC waters.

The FWUA's aquaticicide use includes the application of copper sulfate into the FKC to control algae, at a 10 to 14 day interval throughout the irrigation season. Copper is applied at a quantity at the low end and/or below Environmental Protection Agency approved label prescribed usage.

The micro-irrigation methods employed throughout the FKC service area allow for the most conservative use of available water resources, however, their implementation is contingent upon a water supply with limited algal population, and therefore the use of copper in the FKC is critical. FKC water may be delivered by discharges directly into nine natural streams in Fresno, Tulare and Kern counties.

The FWUA's established copper sulfate application points maximize the distance from each potential natural river's receiving point and minimize impacts on receiving waters by promoting dilution and settling processes. With additional mitigation measures and a monitoring plan, the aquaticicide pest management program is designed to be implemented to minimize impacts to less than significant.

For further information, please contact Mario Santoyo, Water, Environmental, and Facilities Resource Manager (559) 562-6305

Preparation and Public Review

This Mitigated Negative Declaration was prepared by the Friant Water Users Authority. Copies may be obtained at the address listed below:

Friant Water Users Authority
854 N. Harvard Avenue
Lindsay, CA 93247-1715

Telephone: (559) 562-6305
Fax: (559) 562-3496

Materials used in preparation of the Initial Study (IS) are available for review at this address during the following hours:

Monday through Friday, 8:30 am to 4:00 pm

A copy of the Mitigated Negative Declaration and Initial Study are also available for review on the Friant Water User Authorities web site: www.FWUA.org

The public review period will conclude at 4:30 p.m. on February 25, 2004. Comments are to be submitted to Mario Santoyo, Water, Environmental and Facilities Resources Manager, Friant Water Users Authority, at the address/numbers listed above.

Ronald D. Jacobsma,
Interim General Manager

MHW:jl: (12/30/03)

Cc: Tulare County Clerk (2)
Fresno County Clerk (2)
Kern County Clerk (2)
State Clearinghouse (15)
State Water Resources Control Board
Central Valley Regional Water Quality Control Board
California Department of Fish and Game

NEGATIVE DECLARATION

TO WHOM IT MAY CONCERN:

Pursuant to the California Environmental Quality Act of 1970 (CEQA),* the State CEQA Guidelines,** and the Kern County Guidelines for Implementation of CEQA and State CEQA Guidelines,*** Friant Water Users Authority has made an Initial Study to determine possible environmental impacts of the following described project.

APPLICANT: Friant Water Users Authority

APPLICATION: Application for a National Pollutant Discharge Elimination system (NPDES) for the Operation and Maintenance of the Friant-Kern Canal under the Statewide General NPDES Permit No. CAG _____ (currently in Draft Form) for Aquatic Pesticide Application.

LOCATION: Friant-Kern Canal from Millerton Lake, Fresno, to the Kern River, Bakersfield.

DESCRIPTION OF PROPOSED PROJECT: Friant Water Users Authority's aquaticicide use includes for the application of copper sulfate into the Friant-Kern Canal (FKC) to control algae and aquatic weeds. Copper sulfate is applied primarily by slug application, while a broadcast application method is implemented in the end reaches of the FKC due to the lower flow velocity in the terminal portions of the system. Copper sulfate is added to the system every 10-14 days, depending on the system flow and outside air temperature, generally only throughout the months of April through October. Waters from the canal may be discharged into nine natural streams in Fresno, Tulare and Kern counties through controlled gates.

This Mitigated Negative Declaration is associated with the NPDES Permit to obtain a categorical exception from numeric water quality criteria and objectives for priority pollutants for the application of aquatic pesticides by public entities in the exercise of resource or pest management activities. As a special district of the State of California, Friant Water Users Authority (FWUA) is eligible for coverage under, and is applying for this General NPDES Permit for the application of aquaticicides directly to the waters within the FKC.

MITIGATION MEASURES Included in the Proposed Project to Avoid Potentially Significant Effects (if required):

- (1) The chemical will be applied as far as possible upstream from points of discharge into natural streams.
- (2) Application of copper sulfate will be in measured amounts, in accordance with the requirements of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and registered product label requirements specifying application rates and requirements.
- (3) No more than a single application will be carried in a truck on the canal roads at any one time.
- (4) Monitoring will be done in accordance with monitoring and reporting requirements of the final NPDES Permit. Monitoring results are reported to the State Water Resources Control Board and the Regional Water Quality Control Board for their review and NPDES Permit continuation is contingent upon demonstrating no negative environmental impacts.

INCLUSION OF MITIGATED MEASURES AS PART OF PROJECT:

I, as applicant/authorized agent, have reviewed the mitigation measures noted above and agree to include said measures as part of this project.

Signed: _____

Dated: 11/2/04

FINDINGS: It has been found that this project, as described and proposed to be mitigated herein, will not have a significant effect on the environment and that an environmental impact report (EIR) is, therefore not required. A brief statement of reasons supporting such findings is as follows:

- (1) No natural fish populations are anticipated to drop below a self sustaining level or to be eliminated. No other plants or animals are anticipated to be affected.
- (2) The cumulative impacts of copper use on the Friant-Kern Canal are unknown in their entirety. However, copper sulfate has been used for many years and data collected to date does not reflect any significant instantaneous or cumulative effect on the environment. The monitoring program associated with the State Water Resource Control Board final NPDES Permit will alert of the possibility of negative environmental impacts.
- (3) Water quality monitoring and chemical application mitigation and management will prevent any adverse direct or indirect human effects.

PUBLIC INQUIRY: Any person may object to dispensing with an EIR or respond to the findings herein. Information relating to the proposed project is on file in the office of Friant Water Users Authority at the address shown below. Any person wishing to examine or obtain a copy of that information or this document, or seeking information as to the time and manner to so object or respond, may do so by inquiring at said office during regular business hours.

A copy of the Initial Study is attached hereto.

PROPOSED NEGATIVE DECLARATION DATE: 1/26/2004
NEGATIVE DECLARATION REVIEW PERIOD ENDS: 2/25/2004

Ronald Jacobsma, Interim General Manager
 Friant Water Users Authority

Friant Water Users Authority
 854 North Harvard Avenue
 Lindsay, CA 93247
 (559) 562-6305



 Signed

AGENCY CONSULTATION REQUIRED: ___ Yes No

AGENCIES CONSULTED: USFWS 1991; 2001 and 2004 (ongoing)

STATE CLEARINGHOUSE NUMBER (if required): _____

INITIAL STUDY PREPARED BY: M H WOLFE and Associates Environmental Consulting, Inc

DATE POSTED: 1/27/04 **DATE OF NOTICE TO PUBLIC:** 1/27/04

*Public Resources Code, Section 21000, et seq.

**Title 14, Division 6, California Administrative Code, as amended

***Resolution No. 88-068, adopted January 19, 1988

INITIAL STUDY CHECK LIST

1. **Project title:**
National Pollutant Discharge Elimination System (NPDES) Permit for the Operation and Maintenance of the Friant-Kern Canal.
2. **Lead agency name and address:**
Friant Water Users Authority, 854 North Harvard Avenue, Lindsay, California 93247.
3. **Contact person and phone number:**
Mario Santoyo, (559) 562-6305 Fax (559) 562-3496
4. **Project location:**
Friant – Kern Canal from Millerton Lake, Fresno County through Tulare County, to the Kern River, Bakersfield, Kern County.
5. **Project sponsor's name and address:**
Friant Water Users Authority, 854 North Harvard Ave., Lindsay, CA 93247
6. **General plan designation:**
N/A - Federal property.
7. **Zoning:**
NA – Federal Property
8. **Description of project.**
The State Water Resources Control Board Order No. 2001-12-DWQ imposed requirements on any discharge of aquatic pesticides from public entities to waters of the United States in accordance with the State Board's *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP). The SIP establishes procedures for selecting priority pollutants requiring water quality-based effluent limitations and for calculating the limits for those priority pollutants. Section 5.3 of the SIP allows for exceptions from its requirements for resource or pest management conducted by public entities. A prerequisite for granting of this exception includes providing California Environmental Quality Act (CEQA) documentation.

As a special district of the State of California, the Friant Water Users Authority (FWUA) is seeking a Statewide Aquaticide National Pollutant Discharge Elimination System (NPDES) Permit (Permit) currently in draft form as:

WATER QUALITY ORDER NO. 2004 - - -DWQ

*STATEWIDE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
PERMIT FOR DISCHARGE OF AQUATIC PESTICIDES FOR AQUATIC WEED
CONTROL IN IRRIGATION SYSTEMS, DRINKING WATER CANALS, AND SURFACE
WATER IMPOUNDMENTS THAT ARE WATERS OF THE UNITED STATES
GENERAL PERMIT NO. CAG _____*

The FWUA is seeking this NPDES Permit for pest management within the Friant-Kern Canal (FKC). This initial study was prepared as a prerequisite for the Permit and the overarching SIP requirements to allow for a short-term / seasonal categorical exception from California Toxic Rule (CTR) derived SIP numeric water quality criteria and water quality objectives for copper in waters within the FKC and in discharges made from the FKC to waters of the United States. Throughout this document, the Treatment Area will refer to waters within the FKC system and the non-Treatment Area will apply to waters of the United States.

The U.S. Bureau of Reclamation has contracted with FWUA to operate and maintain the FKC. The FWUA delivers water to Central Valley Project (CVP) contractors within the Southeastern San Joaquin Valley via the FKC which begins at Friant Dam in Fresno County and terminates at the Kern River in Kern County. Throughout its 151.8 mile length, FKC deliveries are made to these CVP contractors through turnouts. Some of these turnouts were designed to deliver CVP water via natural water courses (waters of the United States) and to otherwise discharge thereto in the event of a flooding emergency.

Part of the FWUA's maintenance entails the implementation of an aquatic pest control program, which is vital to the system's operation and for the delivery of high quality water to FKC water contractors. Not only is the system's delivery capacity inversely proportional to algae and other aquatic vegetative growth, but because the majority of the FKC service area farmers use micro-irrigation techniques for water conservation, maintaining high quality water is critical for getting water to their crops. While the micro-irrigation methods employed throughout the FKC service allow for the most conservative use of available water resources, their implementation is contingent upon a water supply with limited algal population, and therefore the use of aquaticides in the FKC is a critical maintenance activity. All applications are made in accordance with label restrictions approved by the U. S. Environmental Protection Agency.

FWUA's application of aquaticides directly into the water within the FKC includes the application of copper sulfate into the FKC to control algae. Copper sulfate is applied primarily by slug application, while a broadcast application method is implemented in the end reaches of the FKC due to the lower flow velocity in the

terminal portions of the system. In practice, copper sulfate is added to the system during the irrigation season at an interval of every 10 to 14 days, which generally extends from April through October.

Copper is applied at a quantity at the low end and often well below the product label's recommended usage. Product label criteria are not arbitrary, and the reader should be cognizant of the fact that product usage labels are developed through a rigorous process implemented to provide for environmental protection through the EPA and the Federal Insecticide and Rodenticide Act (FIFRA). Copper sulfate slug application points are designed to maximize the distance from each of the potential natural river discharge points, thereby minimizing impacts on receiving bodies of water by promoting dilution processes. For example, the aquaticide label for copper sulfate allows for the application of between 0.5 to 2.0 pounds of copper sulfate per cubic foot per second (cfs) of Treatment Area system flow. The product label recommends these application loads when the material is applied at intervals of between 5 and 30 miles apart. In the case of the FKC, copper is never applied above the minimum recommended level of 0.5 part per million per cfs, and whenever the distance from the upstream point of application to a non-treatment area receiving water is less than 30 miles, concentrations are reduced below this 0.5 part per million per cfs level. For instance, at the point of application of copper upstream of Tule River (approximately 7.5 miles upstream of Tule River), copper is applied at one-eighth of the labels permitted level.

See Appendix A for specific details on travel distances between points of copper sulfate application and potential receiving waters and typical associated travel times.

Deliveries of water from the FKC may be delivered via / discharged directly the following non-Treatment Area watercourses:

1. Kings River
2. Cottonwood Creek
3. St. Johns River
4. Kaweah River
5. Tule River
6. Deer Creek
7. White River
8. Poso Creek
9. Kern River

The existing emergency Statewide Aquaticide NPDES Permit requires monitoring of copper residuals within the FKC Treatment Area following a representative treatment project. In accordance with this, samples were collected and analysis was performed under a State Water Resources Control Board and Regional Water Quality Control Board approved monitoring and reporting program during the summer of 2002 and 2003. The results of both of these monitoring events demonstrate that copper residuals in the water column quickly fall below the detectable limit of five parts per

billion following a representative treatment project at points of potential discharge into non-treatment area receiving waters (Kings River – 2002, Tule River – 2003). See the attached Appendices B and C for a summary of the referenced laboratory analytical results.

In order to evaluate for the potential of cumulative impacts of periodic, dilute discharges of copper into receiving waters and sediments outside of the Treatment Area, sediment samples were recently collected within several of these non-Treatment Area streams both upstream and downstream of the interconnection with potential FKC discharges. Analytical results of these soil samples do not reveal significant impacts to the river sediments, in fact upstream levels of total sediment copper were found to be higher than downstream levels in one instance (FWUA 2003) (Appendix D).

It is well-known that copper is a naturally occurring element and constitutes a variable fraction of the earth's crust and the natural environment. As such, its presence does not imply anthropogenic contributions to the environment. An indicator of environmental impacts from copper application must therefore come from a comparison of sediment concentrations in samples collected from upstream of the interconnection with the FKC (background levels) to those downstream of the interconnection with the FKC. Monitoring of the sediments in each of these areas indicates that both up-and downstream results fall well within and primarily below the normal worldwide naturally occurring sediment copper range of 13-24 parts per million (ppm) (Shacklette and Boerngen 1984). However, the copper content in sediments of different types and from different regions can vary dramatically. Argillaceous sediments have been found to contain copper in the range of 40-60 ppm and other rock types have been found to contain two to 80 ppm of copper (Pendias-Kabata and Pendias 1992). An illustration of the potentially large range of naturally occurring copper content of river sediments within the same region is shown in streambed sediment copper concentration mapping performed by the United States Geological Survey in the Humboldt River Basin of California. These studies found that sediments in this streambed ranged from .05 to 3900 ppm (Yager and Folger 2003).

The sediment sampling results (Appendix D) have determined an average detectable background concentration between 8.5 and 6.8 ppm (based on a non-detectable level of between 4.9 and 0 ppm, respectively), and an average downstream concentration of 8.5 ppm. These results and knowledge of their consistency with natural worldwide background levels indicate that there is no cumulative contribution of copper to non-treatment area receiving water body sediments as a result of the use of copper for maintenance of the FKC.

At the time sampling was performed to evaluate potential cumulative impacts to receiving waters, pore water samples were also collected from the Kings River system to determine the concentration of soluble copper in that system in addition to total copper in the streambed sediments. These results (Appendix D) indicated that

there was no significant increase in the pore water copper concentration between the upstream and downstream samples collected from the system. Because both the Tule River and Cottonwood Creek are ephemeral streams and were dry at the time of sampling, only total sediment copper analysis was possible in those two systems.

While the analytical results suggest that the total copper levels are not outside of normal sediment concentrations, there was a slight elevation in the downstream sample compared to the upstream sample for those collected at Tule River. Because of this, toxicity tests were conducted on the samples collected from the upstream and downstream Tule River locations. These toxicity tests were performed to ascertain the potential for negative environmental impacts as a result of periodic, dilute discharges of copper into that system. The results of these tests show no toxicity from potential discharges of copper (Appendix D).

In summary, based on analytical results associated with monitoring residual copper concentrations in the FKC, sediment sampling within receiving water courses outside of the Treatment Area, pore water analysis in receiving waters outside of the Treatment Area and toxicity tests conducted on sediments collected from outside the Treatment Area, application of copper to the FKC for pest management purposes poses no significant environmental impact.

9. **Surrounding land uses and setting. (Briefly described the project's surroundings.):**

The FKC travels from Lake Millerton through rangeland in the eastern side of the valley and through agricultural, rural and urban development, ending as the Kern River in Bakersfield, Kern County, California.

10. **Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):**

Bureau of Reclamation, California State Water Resources Control Board, California Regional Water Quality Control Board – Central Valley Region.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

THE ENVIRONMENTAL FACTORS CHECKED BELOW WOULD BE POTENTIALLY AFFECTED BY THIS PROJECT, INVOLVING AT LEAST ONE IMPACT THAT IS A "POTENTIALLY SIGNIFICANT IMPACT" AS INDICATED BY THE CHECKLIST ON THE FOLLOWING PAGES.

- | | | |
|--|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology / Soils |
| <input type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Hydrology / Water Quality | <input type="checkbox"/> Land Use / Planning |
| <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise | <input type="checkbox"/> Population / Housing |
| <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation / Traffic |
| <input type="checkbox"/> Utilities / Service Systems | <input type="checkbox"/> Mandatory Findings of Significance | |

DETERMINATION (To be completed by the Lead Agency)

On the basis of this initial evaluation:

- I find that the proposed project **COULD NOT** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared.
- I find that the proposed project **MAY** have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.
- I find that the proposed project **MAY** have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier **EIR** or **NEGATIVE DECLARATION** pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier **EIR** or **NEGATIVE DECLARATION**, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.



 Signature

1/26/04

 Date

 Signature

 Date

EVALUATION OF ENVIRONMENTAL IMPACTS

- 1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
- 2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level. Indirect as well as direct, and construction as well as operational impacts.
- 3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

- 4) *"Negative Declaration: Less Than Significant With Mitigation Incorporated"* applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).
- 5) *Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:*
 - a) *Earlier Analysis Used.* Identify and state where they are available for review.
 - b) *Impacts Adequately Addressed.* Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c) *Mitigation Measures.* For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
- 6) *Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.*
- 7) *Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.*
- 8) *This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.*
- 9) *The explanation of each issue should identify:*
 - a) *the significance criteria or threshold, if any, used to evaluate each question; and*
 - b) *the mitigation measure identified, if any, to reduce the impact to less than significance.*

Less Than

Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Potentially Significant Impact	Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

ISSUES

I. AESTHETICS. *Would the project:*

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Have a substantial adverse effect on a scenic vista? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Substantially degrade the existing visual character or quality of the site and its surroundings? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Remarks: Application of aquatic pesticides in accordance with the NPDES Permit sought will have no negative impacts in terms of aesthetic qualities of the surrounding environment.

II. AGRICULTURE RESOURCES. *In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:*

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Conflict with existing zoning for agricultural use, or a Williamson Act contract? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Remarks: Negative impacts to agricultural resources would develop if the NPDES permit and the FWUA's corresponding ability to apply aquatic pesticides were not secured. Obtaining the NPDES Permit will have no negative impacts related to agricultural resources.

	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
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III. AIR QUALITY. *Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:*

- | | | | | | |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) | Conflict with or obstruct implementation of the applicable air quality plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) | Violate any air quality standard or contribute substantially to an existing or projected air quality violation? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) | Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) | Expose sensitive receptors to substantial pollutant concentrations? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) | Create objectionable odors affecting a substantial number of people? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Remarks:

	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
--	---	---	---	----------------------

IV BIOLOGICAL RESOURCES. *Would the project:*

- | | | | | | |
|----|---|--------------------------|-------------------------------------|--------------------------|-------------------------------------|
| a) | Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) | Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) | Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) | Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) | Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) | Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Remarks: Fish species that occur in the canal are basically the same as found in the San Joaquin River. So occasionally, there may be state species of concern in the canal (R. Kelly, CDFG, 2003). Their life cycles, however, are unnaturally truncated in the canal and fish may end up in a field and sometimes discharged into another channel. The CDFG also has previously used rotenone in the canal to eliminate white bass. Although some fish may be impacted by temporarily high levels of copper sulfate, some fish may acclimatize to repeated copper applications, (Marr et al, 1955), and others may move away from short lived elevated concentrations within the transient treatment wave which swiftly moves through the FK C following the application of copper. (Baldigo & Bavdanza, 2001) Because applications of copper to the Treatment Area are conducted at the low end or below label recommendations, and material handling practices will be modified to minimize harm to sensitive species in the event of an accidental release (see section on Hazardous Materials), a less than a significant effect on habitat and or health of protected species is anticipated.

<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
---	---	---	----------------------

V CULTURAL RESOURCES. *Would the project:*

- | | | | | | |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) | Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) | Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) | Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) | Disturb any human remains, including those interred outside of formal cemeteries? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Remarks: No cultural resources are known to occur in the canal.

VI. GEOLOGY AND SOILS. *Would the project:*

- | | | | | | |
|------|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) | Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: | | | | |
| i) | Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| ii) | Strong seismic ground shaking? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iii) | Seismic-related ground failure, including liquefaction? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iv) | Landslides? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) | Result in substantial soil erosion or the loss of topsoil? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) | Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) | Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Remarks:

	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
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VII. HAZARDS AND HAZARDOUS MATERIALS. *Would the project:*

- | | | | | | |
|----|---|--------------------------|-------------------------------------|--------------------------|-------------------------------------|
| a) | Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) | Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) | Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) | Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) | For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) | For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) | Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) | Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residents are intermixed with wildlands? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Remarks:

However remote the possibility, the potential of an accidental spill of copper sulfate may occur that could create a plume in exceedance of label recommendations. This will be prevented by applying the chemical in measured amounts, according to the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and registered product label requirements specifying application rates and requirements.

If a vehicle carrying large amounts of chemical were lost in the FKC, control gates can be closed to prevent discharge to natural streams. However, as mitigation, and to avoid that need, no more than a single application will be carried in a truck on the FKC maintenance roads at any one time. If gates must be closed in the event of an emergency, FKC control gates can be closed within an hour of notification.

	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
--	---	---	---	----------------------

VIII. HYDROLOGY AND WATER QUALITY. *Would the project:*

- | | | | | | |
|----|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) | Violate any water quality standards or waste discharge requirements? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) | Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) | Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) | Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) | Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) | Otherwise substantially degrade water quality? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| g) | Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) | Place within a 100-year flood hazard area structures which would impede or redirect flood flows? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| i) | Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| j) | Inundation by seiche, tsunami, or mudflow? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Remarks:

While the copper treatment plume may briefly exceed CTR numeric water quality criteria within the FKC Treatment Area, these effects are by design and necessary in order to control aquatic pests within the FKC. Accordingly, an Exception is not needed for the short term or seasonal exceedance of CTR criteria within the Treatment Area and is neither a SIP requirement nor pertinent to this initial study.

	<i>Less Than Significant With Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<i>Potentially Significant Impact</i>			

The management practices which dictate the points and concentrations of copper application within the FKC maximize the travel path to a potential point of discharge into a natural river system. These management practices allow for the copper plume to be dispersed throughout the canal reach that is treated, minimizing the concentration of copper as it arrives as a diluted treatment wave at the points of potential discharge to a natural stream. While these discharges may transiently exceed CTR copper criterion in waters discharged from the FKC to waters outside the Treatment Area, this initial study demonstrates that potential environmental effects from this discharge are insignificant. Discharges of copper treated water from the FKC into a particular natural river constitute a small fraction of total water deliveries into that particular water body.

The current draft Statewide NPDES permit requires that the receiving water body's (a natural stream into which deliveries are made) water quality objective not be exceeded, by monitoring for both residual copper concentrations and toxicity within that natural stream at the time that the peak of the discharge plume arrives and is discharged into a natural stream. Monitoring results are reported to the State Water Resources Control Board and the Regional Water Quality Control Board for their review and NPDES Permit continuation is contingent upon demonstrating CTR criterion compliance in waters outside the Treatment Area. In-stream sediment and pore water monitoring was conducted in order to determine if there are possible cumulative effects of the described periodic discharge of dilute concentrations of copper residual within the natural stream system. As discussed in the Description of Project section, analytical results reveal that there have not been any negative short-term or cumulative impacts as a result of the application of copper to the FKC.

IX. LAND USE AND PLANNING. *Would the project:*

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Physically divide an established community? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Conflict with any applicable habitat conservation plan or natural community conservation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Remarks:

X. MINERAL RESOURCES. *Would the project:*

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| () | | | | |
| b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| () | | | | |

Remarks:

<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
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XI. NOISE. *Would the project result in:*

- | | | | | | |
|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) | Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
() | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) | Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?
() | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) | A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?
() | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) | A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?
() | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) | For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?
() | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) | For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?
() | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Remarks:

XII. POPULATION AND HOUSING. *Would the project:*

- | | | | | | |
|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) | Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?
() | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) | Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?
() | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
--	---	---	---	----------------------

- c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

()

Remarks:

XIII. PUBLIC SERVICES

- a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
- | | | | |
|----------------------------|--------------------------|--------------------------|-------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| o Fire protection? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| o Police protection? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| o Schools? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| o Parks? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| o Other public facilities? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

()

Remarks:

XIV RECREATION

- a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

()

Remarks:

- b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

()

Remarks:

XV. TRANSPORTATION / TRAFFIC. Would the project:

- a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
roads, or congestion at intersections)? ()	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways? ()	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? ()	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? ()	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in inadequate emergency access? ()	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in inadequate parking capacity? ()	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) () <i>Remarks:</i>				

XVI. UTILITIES AND SERVICE SYSTEM

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? ()	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? ()	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? ()	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? ()	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
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- e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?
- ()
- f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?
- ()
- g) Comply with federal, state, and local statutes and regulations related to solid waste?
- ()

Remarks:

XVII. MANDATORY FINDINGS OF SIGNIFICANCE

- a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Remarks: The project will by design result in the transient exceedance of numeric water quality standards associated with aquatic life inside the Treatment Area. This exceedance is necessary in order to control target pests in the FKC. Accordingly, an Exception is not needed for the short term or seasonal exceedance of CTR criteria within the Treatment Area and is not pertinent to this initial study. Application of aquaticides is regulated by the Department of Pesticide Regulation and application requirements (as indicated on the label of a particular aquaticide) are in accordance with the Environmental Protection Agency's Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). These requirements are strictly followed during the application of copper to the FKC, and treatment levels are well below those allowed by the label. FKC copper residual monitoring has shown that the exceedences to aquatic life numeric criteria are extremely short-lived in that the treatment wave's velocity is swift and its affects are rapidly attenuated within the FKC by their action on target pests and dilution in the Treatment Area. With proposed mitigation measures, the project will not result in any exceedance outside the treatment area

	<i>Less Than Significant With Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<i>Potentially Significant Impact</i>			

- b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Remarks: The cumulative impacts of copper use on the Friant-Kern Canal are unknown in their entirety. However, copper sulfate has been used for decades and data collected does not reflect any significant cumulative effect at the sample sites (Appendices B, C and D). The monitoring plan that will be required in the subsequent Statewide NPDES Permit for aquaticicide use will be designed to determine potential future negative impacts on waters outside the Treatment Area. To date, sampling does not indicate this is an issue (Appendices B, C and D). In the event that future monitoring (including copper residual concentration and or toxicity) required under the NPDES Permit in waters outside of the Treatment Area, reveal(s) exceedance of CTR numeric criterion and or result in toxicity because of FKC discharges, management practices will be adopted and implemented in order to preclude those negative environmental impacts.

- c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Remarks: As part of the management practices undertaken by FWUA in the application of copper sulfate to the FKC, water users that supply water for domestic and municipal purposes are notified 24 hours prior to a treatment event. This notification allows those water suppliers adequate time to make necessary operational adjustments to preclude the copper treatment wave from negatively impacting their facility and or the quality of water deliveries to their end users. In addition to this notification, management practices associated with the application of copper to the system (e.g. applying below label recommendations) provides additional features designed to protect the health of humans and the larger environment.

BIBLIOGRAPHY

Literature Cited:

Baldigo, B.P. and T.P. Baudanza. 2001. Copper Avoidance and Mortality of Juvenile Brown Trout (*Salmo trutta*) in Tests with Copper-Sulfate-Treated Water from West Branch Reservoir, Putnam County, New York. USGS. Prepared in cooperation with the New York City Department of Environmental Protection, Troy, New York.

Bowen, M.J.M. 1985. In: D. Hutzinger (ed.), The Handbook of Environmental Chemistry, Vol. 1, Part D: The natural environment and biogeochemical cycles, Springer-Verlag, New York. p. 1-26.

Friant Water Users Authority. 2003. Annual NPDES Monitoring Report for Monitoring Conducted During 2002 Submitted by Friant Water Users Authority.

Kabata-Pendias, A. and H. Pendias. 1992. Trace Elements in Soils and Plants, 2nd Edition. CRC Press, Boca Raton, Florida. 365 pp.

Marr, J.C.A., H.L. Bergman, M. Parker, J. Lipton, D. Cacula, W. Erickson, and G.R. Phillips. 1995. Relative sensitivity of brown and rainbow trout to pulsed exposures of an acutely lethal mixture of metals typical of the Clark Fork River, Montana: Canadian Journal of Fisheries and Aquatic Sciences, V. 52, no. 9, p. 2005-2015.

Shacklette, H.T. and J.G. Boerngen. 1984. Element concentrations in soils and other surficial materials of the conterminous U.S. Geol. Surv. Prof. Pap. 1270.

Yager, D.B. and H.W. Folger. 1995. The Distribution of Copper in Stream Sediments and Soils in the Humboldt River Basin and Surrounding Area. U.S. Department of the Interior, U.S. Geological Survey. Base from U.S. Geological Survey, 1965. Lambert Conformal Conic Projection based on parallels 33 degrees and 45 degrees.

Water Quality Order No. 2004 - ___ -DWQ (Draft NPDES Permit) - Statewide General National Pollutant Discharge Elimination System Permit for Discharge of Aquatic Pesticides for Aquatic Weed Control in Irrigation Systems, Drinking Water Canals, and Surface Water Impoundments that are Waters of the United States, General Permit No. CAG___.

Persons Contacted:

Randy Kelly, CDFG. Personal communication 2003.

Fergus Morrissey, Friant Water Users Authority. 2003.

John Roldan, Friant Water Users Authority. 2003

APPENDIX A. Distances from Application Points to Discharge Points.

Appendix A. The distance from the copper application to each of these water bodies is as shown in the following table.

Point of Application	Natural Water Body	Natural Waterbody Milepost	Travel Distance	Travel Time
(Milepost)		(Milepost)	(miles)	(hours)
0.0	Kings River	28.5	28.5	9.6
61.0	Cottonwood Creek	66.48	5.5	2.0
61.0	St. Johns River	69.49	8.5	3.0
61.0	Kaweah River	71.29	10.3	3.4
88.2	Tule River	95.67	7.5	2.4
88.2	Deer Creek	102.69	14.5	4.7
88.2	White River	112.9	24.7	8.1
113.0	Poso Creek	130.05	17.1	6.3
Broadcast	Kern River	151.8	NA	NA

APPENDIX B. Excerpts from the Annual NPDES Monitoring Report
for Monitoring Conducted During 2002.

ANNUAL NPDES MONITORING REPORT

For Monitoring Conducted During

2002

In Compliance With

STATEWIDE GENERAL NPDES PERMIT NO.

CAG9900003

FOR AQUATIC PESTICIDE APPLICATION

Submitted by

Friant Water Users Authority

January 30, 2003

1.0 GENERAL STATEWIDE NPDES AQUATICIDE PERMIT

In summary, the General NPDES Aquaticide Permit for which this annual report is required grants a categorical exception from numeric water quality criteria and objectives for priority pollutants for the application of aquatic pesticides by public entities in the exercise of resource or pest management. As a special district of the State of California, Friant Water Users Authority (FWUA) has applied for and is covered under this General NPDES Permit.

The State Water Resource Control Board recognizes that discharges of pollutants may cause or contribute to exceedance of water quality standards for parameters or constituents that are priority pollutants. As such, the General Permit does not require immediate compliance with such water quality standards, but requires that dischargers implement Best Management Practices (BMP's) to eliminate or reduce the pollutants that are causing or contributing to an exceedance of numeric water quality standards.

2.0 SITE DESCRIPTION AND HISTORY

The source of water deliveries made via the Friant-Kern Canal (FKC) is derived from Sierra Nevada snowmelt within the San Joaquin River's watershed. Winter runoff is captured by Friant Dam and contained in Millerton Reservoir. From Millerton Reservoir water is distributed by the FKC primarily to contracting irrigation and water storage districts, while a small amount is delivered to local cities for municipal and industrial use.

Constructed in the 1940's by the United States Department of Interior's Bureau of Reclamation (Reclamation), the FKC is a significant Central Valley Project feature with a total length of approximately 152 miles. The FKC terminates at the Kern River in the City of Bakersfield. Of the 152 miles of canal, approximately 84% or 128 miles of the conveyance is concrete lined. The remaining portion consists of lime-treated, earthen material. The FKC has a head flow capacity of 5,300 cubic feet per second and it has delivered more than 1.3 million acre-feet per year on average (based on water year deliveries between 1965 and 2002). While the average system water velocity depends on the water elevation in the canal, the system operates in the region of four feet per second during the growing season.

FWUA is contracted by Reclamation to operate and maintain the FKC. Part of this maintenance responsibility is to implement an aquatic weed control program, which is vital to the system's operation and for the delivery of high quality water to FKC water contractors. Not only is the system delivery capacity inversely proportional to algae and other aquatic vegetative growth, because the majority of Friant farmers use micro-irrigation, maintaining high quality water is paramount to getting water to their crops.

2.1 AQUATICIDE USE IN THE FKC

FWUA's aquaticide use consists of the application of copper sulfate into the FKC to control algae and aquatic weeds. Copper sulfate is applied primarily by slug application, while a broadcast application method is implemented in the end reaches of the FKC due to the lower flow regime in the terminal portions of the system. Copper sulfate is added to the system every 10 to 14 days, depending on system flow and outside air temperature.

2.1.1 Copper

FWUA annually applies on the order of 40 tons of copper sulfate into the waters of the FKC system for the control of algae between the months of April and October while delivering approximately 1.8 billion tons of water to Friant water users. An effective in place and long implemented management practice dictates the timing and location of copper application into the FKC. Reclamation established and FWUA has continued this management practice whereby, the discrete points of copper slug application maximize the distance from an interconnection with waters of the United States (e.g. Kings River). For example, the first point of application on the system occurs at a point that is 28.5 miles upstream of the first significant natural stream crossing, the Kings River, while the second point of copper application is downstream of the Kings River, and upstream from the next significant natural stream crossing by approximately 41 miles.

This long established management practice minimizes the potential for loss of applied material from the waters contained within the canal. This is extremely important from a management perspective since material lost from the system constitutes lost resources, and consequently, reduced program effectiveness.

3.0 MONITORING PROGRAM OBJECTIVES AND RESULTS

The monitoring program's aim was to determine the time-varying residual concentration of applied aquaticides (including for copper sulfate) in the waters of the FKC, to determine the degree of potential environmental impact outside of the confines of the canal. FWUA's monitoring program and quality assurance project plan to accomplish this was provided to the Regional Water Quality Control Board's (RWQCB) Region 5 Central Valley office in March of 2002. System monitoring, including for procedures associated with quality assurance, were conducted as outlined in this RWQCB-approved plan. FWUA conducted copper monitoring during the summer and fall of 2002, respectively. These monitoring events directly corresponded with the routine use of aquaticide for maintenance of the system. Sampling activities were performed and or closely overseen by FWUA professional staff with experience in water sampling for toxics in the environment.

3.1 Copper Monitoring Results

The copper monitoring program, as outlined in the Monitoring Plan submitted to the RWQCB, was designed to determine the transport of the material in the FKC with the aid of an advection dispersion model. Data was needed from samples collected at various locations and at various times downstream from the point of copper application to model the plume using the aforementioned model. Sampling times were based on calculated and measured water surface velocities, which were in agreement with one another. The results of the monitoring program for copper are outlined below.

Copper Sulfate Application Details

Date: August 6, 2002.
 Time: 08:10 hours.
 Location: FKC Milepost 0.16 (0.16 miles downstream of Friant Dam).
 Quantity: 1,450 pounds.
 FKC Flow: 2,850 cubic feet per second.
 Rate: 0.5 pounds copper sulfate per cfs (typical)

Sampling Stations

Station 1: FKC Milepost 6.54
 Station 2: FKC Milepost 14.64
 Station 3: FKC Milepost 28.44 (Kings River Wasteway)
 Station 4: Kings River (to determine hardness as CaCO₃)

The following Table 1 summarizes the sampling results following the August 6, 2002, copper sulfate treatment date.

Table 1 - Summary of Analytical Copper Concentrations and Turbidity

Station I.D.	Number of Hours Following Copper Application**	Copper Concentration (µg/L)	Turbidity (NTU)
M.P. 06.54	2	<5	-
M.P. 06.54	3	7.0	-
M.P. 06.54	4	<5	-
M.P. 06.54	7	<5	-
M.P. 06.54	26	<5	1.0
M.P. 06.54	50	<5	1.3
M.P. 14.64	5	<5	-
M.P. 14.64	6	53.0	-
M.P. 14.64	8	7.0	-
M.P. 14.64	25	<5	1.7
M.P. 14.64	49	<5	1.4
M.P. 28.44	0	<5	-
M.P. 28.44	9	<5	-

M.P. 28.44	24	*	1.3
M.P. 28.44	48	<5	1.0
M.P. 28.44	72	<5	1.8
M.P. 28.44	144	<5	3.8
M.P. 28.44	241	<5	1.4

* Note: Laboratory misplaced sample – no result

** Based on the design velocities of the FKC, the travel time from the point of applied copper sulfate to Stations 1, 2 and 3 are 2.2 hours, 5.3 hours, and 9.5 hours, respectively.

In addition to the sample results provided in Table 1 above, hardness of the potential receiving water body (Kings River) was determined by BSK Laboratory to be 9 milligrams per liter as calcium carbonate (CaCO₃).

The aquatic life based numeric water quality standard for copper is dependant upon the hardness of the receiving water, as measured as CaCO₃. The functional relationship between copper's numeric standard and CaCO₃ is shown in the attached Figure 1.

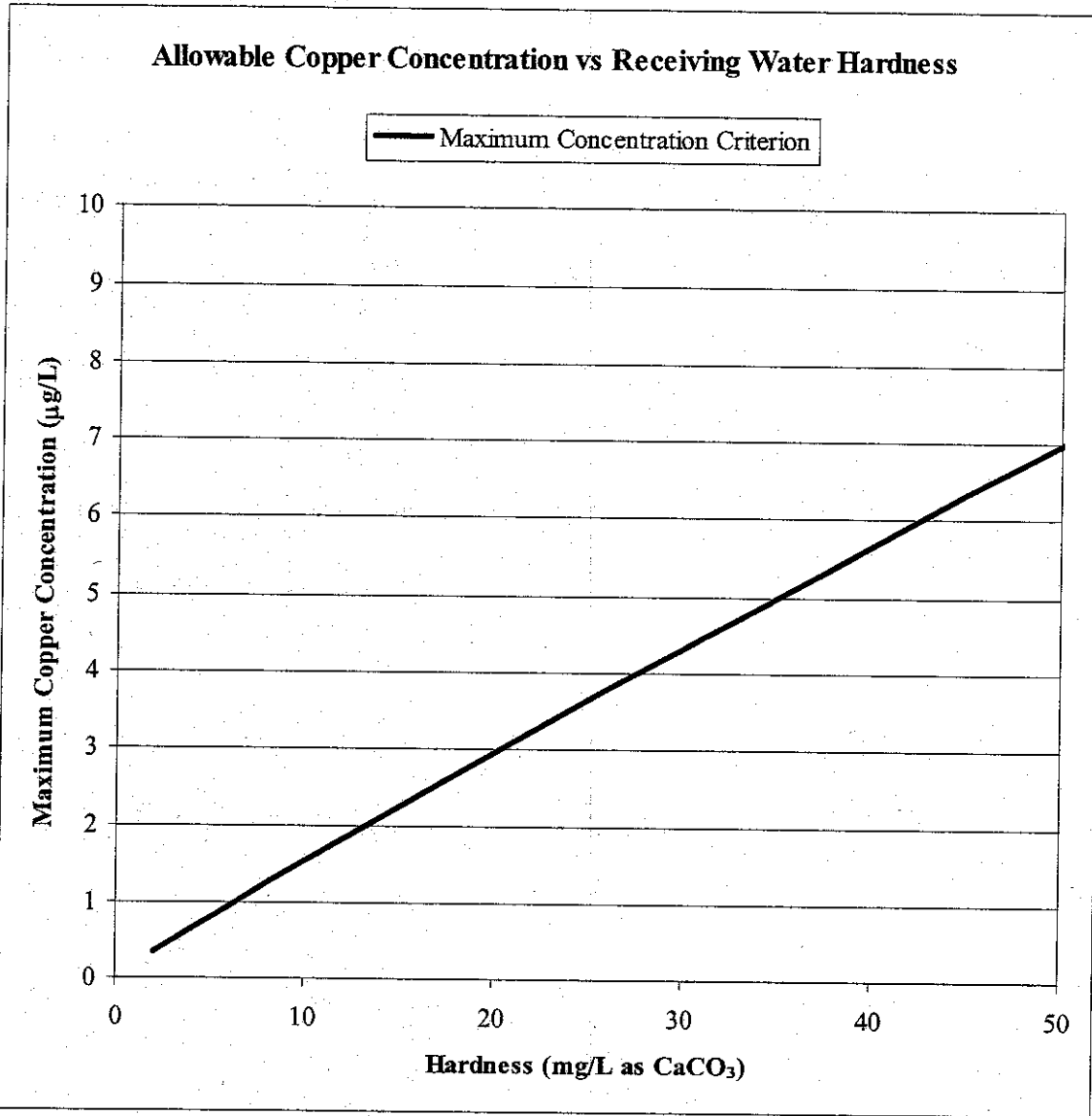


Figure 1. Maximum Allowable Copper Concentration vs. Receiving Water Hardness

According to BSK Laboratory, the contracted certified analytical laboratory conducting chemical analyses for this monitoring, available current analytical method can achieve a practical quantitative limit (PQL) for copper of 5 micrograms per liter ($\mu\text{g/l}$). Based on the above Figure 1, the corresponding hardness for this concentration is approximately 35 micrograms per liter as CaCO_3 . Because the receiving water had a hardness of 9 micrograms per liter, the allowable copper concentration of 1.39 micrograms per liter is well below the laboratory practical quantitative limit.

The supporting documents for the described copper sampling effort are provided in appendices attached to this monitoring report. Appendix A contains the sampling sheets completed in the field, Appendix B contains the laboratory analytical results for copper and hardness (hardness of the potential receiving water – Kings River) and Appendix C contains the chain-of-custody documentation for the collected samples.

APPENDIX C. Excerpt from 2003 Annual Monitoring Report (in progress).

3.0 MONITORING PROGRAM OBJECTIVES AND RESULTS

The monitoring program's aim was to determine the time-varying residual concentration of applied aquaticides (including for copper sulfate and diquat) in the waters of the FKC, to determine the degree of potential environmental impact outside of the confines of the canal. FWUA's monitoring program and quality assurance project plan to accomplish this was provided to the Regional Water Quality Control Board's (RWQCB) Region 5 Central Valley office in March of 2002. System monitoring, including for procedures associated with quality assurance, were conducted as outlined in this RWQCB-approved plan. FWUA conducted copper and diquat monitoring during the summer and winter of, 2003, respectively. Sampling activities were performed and or closely overseen by FWUA professional staff with experience in water sampling for toxics in the environment.

3.1 Copper Monitoring Results

The copper monitoring program, as outlined in the Monitoring Plan submitted to the RWQCB, was designed to determine the transport of the material in the FKC with the aid of an advection dispersion model. Data was needed from samples collected at various locations and at various times downstream from the point of copper application to model the plume using the aforementioned model. Sampling times were based on calculated and measured water surface velocities, which were in agreement with one another. The results of the monitoring program for copper are outlined below.

Sample Location: M.P. 95.7 (Tule River Check)

Sample Date: 8/12/2003

Application Time: 07:30

Treatment Arrival Time: 11:00

FKC Flow Rate = 1408 cfs

FKC Average Velocity = 3.11 ft/sec

Quantity of Upstream Aquaticide Application = 400lbs.

Application Rate = 0.28 lbs CuSO₄ per cfs

Point of Aquaticide Application (milepost)	Travel Distance (feet)	Travel Time	
		minutes	hours
88.20	39607.5	212.3	3.5

The following Table 1 summarizes the sampling results following the August 12, 2003, copper sulfate treatment date.

Table 1. Analytical Results

Sample Time	FWUA ID	Conc. (ppm)	Turbidity	Analyte
-------------	---------	-------------	-----------	---------

	#		(NTU)	
10:00AM	TR-13	86	N/A	CaCO ₃
10:01AM	TR-14	89	N/A	CaCO ₃
10:25AM	TRC-1	<.005	1.3	CuSO ₄
10:40AM	TRC-2	<.005	1.2	CuSO ₄
10:55AM	TRC-3	<.005	1.2	CuSO ₄
11:10AM	TRC-4	<.005	1.2	CuSO ₄
11:25AM	TRC-5	<.005	1.3	CuSO ₄
11:40AM	TRC-6	<.005	1.2	CuSO ₄
11:55AM	TRC-7	<.005	1.8	CuSO ₄
12:10PM	TRC-8	<.005	1.2	CuSO ₄
12:25PM	TRC-9	<.005	1.3	CuSO ₄
12:40PM	TRC-10	<.005	1.4	CuSO ₄
12:55PM	TRC-11	<.005	1.4	CuSO ₄
1:10PM	TRC-12	<.005	1.3	CuSO ₄

The aquatic life based numeric water quality standard for copper is dependant upon the hardness of the receiving water, as measured as CaCO₃. The functional relationship between copper's numeric standard and CaCO₃ is shown in the attached Figure 1.

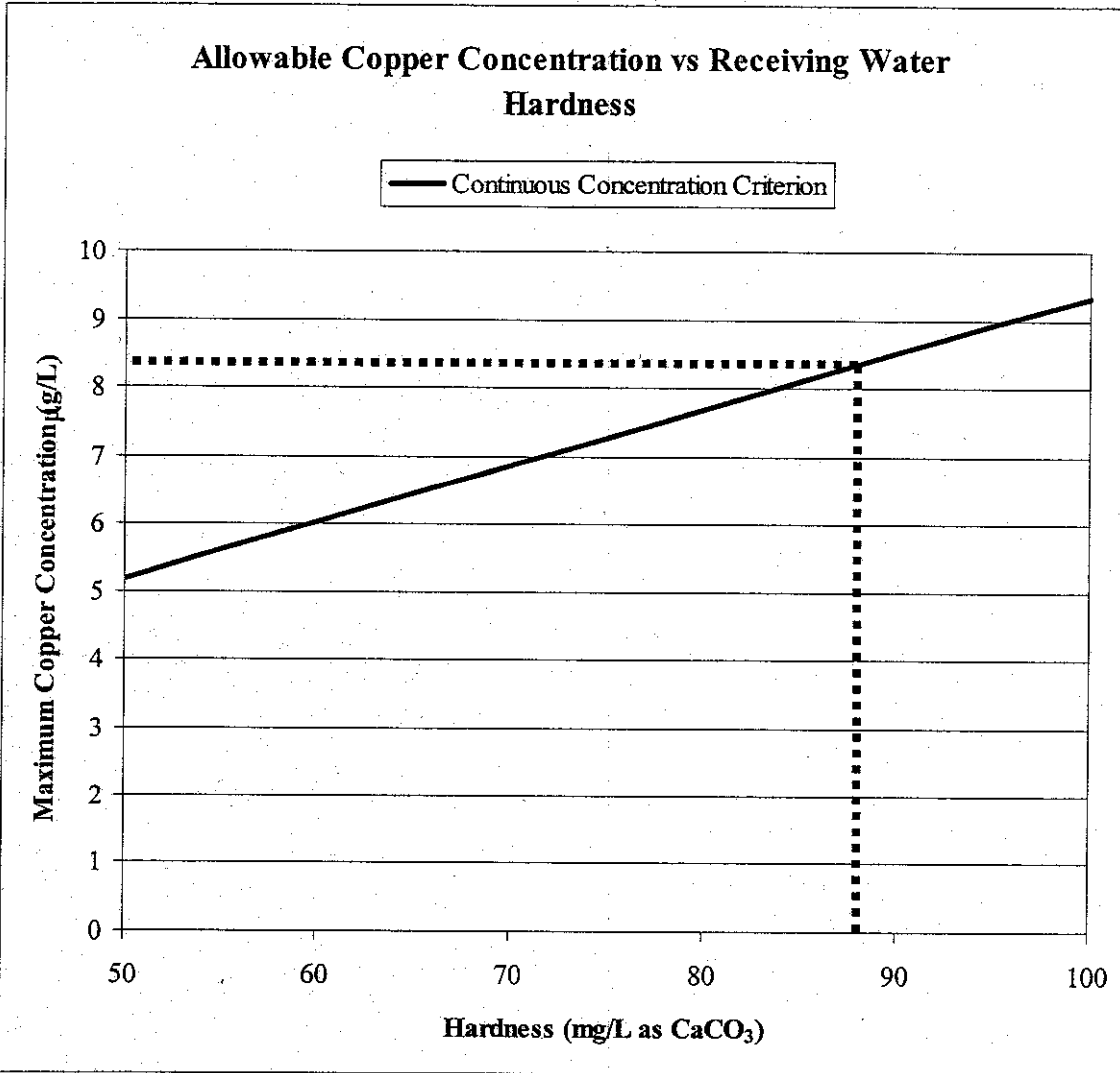


Figure 1. Maximum Allowable Copper Concentration vs. Receiving Water Hardness

Based on the hardness of water within this stretch of the FKC, the water quality objective / priority pollutant maximum concentration level for copper is approximately 8.5 parts per billion. None of the analyzed samples were determined to have a concentration exceeding this amount, with detected concentration above the Practical Quantitative Limit of 5 parts per billion.

APPENDIX D. Copper In-Stream Sediment, Pore Water and Toxicity Sampling.

Instream Sediment & Pore Water Test Results

Sample Location	Total Extractable Copper (mg/kg)	Total Dissolved Copper (mg/L)
Upstream Tule River	<5	
Downstream Tule River	9.9	
Upstream Cottonwood Creek	13	
Downstream Cottonwood Creek	7.6	
Upstream Kings River	7.5	0.014
Downstream Kings River	8	0.016

Toxicity Test Results

Sample Location	
Upstream Tule River	negative
Downstream Tule River	negative