CONTRA COSTA
WATER DISTRICT

1331 Concord Avenue
P.O. Box H20
Concord, CA 94524
(925) 688-8000 FAX (925) 688-8122

February 5, 2004

Mr. Wayne Sobieralski
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814

Subject: 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

Dear Mr. Sobieralski:

The purpose of this correspondence is to communicate the Contra Costa Water District's (CCWD) compliance with the various requirements of the State Water Quality Control Board regulations as it pertains to the Application of Aquatic Pesticides. This includes completion of the requirements of the State Implementation Plan (SIP) Section 5.3 that will allow the State Water Resources Control Board the ability to grant CCWD a Categorical Exception after compliance with California Environmental Quality Act (CEQA)

As you are aware CCWD completed its CEQA Initial Study and Mitigated Negative Declaration (IS/MND) on January 15, 2004, and provided you a copy of that document on the same day. On February 4, 2004, the CCWD Board of Directors passed a resolution that adopts the January 2004 IS/MND for the proposed Application of Copper-Based Aquatic Pesticide to Contra Costa Canal, Mallard Slough and Contra Loma, Mallard, Martinez, and Los Vaqueros Reservoirs for Algal and Aquatic Weed Control. Attachment 1 is a copy of the February 4, 2004 CCWD Board of Directors Resolution and Notice of Determination, and these have been filed with the Office of Planning and Research in Sacramento and the Contra Costa County Clerk in Martinez.

In consideration of the SIP Section 5.3 Exception, the discharger in addition to this CEQA documentation submittal, must notify potentially affected public and governmental agencies and submit the following:

(1) A detailed description of the proposed action, including the proposed method of completing the action;
(2) A time schedule;
(3) A discharge and receiving water quality monitoring plan (before project initiation, during the project, and after project completion, with the appropriate quality assurance and quality control procedures);
(4) Contingency plans;
(5) Identification of alternate water supply (if needed); and
(6) Residual waste disposal plans.

Potentially affected public and governmental agencies have been notified through the distribution of Contra Costa Water District Mitigated Negative Declaration for the

Application of Aquatic Pesticides to Contra Costa Canal, Mallard Slough, Contra Loma, Mallard, Martinez, and Los Vaqueros Reservoirs for Algal and Aquatic Weed Control (January 2004). The document was filed with the State Clearinghouse on January 15, 2004 (#2004012079), and filed and posted at the Contra Costa County Clerk's office on the same day. CCWD also distributed the document to over thirty affected governmental agencies that reside within the Project area. The initial study public review period was from January 15, 2004 to February 3, 2004. Attachment 2 is a list of the notified potentially affected public and governmental agencies.

Attachment 3 provides responses to the seven requirements in paragraph 2 for consideration of a SIP Section 5.3 Exception.

With the completion of CCWD's CEQA document and SIP Compliance, CCWD requests inclusion by State Water Resources Control Board staff on Attachment E of the Statewide NPDES permit as a public entity that is Eligible for Exemption from Copper and Acrolein Limitations in Irrigation Canals or Surface Water Impoundments. CCWD understands that the Final Draft Permit will be issued for Public Comment on February 10, 2004, and that the State Board will consider adoption of this permit on March 18, 2004.

Should there be any questions on any aspects of the materials that are being provided, please do not hesitate to call either Mark Seedall at (925) 688-8119 or myself at (925) 688-8023.

Respectfully Submitted,

David A. Omoto
Environmental Compliance Officer

DAO:llc
Attachments

cc: San Francisco Bay Regional Board
Central Valley Regional Board

Attachments:

(1) CCWD Notice of Determination and Board of Directors Resolution
(2) Potentially Affected Notified Public and Governmental Agencies
(3) Responses to requirements in paragraph 2 of the SIP Section 5.3 Exception

Attachment 1

CCWD Notice of Determination and Board of Directors Resolution

Notice of Determination

Form C

To: Office of Planning and Research
P.O. Box 3044, Room 212
Sacramento, CA 95812-3044

County Clerk
County of Contra Costa County
822 Main Street
Martinez, CA 94553-1226

From: (Public Agency) Contra Costa Water District
1331 Concord Ave.
Concord, CA 94520
(Address)

FILED
FEB 0 5 2004
S.L. WEIR, COUNTY CLERK
CONTRA COSTA COUNTY
DEPUTY

Subject:
Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.

The proposed application of copper-based aquatic pesticides to the Contra Costa Canal, Mallard Slough and Contra Loma, Mallard, Martinez and Los Vaqueros Reservoirs for algal and aquatic weed control.
Project Title

2004012079	Mark Seedall	925-688-8119
State Clearinghouse Number (If submitted to Clearinghouse)	Lead Agency Contact Person	Area Code/Telephone/Extension

53 miles of the Contra Costa Canal that traverses through Oakley, Antioch, Pittsburg, Bay Point, Concord, Walnut Creek, Pleasant Hill and Martinez and four water reservoirs, all in Contra Costa County.
Project Location (include county)

Project Description:

The proposed application by CCWD of copper-based aquatic pesticides for algal and aquatic weed (macrophytes) control. Supports CCWD inclusion in the State Water Resource Control Board General National Pollutant Discharge Elimination System Permit for the application of aquatic pesticides.

This is to advise that the Contra Costa Water District has approved the project described above on
☒ Lead Agency ☐ Responsible Agency
February 4, 2004 and has made the following determinations regarding the project described above:
(Date)

1. The project [☐ will ☒ will not] have a significant effect on the environment.
2. ☐ An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.
   ☒ A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures [☒ were ☐ were not] made a condition of the approval of the project.
4. A statement of Overriding Considerations [☐ was ☒ was not] adopted for this project.
5. Findings [☐ were ☒ were not] made pursuant to the provisions of CEQA.

This is to certify that the final EIR with comments and responses and record of project approval is available to the General Public at:
1331 Concord Avenue, Concord, CA 94520

[signature]	2/5/04	Assistant General Manager
Signature (Public Agency)	Date	Title

Date received for filing at OPR:

January 2004

CERTIFIED A TRUE COPY OF THE ORIGINAL

Lynne Holland

Lynne C. Holland, District Secretary
Contra Costa Water District

RESOLUTION NO. 04-06

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE CONTRA COSTA WATER DISTRICT ADOPTING A MITIGATED NEGATIVE DECLARATION FOR THE PROPOSED APPLICATION OF COPPER-BASED AQUATIC PESTICIDES PROJECT

WHEREAS the State Water Resources Quality Control Board (SWRCB) Order No. 2001-12-DWQ Statewide General NPDES Permit for Discharges of Aquatic Pesticides to Surface Waters of the United States authorizes CCWD's application of aquatic based pesticides to portions of its raw water system expires on January 31, 2004; and

WHEREAS on November 26, 2003, the SWRCB issued Draft Water Quality Order No. 2004_-__-DWQ Statewide General NPDES 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. CAQ___and in particular Finding 22 of the Draft Permit requires that public water agencies like CCWD provide CEQA documentation for the SWRCB to grant a Section 5.3 categorical exception to Priority Pollutant objectives/criteria; and

WHEREAS the SWRCB has required that CCWD complete and adopt its CEQA assessment prior to February 6, 2004 so as to be included in the final draft permit that will issued by the SWRCB staff on February 10, 2004 and that will be considered for adoption by the State Water Resources Control Board on March 18, 2004; and

WHEREAS the State Clearinghouse approved a shortened public review period of 20 days instead of 30 days to accommodate the review process by SWRCB, and

WHEREAS CCWD posted public notices at fifteen locations throughout its raw water system on January 15, 2004 and simultaneously made available for public review an Initial Study including the proposed January 15, 2004 Mitigated Negative Declaration for the proposed Application of Copper-Based Aquatic Pesticides to Contra Costa Canal, Mallard Slough, and Contra Loma, Mallard, Martinez, and Los Vaqueros Reservoirs for Algal and Aquatic Weed Control Project (the proposed Project), and published an additional Notice of Intent to Adopt a Mitigated Negative Declaration for said proposed Project on January 19, 2004, and

WHEREAS the Initial Study concluded that the proposed Project would not have a significant effect on the environment provided the recommended mitigation measures were incorporated into the design and construction of the proposed Project to eliminate or reduce the potential effects; and

WHEREAS the CCWD Board of Directors has independently reviewed and considered the information contained in the record, consisting of the Initial Study and the January 2004

Mitigated Negative Declaration for the proposed Project, together with all comments received and responses thereto, and has likewise reviewed and considered the Mitigation Reporting and Monitoring Program, all in compliance with the requirements of the California Environmental Quality Act (CEQA), CEQA Guidelines, and CCWD regulations;

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Contra Costa Water District, in accordance with the provisions of the California Environmental Quality Act (CEQA), Section 753.5(c)(1) of Title 14 of the California Code of Regulations (State CEQA Guidelines), and Chapter 7.04 of the CCWD Code of Regulations, hereby finds, determines and declares:

1. CCWD, the principal offices of which are located at 1331 Concord Avenue, City of Concord, is the Project proponent;

2. The Application of Copper-Based Aquatic Pesticides to Contra Costa Canal, Mallard Slough and Contra Loma, Mallard, Martinez, and Los Vaqueros Reservoirs for Algal and Aquatic Weed Control Project (the proposed Project), which is proposed to be located in Contra Costa County, is fully described in the January 2004 Mitigated Negative Declaration and summarized above;

3. An Initial Study was completed in January 2004 by CCWD to evaluate the potential for the proposed Project to have one or more significant adverse environmental impacts;

4. There is no substantial evidence that the proposed application of copper based aquatic pesticides, as mitigated through the measures identified and discussed in the January 2004 Mitigated Negative Declaration, will have a significant effect upon the environment;

5. The January 2004 Initial Study and the January 2004 Mitigated Negative Declaration for the proposed Project reflect CCWD's independent judgment and analysis;

6. When considering the record as a whole, there is no evidence before the Board that the proposed Project, as mitigated, will have potential for an adverse effect, either individually or cumulatively, upon wildlife resources in the vicinity of the proposed Project or the habitat upon which such wildlife depends; and

7. CCWD has, on the basis of substantial evidence contained in the entire record, rebutted the presumption of adverse effect contained in Section 753.5(d) of Title 14 of the California Code of Regulations.

BE IT FURTHER RESOLVED by the Board of Directors of the Contra Costa Water District that the Board hereby:

1. Adopts the January 2004 Mitigated Negative Declaration for the proposed Application of Copper-Based Aquatic Pesticide to Contra Costa Canal, Mallard Slough and Contra Loma, Mallard, Martinez, and Los Vaqueros Reservoirs for Algal and Aquatic Weed Control Project (the proposed Project),

2. Adopts the January 2004 Mitigation Reporting and Monitoring Program for the proposed Project, as presented to the Board, in accordance with CEQA Section 21081.6 and the corresponding requirements of the State CEQA Guidelines;

3. Adopts a De Minimis Impact Finding for the proposed Project, in accordance with section 753.5(c) of the State CEQA Guidelines, which Finding documents and records the findings of fact adopted hereby, and;

4. Approves the proposed Project.

BE IT FURTHER RESOLVED that the General Manager or his designee is authorized to sign the Mitigated Negative Declaration and the Notice of Determination for the Project, and staff is hereby authorized and directed to file the Notice with the Contra Costa County Clerk and the State Office of Planning and Research.

* * * * * * * * * * * *

The foregoing Resolution was duly and regularly adopted at a meeting held on the 4th of February 2004 by the Board of Directors of the Contra Costa Water District by the following vote of the Board:

AYES: Campbell, Boatmun, and Wandry

NOES: None

ABSTAIN: None

ABSENT: Anello

Joseph L. Campbell, President

ATTEST:

Lynne Holland

Lynne Holland, District Secretary

California Department of Fish and Game

CERTIFICATE OF FEE EXEMPTION

De Minimis Impact Finding

Project Title/Location (include county):

The Proposed Application of Copper-Based Aquatic Pesticides to the Contra Costa Canal, Mallard Slough, and Contra Loma, Mallard, Martinez and Los Vaqueros Reservoirs for Algal and Aquatic Weed Control Project.

53 miles of Canal that traverses through Oakley, Antioch, Pittsburg, Bay Point, Concord, Walnut Creek, Pleasant Hill and Martinez and four water reservoirs. All facilities in Contra Costa County.

Project Proponent: Contra Costa Water District
P.O. Box H20
Concord, CA 94524

Project Description:

The proposed application by CCWD of copper-based aquatic pesticides for algal and aquatic weed (macrophytes) control. Supports CCWD's inclusion in the State Water Resources Control Board General National Pollutant Discharge Elimination System Permit for the Application of Copper Based Aquatic Pesticides.

Findings of Exemption:

- An initial study has been conducted and a Mitigated Negative Declaration has been approved by the Contra Costa Water District to evaluate the potential for adverse environmental impact.
- When considering the environmental proceedings record as a whole, there is no evidence before the Contra Costa Water District that the proposed project will have the potential for an adverse effect on wildlife resources or the habitat upon which the wildlife depends.
- The Contra Costa Water District has, on the basis of substantial evidence, rebutted the presumption of adverse effect contained n Section 753.5 (d), Title 14, CCR.

Certification: I hereby certify that the public agency has made the above finding and that the project will not individually or cumulatively have an adverse effect on wildlife resources, as defined in Section 711.2 of the Fish and Game Code.

Date 2/5/04

Contra Costa Water District
Lead Agency
Gregory Gartrell
Assistant General Manager

Section 711.4, Fish and Game Code
DFG:12/90

Attachment 2

Potentially Affected Notified Public and Governmental Agencies

Contra Costa Water Distri

The Application of Copper-Based Aquatic Pesticides to Contra Costa Canal, Mallard Slough, and Contra Loma, Mallard, Martinez, and Los Vaqueros Reservoirs for Algal and Aquatic Weed Control

Mitigated Negative Declaration

Distribution List

Mr. Chuck Batts
Central Contra Costa Sanitary District
5019 Imhoff Place
Martinez, CA 94553

Mr. David Bauer
Ironhouse Sanitary District
P.O. Box 1105
Oakley, CA 94561

Mr. Gary Darling
Delta Diablo Sanitation District
2500 Pittsburg-Antioch Highway
Antioch, CA 94509

Mr. John Escobar
East Bay Regional Park District
P.O. Box 5381
Oakland, CA 94605

Mr. Mike Yeraka
Diablo Water District
P.O. Box 127
Oakley, CA 94561

Mr. Dick Leonard
California Cities Water
53 Manor Drive
Bay Point, CA 94565

Mr. Walter Pease
City of Pittsburg
P.O. Box 1518
Pittsburg, CA 94565

Ms. June Catalano
City of Martinez
525 Henrietta
Martinez, CA 94553

Mr. Vince Varoni
City of Antioch
P.O. Box 5007
Antioch, CA 94531

Mr. Paul Eldredge
City of Brentwood
708 Third Street
Brentwood, CA 94513

Mr. Gary Nopper
City of Clayton
6000 Heritage Trail
Clayton, CA 94521

Mr. Jeff Roubal
City of Concord
1950 Parkside Drive
Concord, CA 94519

Mr. Mike Oliver
City of Oakley
P.O. Box 6
Oakley, CA 94561

Mr. Michael Ramsey
City of Plesant Hill
100 Gregory Lane
Pleasant Hill, CA 94523

Ms. Valerie Barone
City of Walnut Creek
P.O. Box 8039
Walnut Creek, CA 94596

Mr. Kalyantu Baliga
California Dept of Health Services
2151 Berkeley Avenue
Berkeley, CA 94704

Mr. Patrick Thalken
Calif Dept of Boating & Waterway
2000 Evergreen Street, Suite 100
Sacramento, CA 95815

Mr. Larry Yost
Contra Costa Co Agriculture Dept
2366 Stanwell Circle, Bldg A
Concord, CA 94520

Mr. Bruce H. Wolfe
RWQCB - San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612

Mr. Thomas R. Pinkos
RWQCB - Central Valley Region
3443 Routier Road, Suite A
Sacramento, CA 95827-3003

Ms. Alexis Strauss
US EPA - Reg. 9 NPDES Program
75 Hawthorne Street
San Francisco, CA 94105

Ms. Nicole Kozicki
Calif Dept of Fish & Game, Reg. 3
P.O. Box 284
Moraga, CA 94556

Mr. Gary Hobgood
Calif Dept of Fish & Game, Reg. 2
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670

Ms. Kathy Wood
USBR
1243 "N" Street
Fresno, CA 93721-1813

Mr. Wayne Sobieralshi
SWRCB - DWQ
101 I Street, 15th Floor
Sacramento, CA 95814

Ms. Cay Goude
USFWS
2800 Cottage Way, Room W-2605
Sacramento, CA 95825

Attachment 3

CCWD Response to SIP Section 5.3 Exception Requirements

Attachment 3
State Implementation Plan (SIP) Section 5.3 (2) Categorical Exception
CCWD's Application of Copper Based Aquatic Pesticides
January 2004

Responses to requirements in paragraph 2:

(Requirement 1) A detailed description of the proposed action, including the proposed method of completing the action;

A detailed description of the proposed action and the proposed method of completing the action are found in the Contra Costa Water District Mitigated Negative Declaration for the Application of Aquatic Pesticides to Contra Costa Canal, Mallard Slough, and Contra Loma, Mallard, Martinez, and Los Vaqueros Reservoirs for Algal and Aquatic Weed Control (January 2004).

(Requirement 2) A time schedule;

A time schedule is found in the Contra Costa Water District Mitigated Negative Declaration for the Application of Aquatic Pesticides to Contra Costa Canal, Mallard Slough, and Contra Loma, Mallard, Martinez, and Los Vaqueros Reservoirs for Algal and Aquatic Weed Control (January 2004).

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

CCWD's existing monitoring plan and its plans to make adjustment to this plan are outlined in the Contra Costa Water District Mitigated Negative Declaration for the Application of Aquatic Pesticides to Contra Costa Canal, Mallard Slough, and Contra Loma, Mallard, Martinez and Los Vaqueros Reservoirs for Algal and Aquatic Weed Control (January 2004) in Appendix B. CCWD intends to use its existing monitoring plan until such time as the new permit is adopted. CCWD will modify its monitoring plan to be consistent with the yet to be adopted NPDES permit. CCWD's monitoring plan will contain specific monitoring requirements as specified in the SIP and in support of the new NPDES permit. The monitoring plan will contain the appropriate water quality assurance and quality control procedures.

(Requirement 4) CEQA documentation; As filed by CCWD on January 15, 2004. *Contra Costa Water District Mitigated Negative Declaration for the Application of Aquatic Pesticides to Contra Costa Canal, Mallard Slough, and Contra Loma, Mallard, Martinez and Los Vaqueros Reservoirs for Algal and Aquatic Weed Control (January 2004)*

(Requirement 5) Contingency plans;

Contingency plans are in place to ensure the proper response and reporting of pesticide spills. These plans are in found in Contra Costa Water District's Environmental Compliance Plan (July 11, 2000), and Contra Costa Water District's Integrated Pest Management Program (August 4, 2003). A copy of Contra Costa Water District's Environmental Compliance Plan is available upon request. A copy of Contra Costa Water District's Integrated Pest Management Program is found in Appendix A of the Contra Costa Water District Mitigated Negative Declaration for the Application of Aquatic Pesticides to Contra Costa Canal, Mallard Slough, and Contra Loma, Mallard, Martinez, and Los Vaqueros Reservoirs for Algal and Aquatic Weed Control (January 2004).

(Requirement 6) Identification of alternate water supply (if needed);

An alternate water supply is not needed for this project.

(Requirement 7) Residual waste disposal plans.

Residual pesticide waste disposal plans are described in detail in Contra Costa Water District's Environmental Compliance Plan (July 11, 2000), and Contra Costa Water District's Integrated Pest Management Program (August 4, 2003). A copy of Contra Costa Water District's Environmental Compliance Plan is available upon request. A copy of Contra Costa Water District's Integrated Pest Management Program is found in Appendix A of the Contra Costa Water District Mitigated Negative Declaration for the Application of Aquatic Pesticides to Contra Costa Canal, Mallard Slough, and Contra Loma, Mallard, Martinez, and Los Vaqueros Reservoirs for Algal and Aquatic Weed Control (January 2004).

CONTRA COSTA
WATER DISTRICT

1331 Concord Avenue
P.O. Box H20
Concord, CA 94524
(925) 688-8000 FAX (925) 688-8122

January 29, 2004

Mr. Philip S. Isorena
State Water Resources Control Board
Division of Water Quality
1001 I Street
Sacramento, CA 95814

Subject: Status of Aquatic Pesticides CEQA Document

Dear Mr. Isorena:

Contra Costa Water District (CCWD) is in the process of completing the necessary CEQA documentation for an exception from the copper limitations under the draft Aquatic Pesticide General NPDES Permit (draft permit). Per SWRCB correspondence dated December 9, 2003, the CEQA process must be completed and appropriate documents submitted to SWRCB before February 2, 2004.

Although we have worked diligently on this matter, CCWD will be unable to meet the February 2 date. We do, however, expect to complete the CEQA process and submit the necessary documents accordingly to SWRCB by February 6, 2004.

CCWD has contacted and met with Mr. Wayne Sobieralski to discuss our CEQA compliance efforts and our anticipated schedule for completion. Through these discussions it is our understanding that a CCWD exception will be considered under the draft permit if CEQA is completed and the necessary documentation submitted to SWRCB by February 6.

Our CEQA document public review period concludes on February 3. The document is scheduled for our Board of Directors adoption on February 4. As such, we are optimistic that CCWD will be able to meet the February 6 date. However, in the event that CCWD is unable to meet the February 6 date, we ask SWRCB to consider the following:

- Listing CCWD (and other agencies desiring to do so) on Appendix E with the caveat that CEQA documentation will be completed and submitted to SWRCB by the Board adoption date (currently March 18, 2004). Should CCWD not complete CEQA by that date, CCWD will not be eligible until SWRCB formally reopens the permit.

- Establish a schedule, starting sooner than six months after permit adoption, to reopen the permit to add to the list of exception eligible agencies.

SWRCB mentions the possibility of reopening the permit about every six months to consider exception requests after February 2, 2004 (Reference: SWRCB correspondence dated December 9, 2003). This action would then take place on about September 18, 2004 assuming a March 18 adoption date. This September date is well beyond the time during which CCWD, and we believe other agencies, historically begin use of aquatic pesticides. Our operations would be severely impacted by a late (i.e., September 2004) reopening date. To avoid severe impacts on CCWD and other agencies' operations, the permit must be reopened sooner than six months after adoption.

CCWD wishes to thank for you for considering the above requests. We also wish to extend our thanks to Mr. Wayne Sobieralski for his direction and guidance during our CEQA compliance efforts. Should you have any questions or comments, please contact me at (925) 688-8023.

Sincerely,

David A. Omoto
Environmental Compliance Officer

cc: Mr. Wayne Sobieralski/SWRCB

DAO:llc

CONTRA COSTA
WATER DISTRICT

1331 Concord Avenue
P.O. Box H20
Concord, CA 94524
(925) 688-8000 FAX (925) 688-8122

January 14, 2004

Subject: Notice of Intent to Adopt a Mitigated Negative Declaration for the Application of Copper-Based Aquatic Pesticides to the Contra Costa Canal, Mallard Slough, and Contra Loma, Mallard, Martinez and Los Vaqueros Reservoirs for Algal and Aquatic Weed Control

Dear Interested Party:

Contra Costa Water District (CCWD) proposes to adopt a Mitigated Negative Declaration (MND) under CEQA (California Environmental Quality Act) at its February 4, 2004 regular meeting. This MND supports CCWD's continued application of Copper Based Aquatic Pesticides within its raw water systems for Algal and Aquatic Weed (macrophytes) Control. CCWD has been applying copper based aquatic pesticides under an interim Statewide General National Pollutant Discharge Elimination (NPDES) Permit. The interim NPDES permit expires on January 31, 2004.

On November 26, 2003 the State Water Resource Control Board (SWRCB) issued a Draft Statewide General NPDES for the Discharge of Aquatic Pesticides for Aquatic Weed Control in Irrigation Systems, Drinking Water Canals, and Surface Water Impoundments. Public entities like CCWD must provide CEQA documentation in order to be eligible under this permit and to exceed priority pollutant objectives/criteria. Based on experience and monitoring under the interim permit, CCWD expects that its application of copper based aquatic pesticides will from time to time exceed the priority pollutant criteria for copper.

CCWD currently applies copper based aquatic pesticides on an as-needed basis to control algal blooms and macrophytes growth so that such blooms and growth do not degrade drinking water quality though elevated tastes and odors, production of algal toxins and filter clogging. The proposed project involves the continued application of copper based aquatic pesticides to control algal blooms and macrophytes growth within the entirety of CCWD's raw water system.

CCWD has prepared a CEQA Initial Study proposing a MND. The Initial Study is attached for your review. SWRCB requires CEQA documentation as soon as possible. To accommodate the SWRCB timeframes, CCWD has requested and received approval for a shortened review period from the State Clearinghouse. The 20-day public review period for the Initial Study starts on January 15, 2004 and ends on February 3, 2004. Written comments on the adequacy of the environmental documentation should be submitted by close of business on February 3 to: Mark Seedall, Senior Planner; Contra Costa Water District, P.O. Box H2O, Concord, California or via email at mseedall@ccwater.com. For additional information please call me at 925 688-8119.

Sincerely,

Mark A. Seedall
Senior Planner

Form A

Notice of Completion and Environmental Document Transmittal

SCH # _____

Mail to: **State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 916/445-0613**

Project Title: The Application of Copper-Based Aquatic Pesticides to Contra Costa Canal, Mallard Slough, and Contra Loma, Mallard, Martinez, and Los Vaqueros Reservoirs for Algal and Aquatic Weed Control

Lead Agency: Contra Costa Water District Contact Person: Mark Seedall

Street Address: 2411 Bisso Lane Phone: 925-688-8119

City: Concord Zip: 94524-2099 County: Contra Costa County

Project Location:

County: Contra Costa County City/Nearest Community: All cities within Contra Costa County

Cross Streets: _____ Zip Code: _____ Total Acres: _____

Assessor's Parcel No: _____ Section: _____ Twp. _____ Range: _____ Base: _____

Within 2 Miles: State Hwy #: 4, 680, 24 Waterways: Sacramento-SanJoaquin Delta

Airports: Buchanan Field Railways: BNSF, UP Schools: Numerous

Document Type:

CEQA: ☐ NOP ☐ Supplement/Subsequent EIR (Prior SCH No.) _____
☐ Early Cons ☐ Other _____
☒ Neg Dec
☐ Draft EIR

NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI

Other: ☐ Joint Document ☐ Final Document ☐ Other _____

Local Action Type:

☐ General Plan Update ☐ Specific Plan ☐ Rezone ☐ Annexation
☐ General Plan Amendment ☐ Master Plan ☐ Prezone ☐ Redevelopment
☐ General Plan Element ☐ Planned Unit Development ☐ Use Permit ☐ Coastal Permit
☐ Community Plan ☐ Site Plan ☐ Land Division (Subdivision, etc.) ☒ Other NPDES Permit

Development Type: N/A

☐ Residential: Units _____ Acres _____
☐ Office: Sq. ft. _____ Acres _____ Employees _____
☐ Commercial: Sq. ft. _____ Acres _____ Employees _____
☐ Industrial: Sq. ft. _____ Acres _____ Employees _____
☐ Educational _____
☐ Recreational _____

☐ Water Facilities: Type _____ MGD _____
☐ Transportation: Type _____
☐ Mining: Mineral _____
☐ Power: Type _____ Watts _____
☐ Waste Treatment: Type _____
☐ Hazardous Waste: Type _____
☐ Other: _____

Funding (approx.):N/A Federal $ _____ State $ _____ Total $ _____

Project Issues Discussed in Document:

☒ Aesthetic/Visual ☐ Flood Plain/Flooding ☒ Schools/Universities ☒ Water Quality
☒ Agricultural Land ☐ Forest Land/Fire Hazard ☐ Septic Systems ☐ Water Supply/Groundwater
☒ Air Quality ☒ Geologic/Seismic ☐ Sewer Capacity ☒ Wetland/Riparian
☒ Archeological/Historical ☒ Minerals ☐ Soil Erosion/Compaction/Grading ☒ Wildlife
☐ Coastal Zone ☒ Noise ☐ Solid Waste ☐ Growth Inducing
☐ Drainage/Absorption ☐ Population/Housing Balance ☒ Toxic/Hazardous ☒ Landuse
☐ Economic/Jobs ☒ Public Services/Facilities ☒ Traffic/Circulation ☐ Cumulative Effects
☐ Fiscal ☒ Recreation/Parks ☒ Vegetation ☐ Other _____

Present Land Use/Zoning/General Plan Designation:

Residential, Commercial, Industrial, Agricultural, Open Space

Project Description: CCWD is applying to the SWRCB for coverage under the General NPDES Permit to continue the application of copper-based aquatic pesticides. The November 26, 2003 SWRCB draft permit has determined that CEQA is required when the application of copper-based aquatic pesticides exceed the priority pollutant level for copper. CCWD proposes to the pesticides throughout its raw water supply system, including Contra Costa Canal, Mallard Slough, and Contra Loma, Mallard, Martinez, and Los Vaqueros Reservoirs to control algal blooms and macrophye growth under the SWRCB NPDES Permit.

REVIEWING AGENCIES CHECKLIST Form A, continued

KEY
S = Document sent by lead agency
X = Document sent by SCH
√ = Suggested distribution

___ **Resources Agency**
___ Boating & Waterways
___ Coastal Commission
___ Coastal Conservancy
___ Colorado River Board
___ Conservation
___ Fish & Game
___ Forestry & Fire Protection
___ Office of Historic Preservation
___ Parks & Recreation
___ Reclamation Board
___ S.F. Bay Conservation & Development Commission
___ Water Resources (DWR)

Business, Transportation & Housing
___ Aeronautics
___ California Highway patrol
___ CALTRANS District #_____
___ Department of Transportation Planning (Headquarters)
___ Housing & Community Development

___ **Food & Agriculture**

Health & Welfare
___ Health Services _____

State & Consumer Services
___ General Services
___ OLA (Schools)

Environmental Protection Agency
___ Air Resources Board
___ California Waste Management Board
___ SWRCB: Clean Water Grants
___ SWRCB: Delta Unit
___ SWRCB: Water Quality
___ SWRCB: Water Rights
___ Regional WQCB # _____ (_____)

Youth & Adult Corrections
___ Corrections

Independent Commissions & Offices
___ Energy Commission
___ Native American Heritage Commission
___ Public Utilities Commission
___ Santa Monica Mountains Conservancy
___ State Lands Commission
___ Tahoe Regional Planning Agency

Other _____

Public Review Period (to be filled in by lead agency)

Starting Date January 15, 2004 Ending Date February 3, 2004

Signature Mark Seedall Date Jan 15, 2004

Lead Agency (Complete if applicable):
Consulting Firm: Environmental Science Associates
Address: 8950 Cal Center Drive, Bldg. 3, Suite 300
City/State/Zip: Sacramento, CA 95826
Contact: Michele S. Stern
Phone: (916) 669-4710

Applicant: Contra Costa Water District
Address: P.O. Box H2O
City/State/Zip: Concord, CA 94527-2099
Phone: (925) 688-8119

For SCH Use Only:
Date Received at SCH _____
Date Review Starts _____
Date to Agencies _____
Date to SCH _____
Clearance Date _____
Notes:

Shortened Review Request Form

Form E

(To be filled out and signed by the **Lead Agency** and submitted with project documents to SCH)

To: State Clearinghouse
P.O. Box 3044
Sacramento, CA 95812-3044

From: Contra Costa Water District
Lead Agency:
P.O. Box H20
Address
Concord, CA 94524

Phone #: (925) 688-8119

SCH # _____

Contact: Mark Seedall

Project Title: The Application of Copper Based Aquatic Pesticides to Contra Costa Canal, Mallard Slough, Contra Loma, Mallard, Martinez and Los Vaqueros Reservoirs for Algal and Aquatic Weed Control

Project Location: Concord (*City*) Contra Costa (*County*)

Explain "exceptional circumstances" (CEQA, Section 15205(d)) for requesting a shortened review:

Criteria 4) The health and safety of the community would be at risk unless the project is approved expeditiously. State Water Resources Control Board staff has stated that to be eligible for its General Permit related to the applicatin of aquatic pesticides that CEQA must be adopted by February 10, 2004.

List responsible and trustee state agencies, as well as any agencies that have commented on the project
(*Send advance copies of the document to these agencies*):

Discussed with Wayne Sobieralshi, SWRCB (916) 445-9379 on January 13, 2004.

As designated representative for the lead agency, I verify, in their behalf, that there is no "statewide, regional, or areawide significance" to this project. (Attach a copy of the resolution or ordinance from the decision-making body of the lead agency which designates the requestor's authority.)

Length of review being requested: 20 days

Today's date: January 15, 2004

JERRY BROWN, DIRECTOR OF PLANNING
Print Name

Signature

As of January 2000

Contra Costa Water Distri

The Application of Copper-Based Aquatic Pesticides to Contra Costa Canal, Mallard Slough, and Contra Loma, Mallard, Martinez, and Los Vaqueros Reservoirs for Algal and Aquatic Weed Control

Mitigated Negative Declaration

Distribution List

Mr. Chuck Batts
Central Contra Costa Sanitary District
5019 Imhoff Place
Martinez, CA 94553

Mr. David Bauer
Ironhouse Sanitary District
P.O. Box 1105
Oakley, CA 94561

Mr. Gary Darling
Delta Diablo Sanitation District
2500 Pittsburg-Antioch Highway
Antioch, CA 94509

Mr. John Escobar
East Bay Regional Park District
P.O. Box 5381
Oakland, CA 94605

Mr. Mike Yeraka
Diablo Water District
P.O. Box 127
Oakley, CA 94561

Mr. Dick Leonard
California Cities Water
53 Manor Drive
Bay Point, CA 94565

Mr. Walter Pease
City of Pittsburg
P.O. Box 1518
Pittsburg, CA 94565

Ms. June Catalano
City of Martinez
525 Henrietta
Martinez, CA 94553

Mr. Vince Varoni
City of Antioch
P.O. Box 5007
Antioch, CA 94531

Mr. Paul Eldredge
City of Brentwood
708 Third Street
Brentwood, CA 94513

Mr. Gary Nopper
City of Clayton
6000 Heritage Trail
Clayton, CA 94521

Mr. Jeff Roubal
City of Concord
1950 Parkside Drive
Concord, CA 94519

Mr. Mike Oliver
City of Oakley
P.O. Box 6
Oakley, CA 94561

Mr. Michael Ramsey
City of Plesant Hill
100 Gregory Lane
Pleasant Hill, CA 94523

Ms. Valerie Barone
City of Walnut Creek
P.O. Box 8039
Walnut Creek, CA 94596

Mr. Kalyantu Baliga
California Dept of Health Services
2151 Berkeley Avenue
Berkeley, CA 94704

Mr. Patrick Thalken
Calif Dept of Boating & Waterway
2000 Evergreen Street, Suite 100
Sacramento, CA 95815

Mr. Larry Yost
Contra Costa Co Agriculture Dept
2366 Stanwell Circle, Bldg A
Concord, CA 94520

Mr. Bruce H. Wolfe
RWQCB - San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612

Mr. Thomas R. Pinkos
RWQCB - Central Valley Region
3443 Routier Road, Suite A
Sacramento, CA 95827-3003

Ms. Alexis Strauss
US EPA - Reg. 9 NPDES Program
75 Hawthorne Street
San Francisco, CA 94105

Ms. Nicole Kozicki
Calif Dept of Fish & Game, Reg. 3
P.O. Box 284
Moraga, CA 94556

Mr. Gary Hobgood
Calif Dept of Fish & Game, Reg. 2
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670

Ms. Kathy Wood
USBR
1243 "N" Street
Fresno, CA 93721-1813

Mr. Wayne Sobieralshi
SWRCB - DWQ
101 I Street, 15th Floor
Sacramento, CA 95814

Ms. Cay Goude
USFWS
2800 Cottage Way, Room W-2605
Sacramento, CA 95825

CONTRA COSTA WATER DISTRICT

The Application of Copper-Based Aquatic Pesticides to Contra Costa Canal, Mallard Slough, and Contra Loma, Mallard, Martinez, and Los Vaqueros Reservoirs for Algal and Aquatic Weed Control

Mitigated Negative Declaration

January 2004

CONTRA COSTA WATER DISTRICT

ESA Environmental Science Associates

CONTRA COSTA WATER DISTRICT

The Application of Copper-Based Aquatic Pesticides to Contra Costa Canal, Mallard Slough, and Contra Loma, Mallard, Martinez, and Los Vaqueros Reservoirs for Algal and Aquatic Weed Control

Mitigated Negative Declaration

January 2004

For additional information regarding this document contact:

Contra Costa Water District
Planning Department
P.O. Box H_2O
Concord, CA 94524

Mr. Mark A. Seedall
(925) 688-8119

CONTRA COSTA WATER DISTRICT

8950 Cal Center Drive
Bldg 3, Suite 300
Sacramento, CA 95826
(916) 564-4500

ESA Environmental Science Associates

TABLE OF CONTENTS

CONTRA COSTA WATER DISTRICT
MITIGATED NEGATIVE DECLARATION

APPENDICES

LIST OF TABLES

TABLE

LIST OF FIGURES

FIGURES

SECTION 1
PROJECT DESCRIPTION

INTRODUCTION AND LOCATION

The Contra Costa Water District (CCWD) is applying for coverage under Statewide General National Pollutant Discharge Elimination System (NPDES) Permit from the State Water Resources Control Board (SWRCB) to continue the application of copper-based aquatic pesticides. The November 26, 2003 SWRCB draft permit sets forth Priority Pollutant criteria for copper and acrolein. CCWD applies copper-based pesticides when necessary, to the Contra Costa Canal, Mallard Slough, and Contra Loma, Mallard, Martinez, and Los Vaqueros Reservoirs. Figure 1 provides a map of the CCWD service area and facilities where the pesticides are used. This Mitigated Negative Declaration (MND) was prepared to comply with California Environmental Quality Act (CEQA) requirements associated with regulatory requirements established by the SWRCB. Specifically, dischargers using aquatic pesticides containing a Priority Pollutant (copper or acrolein) that exceed criteria pollutant thresholds must comply with CEQA. CCWD is the Lead Agency for this MND.

The SWRCB may grant a categorical exception to the criteria under certain conditions. To be eligible for the exception an agency must comply with CEQA. CCWD seeks an exception to the copper criteria (CCWD does not use acrolein-based aquatic pesticides) and has prepared this Mitigated Negative Declaration in compliance with CEQA. Under the November 26, 2003 SWRCB Draft General Permit those water utilities that have performed CEQA will be listed on Attachment E and will be able to continue their application of copper-based aquatic pesticides.

CCWD currently applies copper-based aquatic pesticides in liquid form on an as-needed basis to control algal blooms so that such blooms do not degrade drinking water quality (through elevated tastes and odors, production of algal toxins, and filter clogging) and macrophyte growth that can affect taste and odor production as well as reduce hydraulic efficiencies of conveyance systems. These applications of copper-based aquatic pesticides for resource management are currently authorized under SWRCB Water Quality Control Order No. 2001-12-DWQ Statewide General NPDES Permit for Discharges of Aquatic Pesticides to Surface Waters of the United Sates. This General Permit expires on January 31, 2004.

On November 26, 2003, the SWRCB issued Draft Water Quality Order No. 2004_-__-DWQ Statewide General NPDES 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_____. In particular, Finding 22 requires that

public entities like the CCWD provide CEQA documentation in order for the SWRCB to grant a Section 5.3[1] categorical exception to Priority Pollutant objectives/criteria.

Among other things, Section 5.3 provides a Categorical Exception from the toxics standards where the discharge is necessary to implement control measures (1) for resource or pest management or (2) to meet statutory requirements under the federal Safe Drinking Water Act of the California Health and Safety Code, and for certain maintenance and cleaning activities. CCWD's primary purpose in periodically applying copper-based aquatic pesticides to the Contra Costa Canal and reservoirs is to control nuisance algal blooms and macrophyte growth, and in turn, achieve secondary drinking water standards for taste and odor.

Figures 2 through 5 provide area maps for each portion of the CCWD system where aquatic pesticides have been or may need to be applied. All of CCWD's facilities are located in Contra Costa County.

The proposed Project will involve the continued application of copper-based aquatic pesticides to control nuisance algal blooms and macrophyte growth along the entire length of the Contra Costa Canal and within Mallard Slough and Contra Loma, Martinez, Mallard and Los Vaqueros Reservoirs. Table 1 summarizes general information on Contra Costa Canal; Table 2 summarizes general information on Mallard Slough and the reservoirs operated by CCWD.

BACKGROUND ON CONTRA COSTA WATER DISTRICT

The CCWD provides water to over 450,000 people, and numerous agricultural and industrial customers in north, central, and east Contra Costa County. CCWD operates raw water distribution facilities, water treatment plants, and treated water distribution facilities. The mission of the CCWD is to strategically provide a reliable supply of high quality water at the lowest cost possible, in an environmentally responsible manner.

CCWD draws its water supply as a function of chloride levels, from three different locations along the Sacramento-San Joaquin Delta. The Old River Intake near Discovery Bay is owned and operated by CCWD. Water drawn from this intake is pumped either directly to Pumping Plant #4 where this supply enters Contra Costa Canal or Los Vaqueros Reservoir west of Brentwood. The Old River Intake operates year round. The Mallard Slough Intake is owned and operated by CCWD and is located in the Bay Point area of Contra Costa County. Due to high chlorides this intake is only operated in late winter and spring, when runoff from Sierra Nevada snow-melt provides significant flows of fresh water supplies throughout the Sacramento River all the way to San Francisco Bay. Rock Slough, east of Oakley and south of Bethel Island, is the primary intake area for the Contra Costa Canal. All of CCWD's raw water is conveyed through the Contra Costa Canal system either to raw water reservoirs for storage and potable water treatment, or directly to customers for end use. The total length of the canal is about 48 miles.

---

1 SWRCB, 2000. Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California.

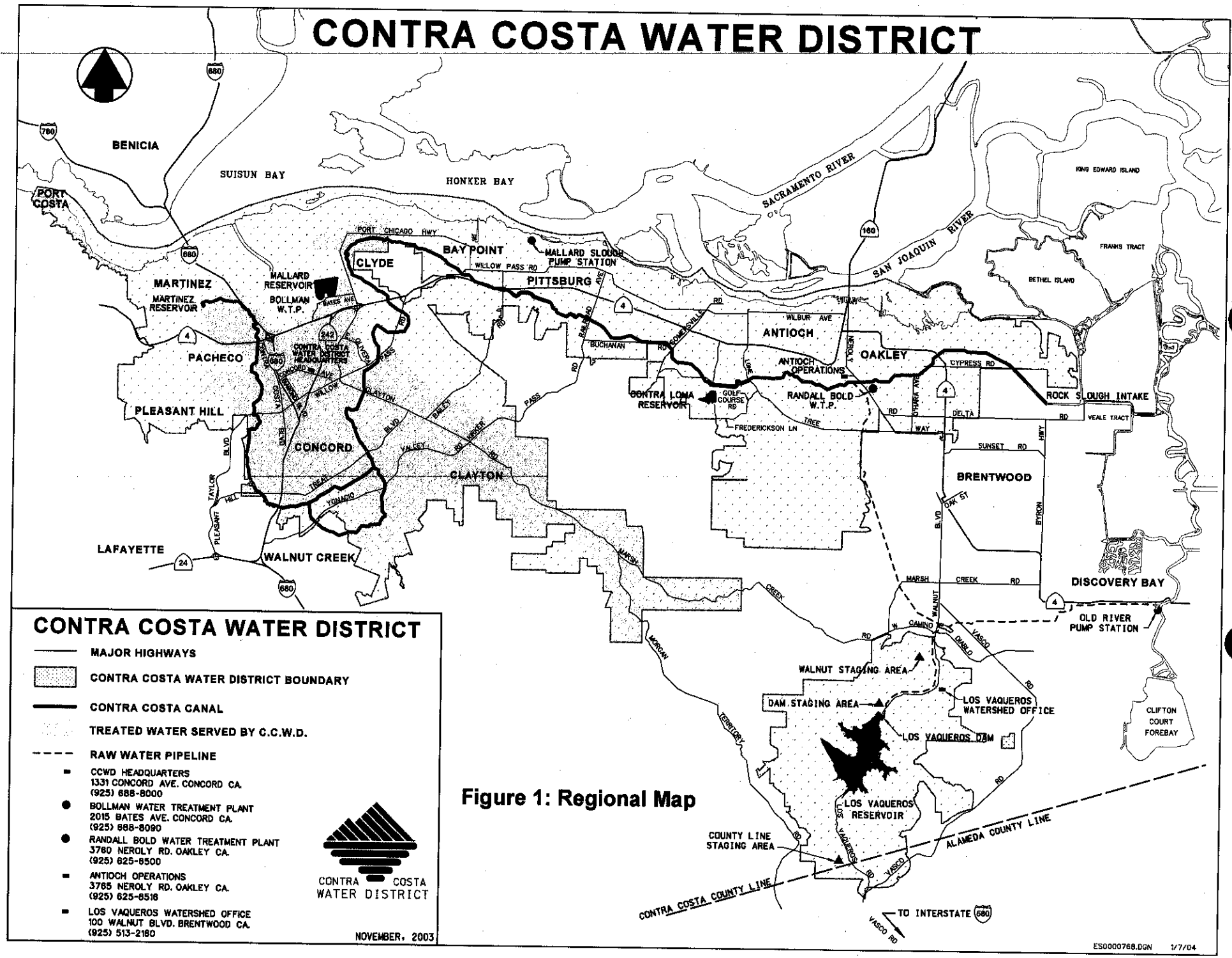


Figure 1: Regional Map

The first four miles of the Contra Costa Canal are unlined and run from the Rock Slough Intake to Pumping Plant #1. The remainder of the Canal is concrete lined. Four pumping plants from Milepost (MP) 3.97 to 7.1 lift the water 124 feet to allow it to flow the remaining length of the Canal by gravity. At Milepost 35 the Ygnacio Relift Pump Station diverts water from the Loop Canal into the 5-mile Ygnacio Loop.

CCWD raw water storage reservoirs are Mallard, Contra Loma, Martinez and Los Vaqueros Reservoirs. Mallard Reservoir provides raw water to Bollman Water Treatment Plant and is used as a storage facility for routine flow regulation and emergency use. The reservoir has a maximum capacity of about 3,000 acre-feet (and useable capacity of 2,100 acre-feet), which is currently equivalent to a two week Treated Water Service Area supply during maximum customer demand. Mallard Reservoir is directly adjacent to the Bollman Water Treatment Plant.

Contra Loma Reservoir, located in the City of Antioch is used primarily as a regulating reservoir for peak demands and short-term (1 to 7 days) supplies and for emergency storage for CCWD's customers. The reservoir has a maximum capacity of 2,500 acre-feet. East Bay Regional Park District manages lands surrounding Contra Loma Reservoir for recreational purposes.

Martinez Reservoir, located in the City of Martinez, is at the terminus of Contra Costa Canal and provides regulating storage to capture flows from Canal operations. The reservoir directly supplies water to the City of Martinez Water Treatment Plant. The Martinez Reservoir has a maximum capacity of about 270 acre-feet.

Los Vaqueros Reservoir was completed in 1998 (initial filling was completed in 1999). The 100,000 acre-foot reservoir is located eight miles south of the City of Brentwood. The reservoir stores higher quality Delta water for blending with the Delta supply during dry periods when sodium and chloride levels typically increase. Besides improving water quality for CCWD's approximately 450,000 customers, the reservoir stores water for emergency supply (up to 3 months) and for operational flexibility to protect fisheries. CCWD manages recreational access at Los Vaqueros, including such activities as hiking and fishing.

The only points where CCWD's raw water facilities interact with open receiving waters are at Rock Slough, Mallard Slough and Old River Intakes. CCWD does not apply aquatic pesticides at its Old River Intake. The Contra Costa Canal and reservoirs represent terminal water delivery systems. The ultimate use of supplies held in these facilities is delivery to the Randall-Bold Water Treatment Plant located in the City of Oakley and the Bollman Water Treatment Plant in the City of Concord, as well as the treatment plants operated by the CCWD's municipal customers in the Cities of Antioch, Pittsburg, Bay Point, and Martinez. Once raw water is received within the Contra Costa Canal there are no discharges to receiving waters such as streams. The only limited form of possible discharge from the Canal is via wasteways.

The Bollman Water Treatment Plant is CCWD's primary water treatment facility providing treated water to its water service areas in the Cities of Concord, Clayton, Clyde, and portions of Walnut Creek, Pleasant Hill, and Martinez. The current permitted capacity of the plant is 75 million gallons per day. Water is pumped from the plant to the eight-pressure-zone

distribution system through approximately 730 miles of pipeline ranging from two to 66 inches in diameter.

The Randall-Bold Water Treatment Plant is located in the City of Oakley and is jointly owned by the Diablo Water District and CCWD. Raw water from the Contra Costa Canal and Los Vaqueros Reservoirs are the primary sources of supply to this facility. This facility then provides treated water to the Diablo Water District and the City of Brentwood, and conveys water to the Multipurpose Pipeline (MPP) that extends to the City of Concord and can currently supply treated water to the City of Antioch. The MPP has the potential to supply the Cities of Pittsburg and Bay Point in the future.

CONTRA COSTA WATER DISTRICT'S INTEGRATED PEST MANAGEMENT PROGRAM

CCWD maintains an Integrated Pest Management Program (IPMP) that seeks to effectively manage pests while protecting surface waters, minimizing pesticides use, and using environmentally safe and cost effective practices. The IPMP addresses the use of aquatic pesticides within the CCWD raw water supply system. Appendix A includes a copy of CCWD's August 2003 IPMP.

CCWD's IPMP ensures that only the "least toxic" pesticides will be used while minimizing the overall risk to the applicator and impact to the environment. All federal, state, and local laws are strictly adhered to. All chemical product label instructions are strictly followed. Following inspection, spot treatments are applied if appropriate. Pesticides are not mixed adjacent to a storm drain inlet, culvert, or watercourse and the quantities mixed are only sufficient for the particular application. Records of pesticide usage are maintained. The IPMP addresses pesticide storage, disposal, and spill response.

CCWD personnel who apply pesticides possess a state pesticide applicator certificate and are trained in the safe use of pesticides and proper inspection of applicator equipment. The personnel are also trained in procedures and methods to identify and protect endangered species.

Aquatic pests, including algae and surface and submerged aquatic weeds (e.g., *Egeria densa*, water hyacinth, cattail, *Oscillatoria* sp., and Eurasian milfoil), propagate in the canal and reservoirs. Unabated, these aquatic pests will adversely affect the taste and odor of the water, treatment plant operations, and the operation and integrity of conveyance and storage systems. As such, aquatic pesticides are necessary to provide high quality drinking water, and maintain the functional operation of the treatment plants and conveyance and storage systems.

Chemical substances in water that are often associated with earthy, musty smelling or tasting water include geosmin and 2-methylisoborneol (MIB). These compounds are produced in natural and man-made lakes and canals by certain types of algae. Geosmin and MIB are natural byproducts of algal metabolism, although the amounts produced by different algae may vary. (The presence of algae alone is not a good indicator of taste and odor problems.)

CONTRA COSTA WATER DISTRICT MONITORING PLAN

CCWD routinely monitors and analyzes for taste and odor compounds produced by algae and has developed a Monitoring Plan and best management practices (BMPs) as it pertains to the application of aquatic pesticides. The BMPs include a preliminary site evaluation to determine if alternatives to aquatic pesticide are available and should be implemented, and a secondary site evaluation to ensure that environmental conditions (i.e., sunlight, temperature, wind conditions, etc.) are appropriate for aquatic pesticide application. Appendix B includes a copy of the CCWD Monitoring Plan and BMPs.

CCWD's Monitoring Plan for the application of aquatic pesticides was prepared to comply with the Interim Permit Monitoring Requirements as required by CCWD's February 28, 2002 Aquatic Pesticide NPDES Permit, General Permit No. CAG990003. The Central Valley and San Francisco Bay Regional Water Quality Control Boards reviewed and approved this Monitoring Plan under the Interim Permit.

CCWD's Monitoring Plan characterizes the locations where CCWD has applied aquatic pesticides, how CCWD evaluates the need to apply aquatic pesticides, water quality analyses, quality assurance, evaluation of alternative control methods, and best management practices. Tables 1 and 2 characterize the locations where CCWD intends to apply copper-based aquatic pesticides.

TABLE 1
CHARACTERISTICS OF CONTRA COSTA CANAL

	Unlined Canal*	Pumping Plant 1 to Pumping Plant 4	Pumping Plant 4 to Section 10	Loop Canal	Ygnacio Canal
Mile Post	0 to 4	4 to 7.1	7.1 to 26.5	26.5 to 47.6	0 to 5.2
Length	4 miles	3.1 miles	19.4 miles	21.01 miles	5.2 miles
Maximum flow	328 cfs	350 cfs	190 to 320 cfs	22 to 172 cfs	9 to 30 cfs
Maximum volume	135 AF	45 AF	269 AF	119 AF	1.6 AF
Application method	Boat using submerged spray or topical spray	Drip method using poly carboy container	Drip method using poly carboy container	Drip method using poly carboy container	Drip method using poly carboy container
Applications in 2003	Yes	No	Yes	Yes	Yes

* Only near shore treatments are made in the Unlined Canal.
cfs = cubic feet per second

TABLE 2
CHARACTERISTICS OF CONTRA COSTA WATER DISTRICT RESERVOIRS AND MALLARD SLOUGH

	Contra Loma Reservoir	Mallard Reservoir	Martinez Reservoir	Los Vaqueros Reservoir	Mallard Slough
Maximum Volume	2,500 AF	3,000 AF	270 AF	100,000 AF	100 AF
Area or Length	120 acres	206 acres	80 acres	1,500 acres	1/2 mile
Application: Open Water Treatment	N/A	Submerged or topical spray from boat	N/A	Submerged or topical spray from boat	Submerged or topical spray from boat
Application: Near Shore Treatment	Submerged or topical spray from boat	Submerged or topical spray from boat	Submerged or topical spray from boat	Spray from boat	Spray from boat
Applications in 2003	No	Yes	Yes	No	No

AF = acre feet

CCWD's evaluation of a taste and odor event is based upon microscopic evaluation, chemical profile analysis, time of the year, temperature of the water, weather conditions, and knowledge of how algae affect the Contra Costa Canal system and the reservoirs associated with the conveyance system. Based on this assessment, experience and judgment is used to determine the actions to best address the impacts of algae in the water supply system. Over time, CCWD has greatly reduced its use of copper-based products as it has refined its methods of analysis and application.

Under CCWD's interim permit, CCWD has informed its major raw water customers that aquatic pesticides are applied within its system. CCWD has explained to its customers that the basis for the application of copper-based aquatic pesticides is the control of nuisance aquatic plant species. CCWD has further explained that it is capable of applying these needed aquatic pesticides without detriment to the ultimate use of the water supply.

PROJECT DESCRIPTION

The CCWD proposes to use existing copper-based aquatic pesticide applications in all of its raw water facilities. This includes the Contra Costa Canal, Mallard Slough, and Contra Loma, Mallard, Martinez and Los Vaqueros Reservoirs to control nuisance algal blooms and macrophytes under Water Quality Order No. 2004_-___-DWQ, Statewide General NPDES

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. CCWD has been applying copper-based aquatic pesticides under Water Quality Order No. 2001-12-DWQ Statewide General NPDES Permit for Discharges of Aquatic Pesticides to waters of the United States.

Based on experience and monitoring under the interim permit, CCWD expects that its application of copper-based aquatic pesticides will from time to time exceed the priority pollutant criteria for copper. The SWRCB has determined that CEQA is required under this condition. CCWD, as the CEQA lead agency, has determined that the appropriate CEQA documentation for the application of copper-based aquatic pesticides is a MND. This document supports CCWD inclusion as a public entity listed in the November 26, 2003 Draft General SWRCB permit, Attachment E.

Prior to applying pesticides CCWD conducts a Flavor Profile Analysis (FPA) on the source waters that feeds its water treatment plants to evaluate the character and intensity of tastes and odors that may indicate taste/odor-forming algae. In addition, CCWD conducts a site inspection to properly identify the aquatic pest and determine the appropriate pesticide to apply. This evaluation also considers the use of treatment options to minimize or eliminate the use of aquatic pesticides. In the case of macrophytes, these options include lowering the canal or reservoir water levels to expose aquatic pests above the water line or the use of mechanical or physical harvesting.

When aquatic pesticides are applied in the Contra Costa Canal, the Canal wasteway gates are inspected for leaks. This avoids any unintended discharges by ensuring that the wasteway gates are leak free or maintenance is required prior to aquatic pesticide application. Applications to the Canal are made in liquid form via a drip system from 55-gallon plastic drums. All applications are made in secure areas behind locked gates and fenced-off areas. Applications are either at pumping plants or checks along the Canal for maximum security. Figures 2 through 4 identify checks and pumping plants on CCWD's raw water conveyance system.

To minimize impacts within the unlined Canal near Rock Slough and at Mallard Slough, copper-based aquatic pesticide applications are made during low slack tide with the next tidal cycle bringing water in toward the pumps. In both areas copper-based aquatic pesticides are applied with flows heading toward CCWD's raw water conveyance system and not when tides could take the copper-based products toward open water.

CCWD applies copper-based aquatic pesticides with direct sunlight and water temperatures above 58 degrees Fahrenheit; the pesticides are most effective these conditions. These conditions provide for high biological activity resulting in optimal uptake of the copper by the target organisms.

CCWD follows all the safeguards, precautions, and directions that are set forth on the manufacturing product labels for copper-based aquatic pesticides that include Clearigate, Cutrine-Plus, Komeen, and Nautique. Appendix C provides a copy of material safety data sheets for the above listed copper-based aquatic pesticides.

Aquatic pesticides are stored in Department of Transportation (DOT) approved 55-gallon drums at either the Bollman Water Treatment Plant adjacent to Mallard Reservoir, the CCWD District Maintenance Yard in Concord, or the Antioch Service Center.

CCWD's applications of copper-based aquatic pesticides are made in liquid form by:

- boat utilizing a submerged boom,
- topical spray, as is done in the unlined Canal and the various reservoirs, or
- drip systems at various check points and pumping stations within the cement lined and open Canal.

Starting in early spring of each year, the typical cycle for the application of copper-based aquatic pesticides in the unlined Contra Costa Canal (MP 0 to MP 4) is approximately once every two weeks. A similar schedule is used in the Loop Canal and Ygnacio Canal (MP 26.6 to MP 47.55). Application in these portions of the Canal typically continues from April through October.

CCWD's aquatic pesticide application methods reduce potential impacts to aquatic life. For example, applications at Mallard Reservoir are made on a spot basis with applications not to exceed more than approximately 50 percent of the reservoir surface area at any given time. Applications at the unlined Canal and at Contra Loma and Martinez Reservoirs are limited to near shoreline applications, which protects aquatic habitat since pesticides are not applied in open water.

CCWD intends to conduct monitoring consistent with the new NPDES permit. CCWD's Monitoring Plan will implement procedures to collect pre-treatment and post-treatment water samples for analysis. Monitoring will be conducted consistent with the final guidelines adopted in SWRCB Water Quality Order No. 2004_-____ and results will be reported to the SWRCB consistent with permit requirements. Absent more specific guidelines CCWD will continue to monitor as it has under its interim permit.

PROJECT SCHEDULE

All future application of copper-based aquatic pesticides will take place only as needed and after CCWD has determined that this is the best alternative address aquatic pest control. Such applications may be needed at any location within the CCWD raw water conveyance and storage system.

In 2003, four applications of copper-based aquatic pesticides took place at Mallard Reservoir and eight applications at Martinez Reservoir. There were no applications were made at Contra Loma and Los Vaqueros Reservoirs. Additionally, no application of aquatic pesticides was made at Mallard Slough. Copper-based aquatic pesticides were applied on 14 different days in the various sections of the unlined Canal between the Rock Slough Intake and Pumping Plant #1; no

CONTRA COSTA WATER DISTRICT

The Application of Aquatic Pesticides to Contra Costa Canal, Mallard Slough, and Contra Loma, Mallard, Martinez, and Los Vaqueros Reservoirs for Algal and Aquatic Weed Control

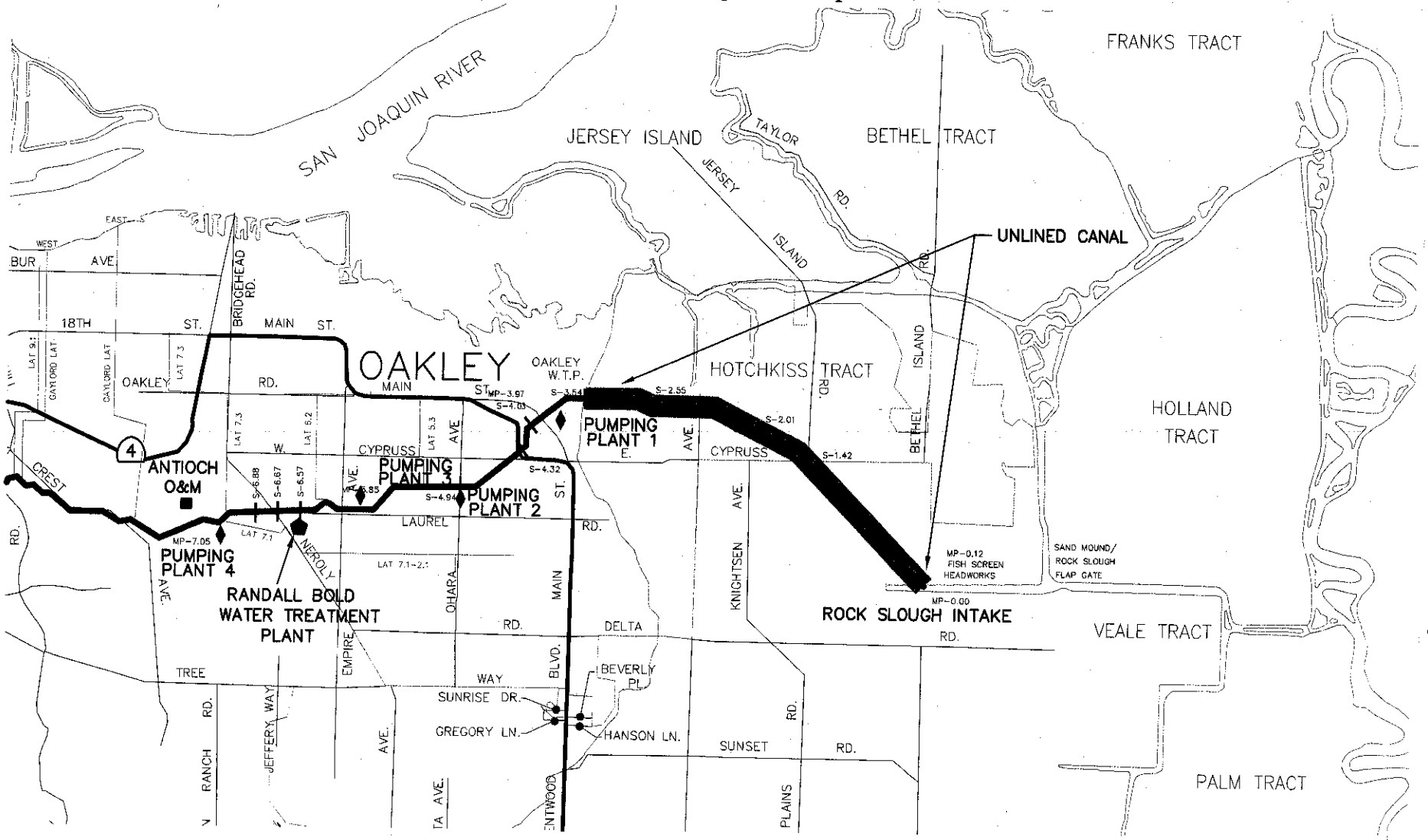


Figure 2: Contra Costa Canal from Rock Slough Intake (MP 0.0) to Pumping Plant #4 (MP 7.05)

- Unlined Canal from Rock Slough Intake to Pumping Plant #1
- Antioch O & M: Aquatic Pesticide Storage Area
- Siphons

ES000767.DWG 1/04

CONTRA COSTA WATER DISTRICT

The Application of Aquatic Pesticides to Contra Costa Canal, Mallard Slough, and Contra Loma, Mallard, Martinez, and Los Vaqueros Reservoirs for Algal and Aquatic Weed Control

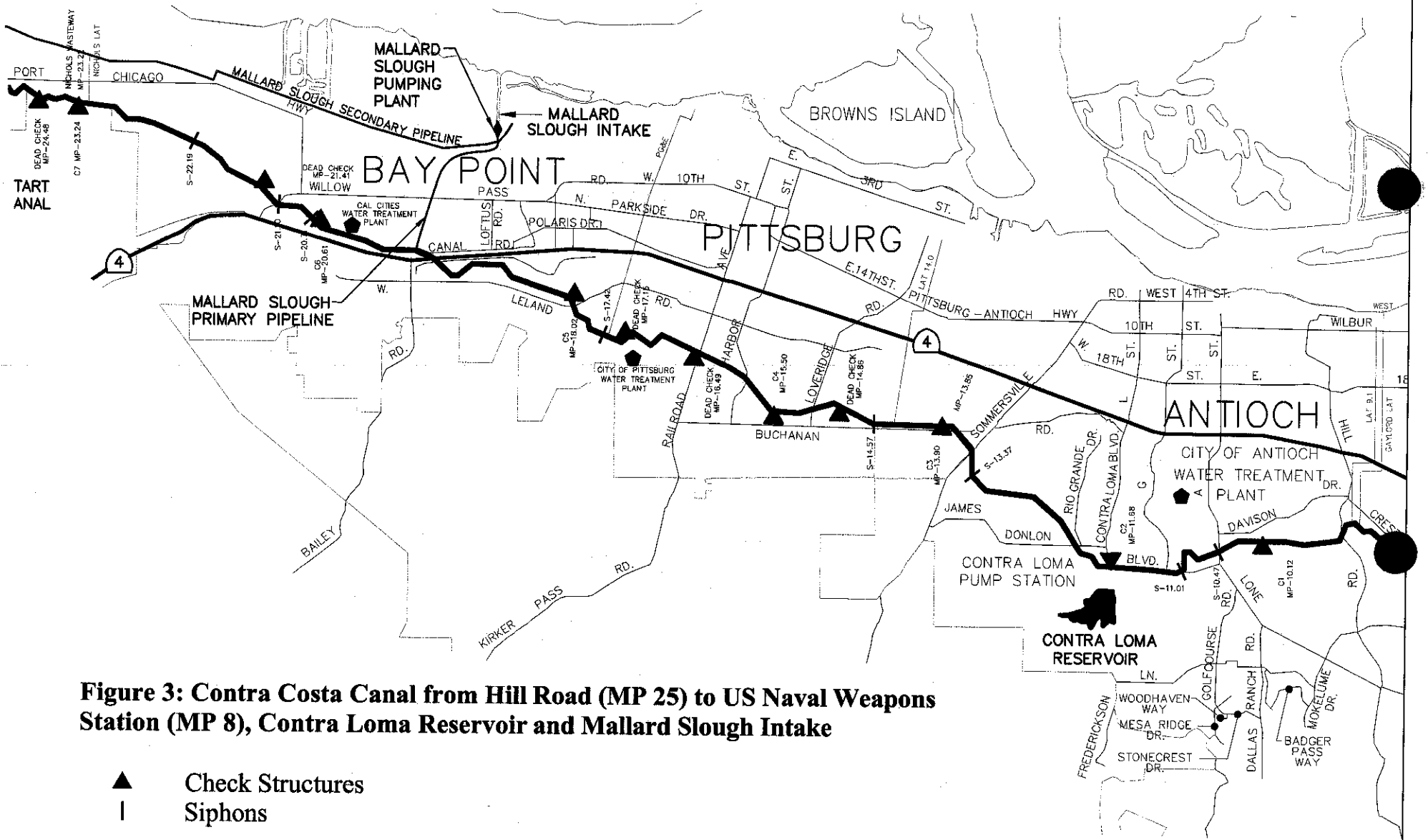


Figure 3: Contra Costa Canal from Hill Road (MP 25) to US Naval Weapons Station (MP 8), Contra Loma Reservoir and Mallard Slough Intake

▲ Check Structures
| Siphons

CONTRA COSTA WATER DISTRICT

The Application of Aquatic Pesticides to Contra Costa Canal, Mallard Slough, and Contra Loma, Mallard, Martinez, and Los Vaqueros Reservoirs for Algal and Aquatic Weed Control

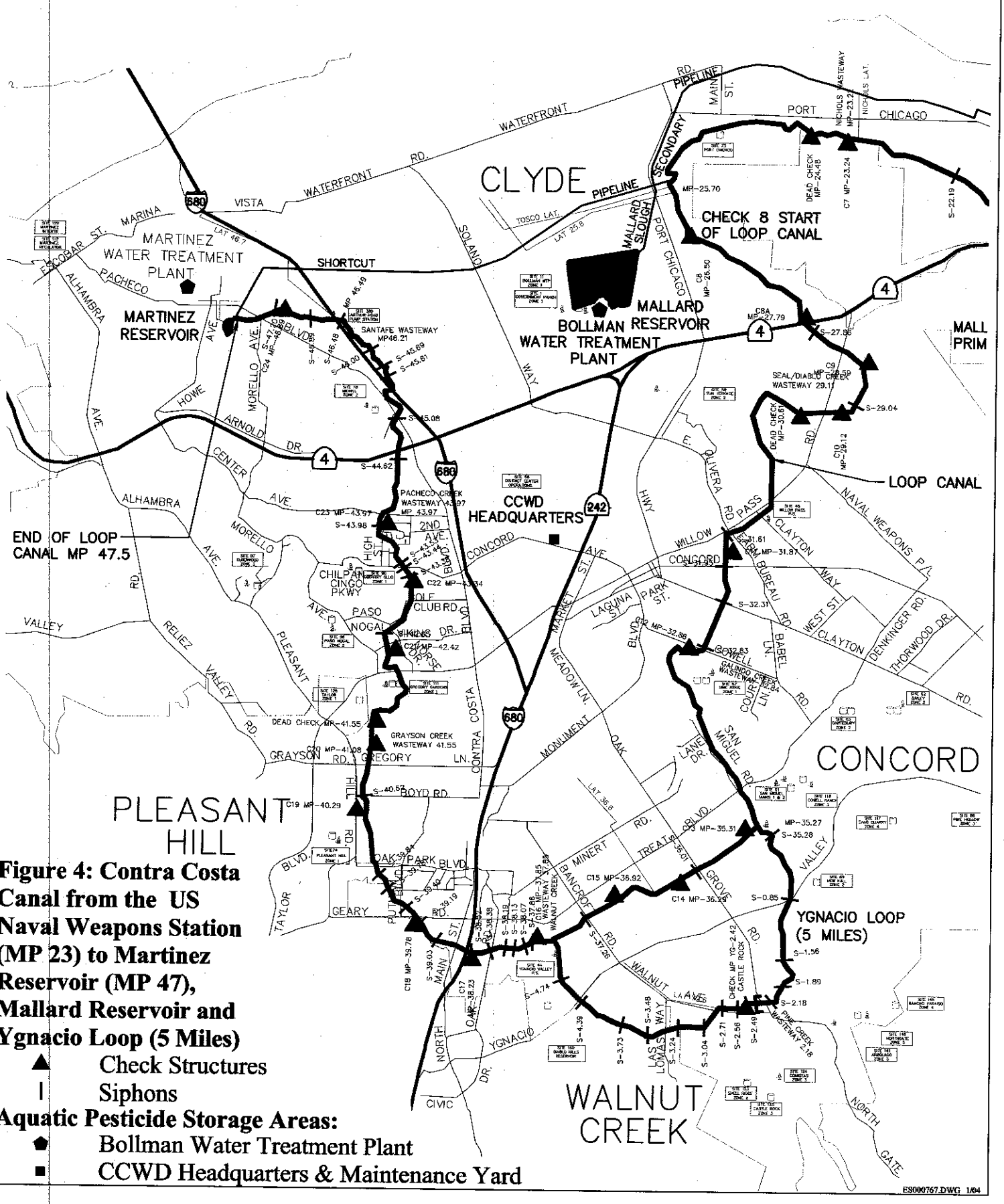


Figure 4: Contra Costa Canal from the US Naval Weapons Station (MP 23) to Martinez Reservoir (MP 47), Mallard Reservoir and Ygnacio Loop (5 Miles)

▲ Check Structures

I Siphons

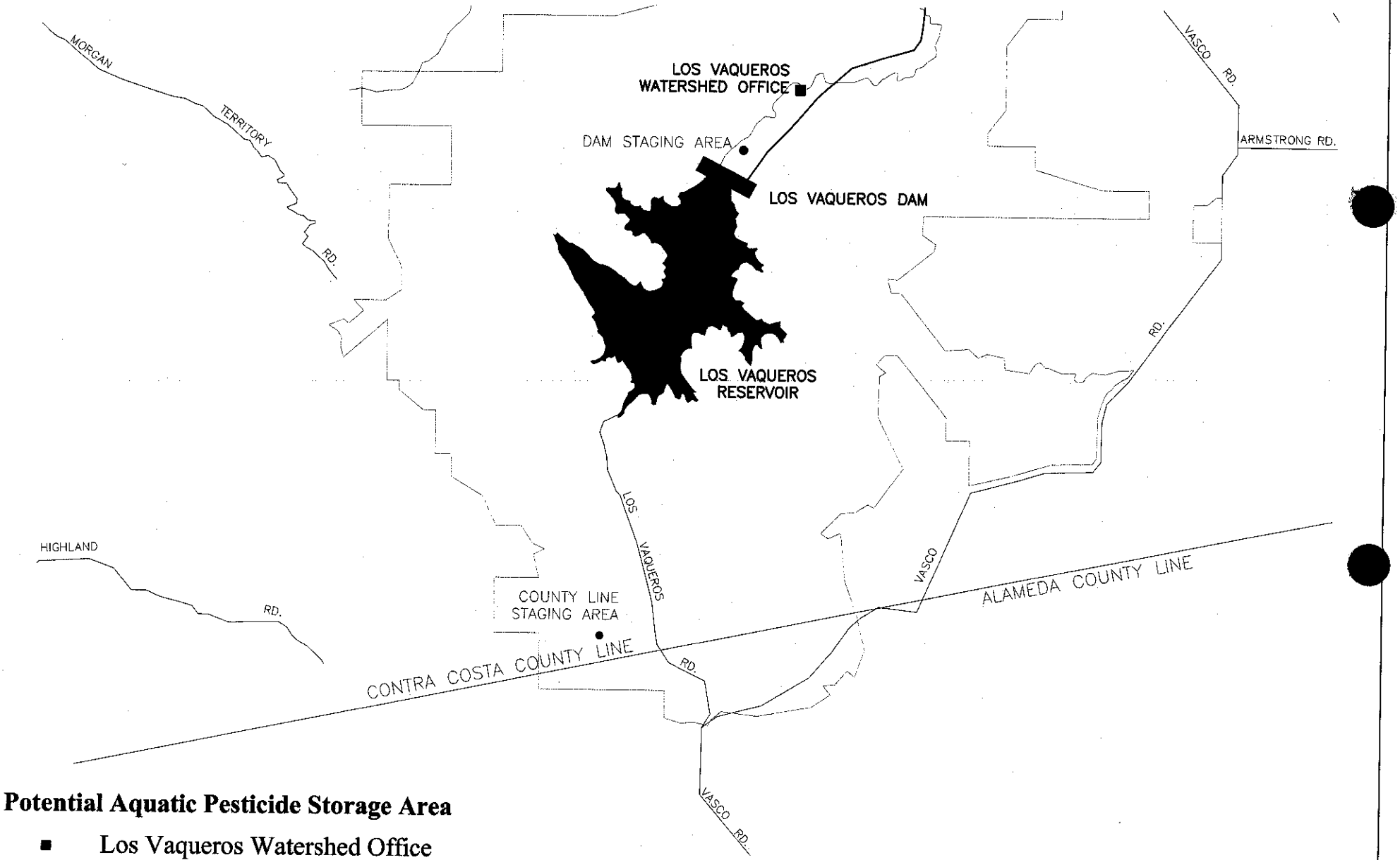
Aquatic Pesticide Storage Areas:

⬟ Bollman Water Treatment Plant

■ CCWD Headquarters & Maintenance Yard

CONTRA COSTA WATER DISTRICT

The Application of Aquatic Pesticides to Contra Costa Canal, Mallard Slough, and Contra Loma, Mallard, Martinez, and Los Vaqueros Reservoirs for Algal and Aquatic Weed Control



Potential Aquatic Pesticide Storage Area

- ■ Los Vaqueros Watershed Office

Figure 5: Los Vaqueros Reservoir

ES000767.DWG 1/04

applications were made between Pumping Plant #1 to Pumping Plant #4. One application was made between Pumping Plant #1 and Milepost 26 in the lined Canal. Along the loop portion of the Canal, applications were made seven times in the loop Canal and the Ygnacio Canal. The loop and Ygnacio Canal are typically shut down and drained in the winter for maintenance and cleaning to reduce the growth of aquatic pests.

REQUIRED APPROVALS

Continued application of copper-based aquatic pesticides requires obtaining a permit from the SWRCB as contemplated in the November 26, 2003 Draft Water Quality Order No. 2004_-___-DWQ Statewide General NPDES 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_____.

SECTION 2
INITIAL STUDY

This MND complies with Section 21064.5 of the CEQA and Article 6 of the CEQA Guidelines (14 California Code of Regulations). The following Initial Study, Environmental Checklist, and evaluation of potential environmental effects (see Section 3) were completed in accordance with Section 15063(d) of the CEQA Guidelines to determine if the application of aquatic pesticides (Project) could have any potentially significant effect on the physical environment, and if so, what mitigation measures will be necessary to reduce such impacts to less-than-significant levels.

An explanation is provided for all determinations, including the citation of sources as listed in Section 5. A "No Impact" or a "Less-than-Significant Impact" determination indicates that the Project will not have a significant effect on the environment for that specific environmental category. With regard to the biological resources, water quality, and hazardous materials categories, the Project will include specific mitigation measures (see Section 4) to reduce potentially significant impacts to less-than-significant levels. No other environmental categories for this evaluation were found to be potentially affected in a significant manner by the Project.

INITIAL STUDY AND ENVIRONMENTAL CHECKLIST FORM

1. Project Title:	The Application of Copper-Based Aquatic Pesticides to Contra Costa Canal, Mallard Slough, and Contra Loma, Mallard, Martinez, and Los Vaqueros Reservoirs for Algal and Aquatic Weed Control
2. Lead Agency Name and Address:	Contra Costa Water District P.O. Box H2O Concord, CA 94524
3. Contact Person and Phone Number:	Mark Seedall (925) 688-8119
4. Project Location:	Contra Costa Canal, Mallard Slough, and Contra Loma, Mallard, Martinez, and Los Vaqueros Reservoirs, Contra Costa County
5. Project Sponsor's Name and Address:	Contra Costa Water District P.O. Box H2O Concord, CA 94524

6. General Plan Land Use Designation:	Residential, Commercial, Industrial, Agricultural, Open Space
7. Zoning:	N/A
8. Description of Project:	See Project Description in Section 1
9. Surrounding Land Uses and Setting:	See Project Location in Section 1
10. Other Agencies whose Approval is Required:	State Water Resoruces Control Board

Environmental Factors Potentially Affected:

The environmental factors checked below will be potentially affected by the proposed Project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages:

☐ Aesthetics	☐ Agriculture Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology/Soils
☐ Hazards & Hazardous Materials	☐ Hydrology/Water Quality	☐ Land Use/Planning
☐ Mineral Resources	☐ Noise	☐ Population/Housing
☐ Public Services	☐ Recreation	☐ Transportation/Traffic
☐ Utilities/Service Systems	☐ Mandatory Findings of Significance	

DETERMINATION: (To be completed by 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.

Mark A. Seedall
Signature

Jan 15, 2004
Date

Mark A. Seedall
Printed Name

Contra Costa Water District
For

SECTION 3
EVALUATION OF ENVIRONMENTAL IMPACTS

I. AESTHETICS – Will the project:

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which will adversely affect day or nighttime views in the area?	☐	☐	☐	☒

Discussion:

a) **No Impact.** No designated scenic vistas or state scenic highways overlook the canal, slough, or any of the reservoirs. The closest Caltrans-designated scenic highways are Interstate 680 and State Route 24[2] that interconnect on the west side of Walnut Creek. Another major scenic resource is the extensive water and delta system of the Sacramento River and Suisun Bay, which extends along the northern perimeter of the Contra Costa County. Scenic ridges and hillsides and rock outcroppings are found in the Project area. The application of aquatic pesticides will not alter these existing scenic conditions because no new structures will be built. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

b) **No Impact.** The periodic application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not involve any permanent or long-term alterations to existing visual conditions. Application will not affect any trees, rock outcroppings, historic buildings, or other scenic resources. Chemical dosages will not affect rocks, and

2 Caltrans website, http://www.dot.ca.gov/hq/LandArch/scenic/schwy4.html

no historic buildings are present in the Project area. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides on the existing scenic resources.

c) **No Impact.** The periodic application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not substantially degrade the existing visual character or quality of the Project sites and their surroundings, because the chemicals are transparent and the reduction of algae and aquatic weeds will only improve the clarity of the water. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

d) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not introduce any new source of substantial light or glare. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

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 (1977) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Will the project:

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
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?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?	☐	☐	☐	☒

Discussion:

a) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not 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, because the Project does not contain any agricultural resources of operations. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

b) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not conflict with existing zoning for agricultural use, or a Williamson Act contract. No development or acquisition of new lands will be involved. Therefore, no lands enrolled under the Williamson Act will be impacted. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

c) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not involve other changes in the existing environment which, due to their location or nature, could result in the conversion of Farmland to non-agricultural use. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

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. Will the project:

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Violate any air quality standard or contribute to an existing or projected air quality violation?	☐	☐	☐	☒
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)?	☐	☐	☐	☒

d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒

Discussion:

a) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not conflict or obstruct implementation of the applicable air quality plan because aquatic pesticides are designed for use in the water and are not gaseous in nature. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

b) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not violate any air quality standard or contribute substantially to an existing or projected air quality violation because aquatic pesticides are designed for use in the water and are gaseous in nature. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

c) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not 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) because aquatic pesticides are designed for use in the water and are not gaseous in nature. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

d) **No Impact.** The periodic application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not expose sensitive receptors to substantial pollutant concentrations because aquatic pesticides are designed for use in the water and are not gaseous in nature. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

e) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not create objectionable odors affecting a substantial number of people because aquatic pesticides are designed for use in the water, are not gaseous in nature, and do not have an objectionable odor. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

IV. BIOLOGICAL RESOURCES – Will the project:

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
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?	☐	☐	☒	☐
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?	☐	☐	☒	☐
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?	☐	☐	☒	☐
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?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Discussion:

a) **Less-than-significant Impact.** The Project will involve the periodic application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs. Several federal and state-listed candidate, sensitive, or special-status species are known to exist in terrestrial areas adjacent to the Project sites. These species include: California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana aurora draytonii*), California clapper rail (*Rallus longirostris obsoletus*), California black rail (*Laterallus jamaicensis coturniculus*), California least tern (*Sterna antillarum browni*), salt marsh harvest mouse (*Reithrodontomys raviventris*), San Joaquin kit fox (*Vulpes macrotus mutica*), Alameda whipsnake (*Masticophis lateralis euryxanthus*), giant garter snake (*Thamnophis gigas*), longhorn fairy shrimp (*Branchinecta longiantenna*), Lange's metalmark butterfly (*Apodemia mormo langei*), large-flowered fiddleneck (*Amsinckia grandiflora*), alkali milkvetch (*Astragalus tener* var. *tener*), soft bird's-beak (*Cordylanthus mollis* ssp. *mollis*), Mt. Diablo bird's beak (*Cordylanthus nidularius*), Contra Costa wallflower (*Erysimum capitatum* ssp. *angustatum*), Contra Costa goldfields (*Lasthenia conjugens*), Mason's lilaeopsis (*Lilaeopsis masonii*), Antioch Dunes evening-primrose (*Oenothera deltoids* ssp. *howellii*), and rock sanicle (*Sanicula saxatilis*). Several of these species are proposed for management under the East Contra Costa County Habitat Conservation Plan and Natural Community Conservation Plan.

The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not affect habitat for these species. No copper-based aquatic pesticides will be dispersed within terrestrial habitat areas. Therefore, terrestrial species will not be impacted by the Project.

Of the four reservoirs, only Contra Loma and Los Vaqueros Reservoirs support a recreational fishery. Game species found in Los Vaqueros and Contra Loma Reservoirs include redear sunfish (*Lepomis microlophus*), largemouth bass (*Micropterus salmoides*), green sunfish (*Lepomis cyanellus*), channel catfish (*Ictalurus punctatus*), bullhead catfish (Ameirus natalis), striped bass (*Menidia audens*), bluegill (*Lepomis macrochirus*), rainbow trout (*Oncorhynchus mykiss*), and kokanee salmon (*Oncorhynchus nerka*). None of these species are listed or fully protected species. Many of these fish are planted for the purposes of recreation and are not resident populations.

Sampling for fish entrainment was conducted at the Contra Costa Canal Headworks (Rock Slough Intake)[3] from January through December 2003 using sieve nets. Species collected at the headworks included prickly sculpin (*Cottus asper*), inland silverside (Menidia beryllina), rainwater killifish (*Lucania parva*), channel catfish, threadfin shad (*Dorosoma petenense*), and bluegill. None of these species are listed or fully protected species.

Sampling was also conducted at the Old River Fish Screen Facility during 2003.[4] Species collected at the fish screen facility included bigscale logperch (*Percina*

[3] Tenera Environmental, 2003a.

[4] Tenera Environmental, 2003b.

macrolepida), prickly sculpin, bluegill, Shimofuri goby (*Tridentiger bifasciatus*), yellowfin goby (*Acanthogobius flavimanus*), channel catfish, stripped bass, threadfin shad, redear sunfish, inland silverside, and largemouth bass. None of these species are listed or fully protected species. Aquatic pesticides have never been applied by CCWD at the Old River Intake. CCWD does not intend to apply such pesticides at the Old River Intake.

Special-status species that may occur near the Rock Slough intake to Contra Costa Canal include Central Valley spring-run chinook salmon (*Oncorhynchus tshawtscha*), green sturgeon (*Acipenser medirostris*), Central Valley fall/late fall-run chinook salmon (*Oncorhynchus tshawytsch*), Central Valley steelhead (*Oncorhynchus mykiss*), and delta smelt (*Hypomesus transpacificus*). None of these species was collected during the 2003 monthly samplings.

Copper-based pesticides have been used to treat the Contra Costa Canal and Martinez, Contra Loma, and Mallard Reservoirs to control algae and aquatic weeds under CCWD's Integrated Pest Management Program.[5] (refer to Appendix A). Despite such use, no adverse impacts to the fish and benthic organism populations present within this reservoir have been identified.

In 2003, copper-based pesticides were applied four times in Mallard Reservoir (June 27 and 30, August 29, and September 4) and eight near shore treatments in Martinez Reservoir (June 18, 19, and 26; July 11 and 17; August 8, 21, and 28). Contra Loma and Los Vaqueros Reservoirs were not treated. Fourteen near shore treatments were applied to various sections of the unlined Canal from the Rock Slough Intake to Pumping Plant 1 (April 17 and 18; May 15, 16, and 17; July 14, 15, and 16; August 11, 12, and 13; September 8, 9, and 10). There were no fish kills noted during any of these treatments.

Application of copper-based pesticides in specific areas of the reservoir allows fish to avoid the application sites. While temporary impacts to these species may occur during pesticide application, the Project's impacts will be less than significant.

b) **Less-than-significant Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not 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. The application of aquatic pesticides will be implemented entirely within the open water of the existing Project facilities and will not disturb any upland habitat adjacent to the Project areas. The elimination of nuisance algae and aquatic weeds creates a more favorable habitat for native species to thrive.

c) **Less-than-significant Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not 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. Aquatic pesticides are designed for

[5] Contra Costa Water District, 2003.

use in the water and do not cause nor require the removal, filling, or hydrological interruption of any such wetland protected by Section 404.

d) **Less-than-significant Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not 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 species or with established native resident or migratory corridors, or impede the use of native wildlife nursery sites. Aquatic pesticides are applied to only the perimeter or a portion of a reservoir to support fish migration to the untreated portion. The impact will be considered less than significant.

e) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, because the Project will consist of applying aquatic pesticides to open surface water. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

f) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will be conducted entirely within open water, outside of upland habitat, and will not affect any Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. The East Contra Costa County Habitat Conservation Plan and Natural Community Conservation Plan (Plan) has yet to be finalized. CCWD's careful use and monitoring plan associated with aquatic pesticides ensures that it will not impact upland habitat. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

V. CULTURAL RESOURCES – Will the project:

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to §15064.5?	☐	☐	☐	☒
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

Discussion:

a, b) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not cause a substantial adverse change in the significance of a historical or archaeological resource as defined in §15064.5, because the Project will be implemented entirely within the open water and will include no elements that will alter or otherwise disturb any known historical or archaeological resource. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

c) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, because the Project will be implemented entirely within the open water of CCWD's water supply system and will include no elements that will alter or otherwise disturb any known paleontological resource. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

d) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not disturb any human remains, including those interred outside of formal cemeteries because the Project will be implemented entirely within the open water and will include no elements that will alter or otherwise disturb any known human remains. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

VI. GEOLOGY AND SOILS – Will the project:

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
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.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒

iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
c) Be located on strata or soil that is unstable, or that will become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

Discussion:

a) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: 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. The application of aquatic pesticides to the existing canal, slough, and reservoirs will not cause strong seismic ground shaking; seismic-related ground failure, including liquefaction; and landslides. The use of aquatic pesticides is designed to help sustain water quality by maintaining the water supply delivery systems and such systems are already constructed and have not caused seismic events. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

b) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not result in substantial soil erosion or the loss of topsoil because the use of aquatic pesticides is designed to help sustain water quality by maintaining the water supply delivery systems and such systems properly maintained will not affect erosion. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

c) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not be located on a geologic unit or soil that is unstable, or that will become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse because the use of aquatic pesticides is designed to help sustain water quality by maintaining the water supply delivery systems and such systems properly maintained will not affect these factors. Therefore, no impacts are anticipated from the application of copper -based aquatic pesticides.

d) **No Impact.** The application of copper-based aquatic pesticides to existing canal, slough, and reservoirs will not 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 because the use of aquatic pesticides is designed to help sustain water quality by maintaining the water supply delivery systems and such systems are covered under the Uniform Building Code (1994). Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

e) **No Impact**. The application of copper-based aquatic pesticides to existing canal, slough, and reservoirs will not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater because the use of aquatic pesticides is designed to help sustain water quality by maintaining the water supply delivery systems and such systems are not located near septic tanks or alternative wastewater disposal systems. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

VII. HAZARDS AND HAZARDOUS MATERIALS – Will the project:

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
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?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☒	☐	☐

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, will it create a significant hazard to the public or the environment?	☐	☐	☐	☒
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, will the project result in a safety hazard for people residing or working in the project area?	☐	☒	☐	☐
f) For a project within the vicinity of a private airstrip, will the project result in a safety hazard for people residing or working in the project area?	☐	☒	☐	☐
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
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 residences are intermixed with wildlands?	☐	☐	☐	☒

Discussion:

a, b) **Less-than-significant Impact with Mitigation Incorporation.** The application of copper-based aquatic pesticides to existing canal, slough, and reservoirs could create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or may 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. However, such hazards will be substantially mitigated. Mitigation for the safe transport of aquatic pesticides includes regular inspection of chemical transport vehicles, and the use of Department of Transportation approved containers and allowable container thresholds. The copper-based pesticides are regulated as hazardous material. Acute exposure to humans can cause eye, skin, and respiratory irritation, and can be harmful if swallowed.[6] The Material Safety Data Sheets (MSDS) for the copper-based aquatic pesticides are included in Appendix C. Use of these materials creates a potential for spills that could

6 Material Safety Data Sheets for Clearigate, Cutrine-Plus, Komeen, and Nautique.

affect worker safety and the environment. Spills could occur at the storage sites, during transport to the application sites, or during application.

Exposure to spills could affect humans and the environment. CCWD's Best Management Practices[7] in the Integrated Pest Management Program set forth policy, requirements, and responsibilities for evaluation, handling, storage, disposal, transport, and source reduction of hazardous waste. Mitigation for the safe use of aquatic pesticides includes: annual pesticide use training, pesticide prescription by a licensed Pest Control Advisor, and pesticide application by a Qualified Applicator; following information provided from product labels and laws and recommendations. Empty containers are properly disposed or recycled consistent with the Department of Pesticide Regulation laws and regulations.

Mitigation Measures

To ensure worker safety protection, CCWD requires handlers of copper-based aquatic pesticides to undergo training specific to the application process. CCWD also requires workers to wear personal protective equipment for handling the pesticides. CCWD requires that applications of copper-based aquatic pesticides be conducted in a manner consistent with the product labeling. Finally, CCWD complies with the recommendation on the MSDSs for worker protection to minimize potential for exposure to the pesticides.

With implementation of the following proposed mitigation measures, the potential to create a significant hazard to the public or to the environment will be reduced to a less-than-significant impact:

HAZ-1 *Only approved "least toxic" pesticides will be used to minimize the overall risk to the applicator and impact to the environment. Prior to pesticide use, the site will be evaluated for spot treatment, and if appropriate, spot treatment will be used to minimize pesticide use. Least toxic pesticides will be applied at the appropriate time and under prerequisite weather conditions to maximize their effectiveness on the target species.*

HAZ-2 *All chemical product label instructions will be strictly followed, including utilizing the personal protective equipment recommended by the manufacturer of the product.*

HAZ-3 *CCWD shall comply with the recommendations provided on the Material Safety Data Sheet (MSDS) applicable to the specific aquatic pesticide product to be used.*

HAZ-4 *Personnel who apply aquatic pesticides shall be trained in CCWD's general Integrated Pest Management practices, the safe use of pesticides and proper inspection of applicator equipment to prevent accidental pesticide leaks, spills, and potential hazards to applicators and the environment. Each work unit shall maintain records of who received the training for at least three years. New employees shall not apply pesticides until they have received the appropriate*

[7] Contra Costa Water District, 2002.

training or until their supervisor confirms that they have met the training objectives at their previous job.

HAZ-5 *Aquatic pesticides shall be stored indoors in locked and labeled storage units or within locked CCWD facilities. Pesticide container disposal shall be in accordance with CCWD's Integrated Pest Management Program.*

c) **Less-than-significant Impact with Mitigation Incorporation.** The application of copper-based aquatic pesticides to existing canal, slough, and reservoirs could emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Schools within this zone include: O'Hara Middle School and Laurel Elementary School in Oakley; Christian Center Elementary and High Schools, and Hillview Junior High School in Pittsburg; Bel Air Elementary and Rio Vista Elementary Schools in Bay Point; Wren Avenue Elementary School in Concord; Valle Verde Elementary School, Berean Christian High School, Ygnacio Valley High School, De La Salle and Carondelet High Schools, Bancroft Elementary School, Palmer School for Boys and Girls, Seven Hills Elementary School in Walnut Creek; College Park High School and Diablo Valley College in Pleasant Hill. With implementation of the mitigation measures proposed above (VII.a, b), the potential to create a significant hazard will be reduced to a less-than-significant impact.

d) **No Impact.** The canal, slough, and reservoirs are not located on sites which are included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, will not create a significant hazard to the public or the environment. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

e, f) **Less-than-significant Impact with Mitigation Incorporation.** Portions of Contra Costa Canal (the Loop Canal) are within 0.5 miles of a local airport. The application of copper-based aquatic pesticides to existing canal, slough, and reservoirs could result in a safety hazard for people residing or working in the project area. With implementation of the mitigation measures proposed above (VII.a, b), the potential to create a significant hazard will be reduced to a less-than-significant impact.

g) **No Impact.** The application of copper-based aquatic pesticides to existing canal, slough, and reservoirs will not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

h) **No Impact.** The application of copper-based aquatic pesticides to existing canal, slough, and reservoirs will not 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 residences are intermixed with wildlands. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

VIII. HYDROLOGY AND WATER QUALITY

– Will the project:

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there should 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 will drop to a level which will not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
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 will result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☒
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 will result in flooding on- or off-site?	☐	☐	☐	☒
e) Create or contribute runoff water which will exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒
f) Otherwise substantially degrade water quality?	☐	☒	☐	☐
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?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which will impede or redirect flood flows?	☐	☐	☐	☒
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?	☐	☐	☐	☒
j) Inundation of seiche, tsunami, or mudflow?	☐	☐	☐	☒

a) Less-than-significant Impact with Mitigation Incorporation.

Compliance with Federal and State Water Quality Standards

- National Toxics Rule / California Toxics Rule

Such discharges currently are permitted under and governed by Water Quality Order No. 2001-12-DWQ, NPDES Permit for Discharges of Aquatic Pesticides to Waters of the United States (General Permit), General Permit No. CAG990003, issued by the SWRCB in July 2001.[8] This General Permit is schedule to expire on January 31, 2004.

The SWRCB intends to adopt a new general permit for aquatic pesticides to replace General Permit No. CAG990003. However, to obtain coverage under the new permit, the SWRCB is requiring applicants to demonstrate either that its discharges comply with the water quality criteria for Priority Pollutants under the California Toxics Rule (CTR) and National Toxics Rule (NTR) or that it qualifies for an exception from compliance with such criteria, pursuant to Section 5.3 of the SWRCB's Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (Policy). The CTR contains the copper water quality criteria for surface waters in California.

Among other things, Section 5.3 provides a Categorical Exception from the toxics standards where the discharge is necessary to implement control measures (1) for resource or pest management or (2) to meet federal or state drinking water standards. CCWD's purpose in periodically applying copper-based aquatic pesticides to its canal, slough, and reservoirs is to control algal blooms and aquatic weed growth and, in turn, achieve secondary drinking water standards for taste and odor. Therefore, such

8 USEPA, in interim guidance issued on July 11, 2003, states that the direct application of a pesticide to waters of the United States to control pests and consistent with all relevant requirements of FIFRA "does not constitute the discharge of a pollutant that requires an NPDES permit under the Clean Water Act." Chief Counsel for the SWRCB, in a memorandum issued on July 25, 2003 disagreed with USEPA's position and advised the SWRCB not to follow the guidance.

discharges qualify for a Categorical Exception to the toxics standards. Accordingly, CCWD plans to apply for coverage under the SWRCB's new general permit for aquatic pesticides and, as part of that application, seek a Categorical Exception for its use of copper-based aquatic pesticides. If granted, CCWD will comply with all terms and conditions of the general permit.

Moreover, it should be noted that CCWD's use of copper-based aquatic pesticides will only temporarily elevate copper concentrations above the freshwater thresholds set forth in the CTR for aquatic life.[9] Existing data indicate that copper concentrations in CCWD's reservoirs decrease to pre-treatment levels following application of the pesticides (see Appendix D). Further, the copper concentrations are below the CTR copper human health criteria for consumption of water and organisms of 1.3 milligrams per liter (mg/l). Thus, CCWD's use of copper-based aquatic pesticides will not result in any long-term exceedance of the applicable toxics standards for copper.

Finally, CCWD will monitor copper levels in accordance with its existing Monitoring Plan (Appendix B). This plan requires that pre-treatment water samples be collected before each application and that post-treatment samples be collected one hour after treatment in the Canal and four hours after treatment in the reservoirs. CCWD will continue to monitor under this plan until SWRCB adopts the new general permit. At that time, CCWD will comply with the new general permit monitoring requirements.

The results of these monitoring events are submitted to the SWRCB, pursuant to the reporting requirements of the NPDES permit. The sample analysis results show the period when copper concentrations exceed the thresholds, and when the concentrations decrease below the calculated thresholds. Appendix D includes monitoring data for pesticide application events that occurred in 2001 through 2003 in the CCWD water supply system.

- Regional Water Quality Objectives

From Rock Slough to Milepost 14, Contra Loma, and Los Vaqueros fall within the jurisdiction of the Central Valley Regional Water Quality Control Board (RWQCB). However, the Basin Plan for the Sacramento River and San Joaquin River Basins (1998) does not identify any copper water quality objectives for these water bodies. However, the Basin Plan adopts the provisions of Title 22 of the California Code of Regulations of a secondary maximum contaminant level (MCL) of 1.0 mg/l as the copper water quality objective for beneficial use as a drinking water supply.

Martinez Reservoir, Mallard Reservoir, Mallard Slough, and the Loop Canal are within the jurisdiction of the San Francisco Bay RWQCB. The Basin Plan for the San Francisco Bay Region (1995) also adopts the provisions of Title 22 (California Code of Regulations) copper secondary MCL of 1.0 mg/l as the copper water quality objective for beneficial use as a drinking water supply.

---

9 The recommended water quality criteria for copper in freshwater is dependent on water hardness and is expressed as chronic and acute values. When water hardness is 100 mg/l, the recommended acute threshold for copper is 13 micrograms per liter (µg/l). This level increases as water hardness increases (EPA, 2002).

Application of the copper-based aquatic pesticides will periodically increase copper levels at application sites. However, overall copper levels within the reservoirs, slough, and canal will not exceed Basin Plan objectives. As part of the Project, CCWD will continue to monitor copper levels before and after each application as required by the existing Monitoring Plan (Appendix B). Monitoring results will be submitted to the RWQCB for review, as is the case presently. CCWD will continue to monitor and submit results until the adoption of the new general permit. At that time, CCWD will comply with the monitoring and reporting requirements as specified in the new general permit.

- State Anti-Degradation Policy

The application of copper-based aquatic pesticides will not adversely affect existing conditions. Therefore, the Project therefore will not conflict with the SWRCB's antidegradation policy.

Compliance with Federal and State Drinking Water Standards

CCWD is responsible for ensuring that the water supplied to the public meets state and federal drinking water standards. California has primacy for the implementation of federal drinking water standards and compliance with State standards ensures compliance with federal standards. Title 22 of the California Code of Regulations establishes primary and secondary standards for copper. The primary standard, however, applies to the quality of water at the consumer's tap to ensure that the water delivered does not cause unacceptable leaching of any copper from plumbing. The primary standard is an Action Level of 1.3 mg/l. The secondary MCL is 1.0 mg/l.

In addition, water withdrawn from the primary reservoirs undergoes conventional treatment prior to distribution. This treatment process involves coagulation, flocculation, sedimentation, filtration, and disinfection, which further reduces copper concentrations. Thus, periodic application of copper-based aquatic pesticides is not expected to adversely affect CCWD's ability meet applicable drinking water standards.

Mitigation Measures:

With the implementation of the following proposed mitigation measures, in conjunction with Mitigation HAZ-2 (described above in Section VII, Hazards and Hazardous Materials), impacts to water quality standards and waste discharge requirements will be less than significant:

HYDRO-1 *CCWD shall apply for coverage under the State Water Resources Control Board's (SWRCB's) new NPDES Permit for Discharges of Aquatic Pesticides and, as part of that application, seek a Categorical Exception, pursuant to Section 5.3 of the SWRCB's Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California.*

HYDRO-2 *CCWD shall continue to monitor and report copper levels in its water supply system in accordance with its existing SWRCB-approved Monitoring Plan for aquatic pesticides. Compliance with this Monitoring Plan shall continue until such time as the implementation of a new Monitoring Plan is deemed required*

or otherwise determined unnecessary under the NPDES program or other applicable program.

- *Continue implementation of an early warning system (e.g., frequent monitoring of taste and odor compounds, flavor profile and microscopic analyses) to facilitate utilization of strategies that minimize the amount of copper-based aquatic pesticides applied;*

- *To the extent feasible, take full advantage of operational options (e.g., selective water withdrawal, bypass, and blending) to avoid or minimize the use of copper-based aquatic pesticides;*

- *To the extent feasible, treat nuisance algal blooms and aquatic weeds prior to their exponential growth phase to minimize the amount of copper-based aquatic pesticides used; and*

- *Focus resources on the specific type and location of problem algae and aquatic weeds.*

CCWD shall implement this Monitoring Plan to the extent required as a condition of the new NPDES Permit but in all cases will continue to implement the best management practices identified above.

b) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there should be a net deficit in aquifer volume or a lowering of the local groundwater table level because it will not involve any construction activities or require the use of groundwater. Therefore, no impacts on groundwater recharge or supplies are anticipated from the application of copper-based aquatic pesticides.

c, d, e) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not involve construction of any structures that will alter drainage patterns or increase storm water runoff. The Project will not increase erosion or siltation on- or off-site. No streambeds will be altered. No increase in drainage capacity of local storm sewers will be required. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

f) **Less-than-significant Impact with Mitigation Incorporation.** See response to item VIII.a above.

g, h, i, j) **No Impact**. Since application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will involve no new construction, no housing or other structures will be placed within a designated 100-year floodplain. The Project will not alter the floodplain or have the potential to redirect flood flows. The Project will not be subject to tsunami or inundation due to mudflows, nor will the Project expose personnel to a significant risk due to seiche waves or from flooding as a result of a catastrophic dam failure. Copper treatments will occur only periodically, as needed and will be applied

below the water surface. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

IX. LAND USE AND PLANNING – Will the project:

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Physically divide an established community?	☐	☐	☐	☒
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?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Discussion:

a) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not physically divide an established community because the use of aquatic pesticides is designed to help sustain water quality by maintaining the water supply delivery systems and the systems treated have existed for decades and no community has or will be divided by them. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

b) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not 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 because the use of aquatic pesticides is designed to help sustain water quality by maintaining the water supply delivery systems and the systems treated have existed for decades and their continued existence will not affect the general plan, specific plan, local coastal program, or zoning ordinance. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

c) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not conflict with any applicable habitat conservation plan or

natural community conservation plan because the use of aquatic pesticides is designed to help sustain water quality by maintaining the water supply delivery systems and these plans do not prohibit the maintenance of these systems with aquatic pesticides. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

X. MINERAL RESOURCES – Will the project:

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Result in the loss of availability of a known mineral resource that will be of value to the region and the residents of the state?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Discussion:

a) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not result in the loss of availability of a known mineral resource that will be of value to the region and the residents of the state because the use of aquatic pesticides is designed to help sustain water quality by maintaining the water supply delivery systems and the systems treated have existed for decades and their continued existence will not and have not affected the availability of mineral resources. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

b) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not 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 because the use of aquatic pesticides is designed to help sustain water quality by maintaining the water supply delivery systems and the systems treated have existed for decades and their continued existence will not and have not affected the availability of a mineral resources recovery site delineated on a local general plan, specific plan, or other land use plan. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

XI. NOISE – Will the project result in:

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
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?	☐	☐	☐	☒
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
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, will the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, will the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion:

a) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not result in 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. The only noise-generating equipment for the Project will be the hauling truck and the boat. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

b) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not result in exposure of persons to or generation of excess groundborne vibration or groundborne noise levels. The only noise-generating equipment for the Project will be the hauling truck and the boat. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

c) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will be carried out on a periodic basis as needed and only during brief periods of time. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

d) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not result in substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

e) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not, 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, expose people residing or working in the project area to excessive noise levels. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

f) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not, for a Project within the vicinity of a private airstrip, expose people residing or working in the Project area to excessive noise levels. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

XII. POPULATION AND HOUSING – Will the project:

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
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)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

c) Displace substantial numbers of people necessitating the construction of replacement housing elsewhere? ☐ ☐ ☐ ☒

Discussion:

a) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will be entirely implemented within the open water of CCWD's water supply system. No new commercial buildings or housing will be built in conjunction with Project implementation. The Project will not directly or indirectly induce substantial population growth in the area. Therefore, no impacts relating to substantial population growth are anticipated from the application of copper-based aquatic pesticides.

b) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will be entirely implemented within the open water of CCWD's water supply system. No housing or other structures will be constructed, demolished, or replaced as a result of the Project. There will be no net increase of employment possibilities at the Project sites and no additional housing will be needed during operations. Therefore, no impacts to housing are anticipated from the application of copper-based aquatic pesticides.

c) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will be entirely implemented within the open water of CCWD's water supply system. No displacement of substantial numbers of substantial numbers of people necessitating the construction of replacement housing elsewhere will result from the Project. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

XIII. PUBLIC SERVICES – Will the project:

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Will 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:				

Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

Discussion:

a) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will involve periodic application of the pesticides to CCWD's water supply system. The Project will not alter or require the construction of new schools, parks, or other public facilities, nor will the Project substantially increase the need for police and fire services beyond existing conditions. The Project will result in beneficial effects to water service by controlling algae blooms and aquatic weed overgrowth which might otherwise degrade drinking water through elevated taste and odors problems. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

XIV. RECREATION – Will the project:

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Will the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility will occur or be accelerated?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Discussion:

a, b) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will involve periodic application to CCWD's water supply system. Of the four reservoirs, only Los Vaqueros and Contra Loma Reservoirs are used for fishing and land-based recreational activities. Copper-based pesticides are not presently used at Los Vaqueros Reservoir and only sparingly at Contra Loma Reservoir. If copper-based aquatic pesticides are used at either reservoir in the future, CCWD will coordinate with the recreational manger at each site. The Project will not increase

demand for neighborhood and regional parks or recreational facilities. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

XV. TRANSPORTATION / TRAFFIC – Will the project:

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
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 roads, or congestion at intersections)?	☐	☐	☐	☒
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c) 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?	☐	☐	☐	☒
d) Substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☐	☒
f) Result in inadequate parking capacity?	☐	☐	☐	☒
g) Conflict with adopted policies supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	☒

Discussion:

a, b) No Impact. The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not 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

roads, or congestion at intersections). In addition, the Project will not exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways. The Project will involve the application of aquatic pesticides to open water with the use of a boat or drip system. The pesticides will be delivered from storage by truck to the application sites. This will not cause an increase in traffic. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

c) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not 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. The Project will not use any airplanes or alter air space. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

d) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). The Project will be limited to the open water of CCWD water supply system, and no alterations of roadways will be required. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

e) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not result in inadequate emergency access. The Project will be limited to the open water of CCWD water supply system, and no alterations of roadways will be required. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

f) **No Impact.** The existing areas, designated for storage, loading, and handling of copper-based aquatic pesticides, have sufficient parking capacity to accommodate the Project. No additional parking will be required. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

g) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not conflict with any alternative transportation policies. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

XVI. UTILITIES AND SERVICE SYSTEMS –

Will the project:

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒

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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Discussion:

a) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will be limited to the application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs and will not generate any wastewater. Therefore, the Project will not result in discharges that exceed wastewater treatment requirements of the Regional Water Quality Control Board. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

b) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will be limited to the application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs. The Project will not 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. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

c) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not 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. There will be no increase in the amount of storm water runoff as a result of the Project. Therefore, the proposed Project will not necessitate the construction or expansion of storm water drainage facilities. Therefore, no impacts are anticipated from the application of aquatic pesticides.

d) **No Impact.** The Project will be limited to the treatment of an existing water supply and will contain no elements that will require additional water supply. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

e) **No Impact**. The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not increase the amount of wastewater discharged into the existing sewer system. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

f) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will be limited to water treatment and will not require solid waste disposal. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

g) **No Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not conflict with applicable federal, State, and local statutes and regulations related to solid waste. Therefore, no impacts are anticipated from the application of copper-based aquatic pesticides.

XVII. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
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?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively				

considerable? ("Cumulative 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)	☐	☐	☒	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Discussion:

a) **Less-than-significant Impact with Mitigation Incorporation.** The proposed Project will involve the periodic application of copper-based aquatic pesticides to a canal, slough, and four existing water storage reservoirs owned and operated by CCWD. Applications of the aquatic pesticides will take place, on an as-needed basis, to control nuisance algal blooms and aquatic weed overgrowth so that the drinking water quality is not degraded through elevated taste and odor problems, production of algal toxins, and/or through filter clogging. The application of copper-based aquatic pesticides will not require any physical alteration or construction of any facilities at the Project sites, nor will the Project result in any ground disturbance or tree or vegetation removal. Implementation of the Project may temporarily impact aquatic species present in the reservoirs and their associated habitats during pesticide applications. However, these impacts will be temporary and less than significant. Several species of rare or endangered animals are known to exist in the terrestrial areas adjacent to the Project sites. However, none of these species will be significantly impacted by the proposed Project. Likewise, the Project will not eliminate any important examples of California history or prehistory. Therefore, the application of copper-based aquatic pesticides, in conjunction with the proposed mitigation measures, will result in a less-than-significant impact.

b) **Less-than-significant Impact.** The application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will not have impacts that are individually limited, but cumulatively considerable. The Project sites are each located within properties owned by CCWD or the U.S. Bureau of Reclamation. No foreseeable cumulative impacts in conjunction with potential local or regional projects will occur. Application events will typically be conducted only a few times per year, on an as-needed basis, and, will generally never be expected to occur simultaneously at the canal, slough, and reservoirs. Therefore, the impacts of the application of copper-based aquatic pesticides in the area will not be cumulatively considerable.

c) **Less-than-significant Impact with Mitigation Incorporation.** As previously indicated, the application of copper-based aquatic pesticides to the existing canal, slough, and reservoirs will reduce any hazard-related impacts to the public to less-than-significant levels with the implementation of the proposed mitigation measures in conjunction with strict compliance with CCWD's Integrated Pest Management Program as well as applicable safety laws and regulations. Therefore, the proposed Project will result in less-than-significant effects on human beings.

SECTION 4
LIST OF MITIGATION MEASURES

HAZARDS AND HAZARDOUS MATERIAL

HAZ-1 *Only approved "least toxic" pesticides will be used to minimize the overall risk to the applicator and impact to the environment. Prior to pesticide use, the site will be evaluated for spot treatment, and if appropriate, spot treatment will be used to minimize pesticide use. Least toxic pesticides will be applied at the appropriate time and under prerequisite weather conditions to maximize their effectiveness on the target species.*

HAZ-2 *All chemical product label instructions will be strictly followed, including utilizing the personal protective equipment recommended by the manufacturer of the product.*

HAZ-3 *CCWD shall comply with the recommendations provided on the Material Safety Data Sheet (MSDS) applicable to the specific aquatic pesticide product to be used.*

HAZ-4 *Personnel who apply aquatic pesticides shall be trained in CCWD's general Integrated Pest Management practices, the safe use of pesticides and proper inspection of applicator equipment to prevent accidental pesticide leaks, spills, and potential hazards to applicators and the environment. Each work unit shall maintain records of who received the training for at least three years. New employees shall not apply pesticides until they have received the appropriate training or until their supervisor confirms that they have met the training objectives at their previous job.*

HAZ-5 *Aquatic pesticides shall be stored indoors in locked and labeled storage units or within locked CCWD facilities. Pesticide container disposal shall be in accordance with CCWD's Integrated Pest Management Program.*

HYDROLOGY AND WATER QUALITY

HYDRO-1 *CCWD shall apply for coverage under the State Water Resources Control Board's (SWRCB's) new NPDES Permit for Discharges of Aquatic Pesticides and, as part of that application, seek a Categorical Exception, pursuant to Section 5.3 of the SWRCB's Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California.*

HYDRO-2 *CCWD shall continue to monitor and report copper levels in its water supply system in accordance with its existing SWRCB-approved Monitoring Plan for aquatic pesticides. Compliance with this Monitoring Plan shall continue until such time as the implementation of a new Monitoring Plan is deemed required or otherwise determined unnecessary under the NPDES program or other applicable program.*

- *Continue implementation of an early warning system (e.g., frequent monitoring of taste and odor compounds, flavor profile and microscopic analyses to facilitate utilization of strategies that minimize the amount of copper-based aquatic pesticides applied;*

- *To the extent feasible, take full advantage of operational options (e.g., selective water withdrawal, bypass, and blending) to avoid or minimize the use of copper-based aquatic pesticides;*

- *To the extent feasible, treat nuisance algal blooms and aquatic weeds prior to their exponential growth phase to minimize the amount of copper-based aquatic pesticides used; and*

- *Focus resources on the specific type and location of problem algae and aquatic weeds.*

CCWD shall implement this Monitoring Plan to the extent required as a condition of the new NPDES Permit but in all cases will continue to implement the best management practices identified above.

SECTION 5
REFERENCES

California Department of Transportation, website, http://www.dot.ca.gov/hq/LandArch/scenic/schwy4.html.

California State Water Resources Control Board, Water Quality Order NO. 2001-12-DWQ *Statewide General National Pollutant Discharge Elimination System (NPDES) Permit for Discharges of Aquatic Pesticides to Surface Waters of the United States (General Permit) General Permit No. CAG 990003, Waste Discharge Requirements* http://www.swrcb.ca.gov/resdec/wqorders/2001/wqo/wqo2001-12.doc.

Contra Costa Water District, 2002. Best Management Practices, Aquatic Pesticide NPDES Permit, General Permit No. CAG 990003, January 2002.

Contra Costa Water District, 2003. Integrated Pest Management Program.

Material Safety Data Sheet, Clearigate.

Material Safety Data Sheet, Cutrine-Plus.

Material Safety Data Sheet, Komeen.

Material Safety Data Sheet, Nautique.

State Water Resources Control Board, 2000. Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California. (Phase 1 of the Inland Surface Waters Plan and the Enclosed Bays and Estuaries Plan).

Tenera Environmental, 2003a. Fish entrainment sampling report for the Contra Costa Canal Headworks, November 26-December 8, 2003. December 23, 2003 letter to NOAA Fisheries, U.S. Bureau of Reclamation, U.S. Fish and Wildlife Service, California Department of Fish and Game, California Department of Water Resources, and Contra Costa Water District.

Tenera Environmental, 2003b. Fish entrainment sampling report for the Old River Fish Screen Facility, November 26-December 8, 2003. December 23, 2003 letter to NOAA Fisheries, U.S. Bureau of Reclamation, U.S. Fish and Wildlife Service, California

Department of Fish and Game, California Department of Water Resources, and Contra Costa Water District.

U.S. Environmental Protection Agency, 2002. *National Recommended Water Quality Criteria: 2002, EPA-822-R-02-047.*

SECTION 6
AGENCIES CONTACTED

State Water Resources Control Board

SECTION 7
LIST OF PREPARERS

Contra Costa Water District

Mark Seedall, Senior Planner
David Omoto, Environmental Compliance Officer
Larry McCollum, Water Quality Superintendent

Environmental Science Associates

Michele Stern, Project Manager

APPENDIX A

INTEGRATED PEST MANAGEMENT PROGRAM

Contra Costa Water District

Integrated Pest Management Program

August 4, 2003

Revision 2.0

Integrated Pest Management Program
August 4, 2003
Table of Contents

CONTRA COSTA WATER DISTRICT
INTEGRATED PEST MANAGEMENT PROGRAM
August 4, 2003
Revision 2.0

INTRODUCTION

Integrated pest management (IPM) is an ongoing process that minimizes human health and environmental impacts while effectively suppressing pest populations. To be truly effective, the process requires established procedures that not only must be practiced, but undergo a periodic review. These procedures must properly identify pests, monitor pest populations, evaluate a wide variety of pest control strategies, implement the appropriate strategies, continually evaluate the effectiveness and impacts of implementation, and modify the control strategies as necessary.

SUMMARY

The goal of the District's Integrated Pest Management (IPM) Program is to employ a comprehensive set of procedures that optimally combines chemical, biological, and mechanical control alternatives for pest control in a manner that:

1) Maximizes protection of all surface waters;
2) Minimizes pesticide use and requires use of "least toxic" pesticides or methods of pest control;
3) Manages pests effectively using environmentally safe and cost effective practices.

Environmentally safe practices are those that ensure the adequate protection of the public and District employees, are protective of potable water sources, other aquatic and terrestrial resources, and public and private property. An IPM Committee, consisting of members from Operations and Maintenance, Watershed and Lands, Construction, Public Information and Conservation, Safety Officer, and Environmental Compliance provides program review. An adaptive management strategy allows for future modification of control methods over time, based on the level and risk associated with the pest species, treatment method alternatives and results.

These procedures are to be provided to managers, supervisors and staff who perform pest management as part of their District responsibilities. It is to be strictly followed in implementation of all pest management activities.

PROCEDURES

I GENERAL IPM BEST MANAGEMENT PRACTICES

The following procedures (Best Management Practices) will be implemented and followed by all District personnel who perform pest management on District property and all Reclamation facilities including reservoirs, watershed lands, recreation areas, the canal and other rights-of-way and facility grounds. Reclamation facilities include: Contra Costa Canal, Contra Costa Pumping Plants, Contra Loma Dam and Reservoir, Short-cut Pipeline, Ygnacio Pumping Plant

and Canal, and Martinez Dam and Reservoir. District personnel shall document their control activities and maintain records as noted in these procedures.

A. Identify All Potential Pests

District personnel with responsibility for pest management will be trained to accurately identify pest species of animals and plants, the damage they can cause, and the control alternatives available. Field manuals, a list of Noxious Weeds as identified by the Contra Costa County Agricultural Commissioner, and other resources will be made available to staff to assist in pest identification as necessary. A listing of Noxious Weeds is found in Appendix A.

B. Determination of Pest Management Action Level

District personnel with responsibility for pest management shall determine the annual and seasonal infestation levels that are unacceptable. These unacceptable levels are pest management action levels that indicate appropriate action must be taken to prevent damaging infestation. The determination of these levels will be completed using, in most cases, the following criteria:

- it is determined that the pest population will reach a critical level if left untreated;
- biological or environmental factors cannot be expected to reduce the pest problem within a reasonable time; and
- pest management costs (including any environmental or health impacts) are less than the potential pest damage.

If the determination concludes that pest management control action is necessary, District personnel responsible for pest management shall identify and/or implement the appropriate management practice per Section C, *Determine Acceptable Pest Management Practices*.

C. Determine Acceptable Pest Management Practices

1) District personnel responsible for pest management shall determine acceptable pest management practices using the criteria below. These criteria may not be met in every case. Judgment should be used in these cases to determine acceptable pest management practices that are:

   - least damaging to the general environment;
   - least hazardous to human health;
   - less of an impact on non-target organisms;
   - appropriate considering the absence of listed, candidate or locally rare species;
   - most likely to produce a permanent reduction of the pest; and
   - most cost-effective in the short and long-term.

2) As pest management practices are developed, they may include a combination of various control alternatives. The preferred methods in an IPM program are those which permanently prevent pest problems in an environmentally sensitive manner, therefore, eliminating the potential for pest damage. Chemical controls are a last resort. A pest management practice may include one or more of the following elements:

- no controls are necessary;
- physical/mechanical controls (hand abatement, soil tilling, discing, mowing, etc.);
- biological controls (grazing by goats or cows, use of predators or parasites);
- chemical controls (ranging from low toxicity materials such as soaps and oils, to least-toxic pesticides); and
- other (mulching, planting alternative vegetation, and/or prescribed burns).

A summary of current acceptable pest management practices is found in Appendix B.

D. Establish a record keeping system

1) Good records are essential for evaluating and improving an IPM program and for reference when management, the Board of Directors, or the public requests information on how the District handles certain types of pest species. District personnel responsible for pest management are required to keep written records to document acceptable pest management practices that include the following:

- the identification of pests at a particular site;
- a description of unacceptable infestation levels and action determination (see Section B above);
- the selection of the acceptable pest management practice for a given site (see Section C above);
- the degree of pest infestation using density, distribution or some other parameter(s); and
- information on how the pest problem was treated including: what, how much, where, when, and who performed the treatment.

2) To evaluate and improve the IPM program, District personnel responsible for pest management shall record the monitoring of selected treatment sites. The monitoring activities shall be implemented as follows using the form found in Appendix C:

- two (2) treated sites in East County and two (2) treated sites in Central County, which are representative of specific treatment applications (i.e., pest, acceptable pest practice, location, etc.), will be selected for monitoring each calendar year.
- each year thereafter, monitoring shall be conducted at different sites such that monitoring does not duplicate or occur at a treated site that is similar in treatment application from the previous year.

- the monitoring shall document short and long-term effectiveness of the treatment;
- any side effects of treatment on non-target organisms;
- citizen complaints or other problems that may arise and other positive feedback;
- copies of monitoring forms will be submitted to the IPM Committee for annual review.

E. Consideration of Endangered Species

District personnel responsible for pest management must give consideration of threatened or endangered species prior to pesticide use. Special precautions or mitigation measures may be required to prevent harm under certain conditions. Although pesticide use as specified under the pesticide product labeling requirements currently satisfies all legal requirements regarding pesticide use and endangered species protection, it is CCWD's practice to minimize impacts to all non-target organisms including threatened and endangered species to best extent possible.

Several resources are available to assist with the identification and protection of threatened or endangered species. These include maps showing known sightings of threatened or endangered species. These maps should be consulted prior to pesticide use to determine if threatened or endangered species may exist in a proposed pesticide application area. These maps are found in Appendix D.

The EPA guidance document, Protecting Endangered Species – Interim Measures for Use of Pesticides in Contra Costa County (March 2000), should also be consulted prior to pesticide application. This document contains methods to assess the potential need for and recommend specific use limitations in areas where threatened or endangered species may exist. A copy of this document is found in Appendix E.

F. Ongoing IPM Program Review

The District, through the IPM Committee, will evaluate its IPM Program annually to ensure the procedures strive to achieve the goals through an adaptive management process. The annual evaluation will include the following:

- review the IPM Best Management Practices to ensure that responsible District personnel employ the practices, and revise the practices if necessary to achieve the goals.
- review monitoring records from the current or previous year(s) to determine if the acceptable pest management practice is appropriate or requires alteration to achieve the program goals.

Outside resources that may be requested to assist in an IPM evaluation would include the University of California Statewide IPM Project (916-752-7671), the Alameda and Contra Costa County Cooperative Weed Management Committee, the University of California Cooperative Extension Office (925-670-5200), or private consulting firms.

II PESTICIDE USAGE PRACTICES

A. General District Pesticide Use Practices

District personnel responsible for pest management may determine that chemical pesticide use is necessary. In this circumstance the following District-wide pesticide usage shall apply:

1) Only approved "least toxic" pesticides will be used to minimize the overall risk to the applicator and impact to the environment.

2) All federal, state and local laws and regulations will be strictly adhered to:

Federal:	U.S. EPA Air and Toxics Division, Pesticides	(415) 744-1087
State:	Cal-EPA Department of Pesticide Regulation	(916) 445-4300
	Regional Office in Richmond	(510) 669-0295
Local:	Alameda County Agricultural Commissioner	(510) 670-5232
	Contra Costa County Agricultural Commissioner	
	Brentwood Office	(925) 634-5682
	Concord Office	(925) 646-5250
	Alameda and Contra Costa County Weed Management and Cooperative	(925) 646-5250

3) All chemical product label instructions will be strictly followed, including utilizing the personal protective equipment recommended by the manufacturer of the product.

4) Prior to pesticide use, evaluate the site for spot treatment. If appropriate, use spot treatment to minimize pesticide use.

5) Least toxic pesticides will be applied at the appropriate time and under prerequisite weather conditions to maximize their effectiveness on the target species. The likelihood of discharging non-degraded pesticides in storm water runoff will be minimized.

6) Pesticides will not be mixed adjacent to a storm drain inlet, culvert or watercourse. Mix in an area where spillage, if it occurs, can be easily contained.

7) Pesticide use and application techniques selected for along roadside berms will be implemented to retain some vegetative presence to minimize soil erosion, slow the rate of storm water runoff, and minimize potential for contaminated runoff.

8) Calibrate field equipment regularly to ensure the desired application rate.

9) Mix only as much material as necessary for the application.

10) Maintain a record of pesticide usage. That record shall include the type and quantity of pesticide used. Report to County Agricultural Commission monthly on pesticide usage.

11) When an area is to be treated with a pesticide whose label requires notification or posting, adequate notification or posting will be conducted prior to the application. The Public Information Department will be contacted at least one week prior to the application to coordinate any public notice information needed.

12) Pesticides shall not be applied on treatment plant grounds without specific approval of the proposed application by the plant supervisor. On District reservoir lands, pesticides shall not be used within 1,000 feet of the reservoir, ponds or tributary creeks, except for spot treatment of individual pest plant species, potentially for rodent control (see Section B-3 below for Los Vaqueros Pesticide Applicants) and for insect control (ants, yellow jackets, etc.).

13) New or substitute products (least toxic-Class 3 only) may only be used with IPM Committee approval.

14) On the banks of the Contra Costa Canal and on the lands draining into Martinez, Mallard and Contra Loma reservoirs, pesticide use is limited to necessary spot treatment of vegetation for fire prevention at road crossings and for access to specific structures. Additional applications will be limited to specific pest infestations and will require specific approval of the proposed application by the Director of Operations and Maintenance. The only pesticides that can be considered for these vegetation control applications are Rodeo (when the gradient is toward the water) and Roundup (when the gradient is away from the water), and then only with strict compliance to labeled instructions for use.

15) Except as noted in D.2, visually monitor success of the pesticide treatment and adjust future potential usage based on visual monitoring results.

B. Los Vaqueros Watershed

Due to specific Los Vaqueros Project environmental commitments, the following practices apply only to the Los Vaqueros watershed:

1) Pesticides, including fungicides and rodenticides, will be used within the Los Vaqueros Watershed in accordance formal consultations with the U.S. Fish and Wildlife Service and the Memorandum of Understanding with the California Department of Fish and Game. These agreements limit the use of pesticides, require advanced approval and establish reporting requirements.

2) Pest control activities shall emphasize treatments that do not involve use of pesticides where possible.

3) Mosquito abatement activities must be approved by the U.S. Fish and Wildlife Service prior to applications.

4) Herbicide use shall be in accordance with U.S. Fish and Wildlife letter to Carissa Dunn dated July 31, 2002.

5) Rodenticide use shall be focused on localized areas where needed to avoid public health problems or to prevent damage to building foundations, roadways, and other facilities. Rodenticide use shall be pre-approved by the U.S. Fish and wildlife Service and the California Department of Fish and Game.

C. Canal and Raw Water Reservoirs

Aquatic pesticide use in the canal and raw water reservoirs is regulated under a statewide General National Pollutant Discharge Elimination System permit (NPDES permit). In addition to specific monitoring and reporting requirements, the NPDES permit requires the pesticide applicator to employ certain best management practices. Following are the best management practices related to IPM Program:

1) Alternatives to pesticide use will be evaluated to determine if there are feasible means to reduce potential water quality impacts.
2) The control efficacy and water quality impacts must be evaluated to refine aquatic pesticide use through adaptive management process.

To comply with the above NPDES permit requirements the Aquatic Pesticide Users Group, which was established to specifically comply with the NPDES permit, will present and/or provide relevant current information at IPM Committee meetings to ensure that the practices are consistent with IPM program goals. Examples of this information include:

1) Successful alternatives to pesticide use;
2) Alternatives under evaluation and related progress reports;
3) Post treatment site observations; and
4) Water quality monitoring data.

2) Pest control activities shall emphasize treatments that do not involve use of pesticides where possible.

3) Mosquito abatement activities must be approved by the U.S. Fish and Wildlife Service prior to applications.

4) Herbicide use shall be in accordance with U.S. Fish and Wildlife letter to Carissa Dunn dated July 31, 2002.

5) Rodenticide use shall be focused on localized areas where needed to avoid public health problems or to prevent damage to building foundations, roadways, and other facilities. Rodenticide use shall be pre-approved by the U.S. Fish and wildlife Service and the California Department of Fish and Game.

C. Canal and Raw Water Reservoirs

Aquatic pesticide use in the canal and raw water reservoirs is regulated under a statewide General National Pollutant Discharge Elimination System permit (NPDES permit). In addition to specific monitoring and reporting requirements, the NPDES permit requires the pesticide applicator to employ certain best management practices. Following are the best management practices related to IPM Program:

1) Alternatives to pesticide use will be evaluated to determine if there are feasible means to reduce potential water quality impacts.
2) The control efficacy and water quality impacts must be evaluated to refine aquatic pesticide use through adaptive management process.

To comply with the above NPDES permit requirements the Aquatic Pesticide Users Group, which was established to specifically comply with the NPDES permit, will present and/or provide relevant current information at IPM Committee meetings to ensure that the practices are consistent with IPM program goals. Examples of this information include:

1) Successful alternatives to pesticide use;
2) Alternatives under evaluation and related progress reports;
3) Post treatment site observations; and
4) Water quality monitoring data.

III APPROVED PESTICIDE LIST

The following least toxic pesticides are currently approved for use and application by District staff and contractors on District property, rights-of-ways or other areas where chemical pest control has been determined to be necessary:

Product Name	EPA Registration No.*
Clearigate	8959-51
Cutrine Plus	8959-10
Copper Sulfate (Rocks/Crystals)	Not available
Diazinon (Knox out 2FM ant spray)	(Multiple products, multiple registration numbers)
Garlon	62719-40
Komeen	1812-312
Nautique	67690-10
Pendulum Aqua Cap	241-416
Pendulum 3.3EC	241-341
Prospreader	
Pyrethrin based wasp & hornet sprays	
Rodeo/Aqua Master	524-343
Ronstar	(Multiple products, multiple registration numbers)
Roundup Pro	524-475
Sodium Nitrate (Gas cartridge)	56228-2
Sonar A.S.	67690-4
Sonar SRP	67690-3
Surflan	62719-113-AA
Transline	62719- 00259
Trimec	2217-643-7001

* EPA Registration Numbers are listed on the pesticide containers and are specific to the formulation of the pesticide. These numbers will change if a manufacturer changes a formulation, regardless of any change in the product name. Always check EPA Registration Number to confirm that product is consistent with the above list.

Rodenticides with the anticoagulants chlorophacinone and diphacinone are also approved for use.

IV TRAINING AND CERTIFICATION

A. District personnel who apply pesticides requiring a certification shall obtain a state pesticide applicator certification or work under the direction of an employee who has obtained the state certification.

B. District personnel who apply pesticides shall be trained in general IPM practices, the safe use of pesticides and proper inspection of applicator equipment to prevent accidental pesticide leaks, spills, and potential hazards to applicators and the environment. Each work unit shall maintain records of who received the training for at lease three years. New employees shall

not apply pesticides until they have received the appropriate training or until their supervisor confirms that they have met the training objectives at their previous job.

C. District personnel who apply pesticides will be trained in procedures and methods to identify and protect Endangered Species during the use and application of pesticides. These training sessions will be coordinated through Reclamation.

V PESTICIDE STORAGE

A. Pesticides shall be stored indoors in locked and labeled storage units or within locked District facilities.

B. Pesticide containers must be clearly labeled to indicate the name of the pesticide, signal word and company name.

C. Pesticides stored that reach their expiration date shall be disposed of per the procedures described in Section IV, *Pesticide Disposal*.

VI PESTICIDE DISPOSAL

A. Triple rinse empty pesticide containers with water immediately upon emptying contents. Place rinse water in spray tank incorporating it into the pesticide mixture and apply it.

B. Dispose of triple rinsed empty pesticide containers according to County Agricultural Commission and manufacturer's recommendations.

C. Dispose of the container rinse water or spray tank rinse water as a product over the target site.

D. If possible, unwanted or unused pesticides should be returned. If you have unwanted pesticides:

1) contact other District work units to determine if they can use the pesticide in their operation;
2) if the container is unopened, attempt to return it to the manufacturer; or
3) attempt to find a qualified buyer for the pesticide.

If returning an unwanted pesticide is not feasible or disposal of outdated pesticide is necessary, contact the Environmental Compliance Officer to arrange for disposal.

VII PESTICIDE SPILL RESPONSE

A. Spill kits will be prepared and maintained at pesticide storage areas and on all application equipment that has a tank capacity of 50 gallons or more.

B. Spill kits should include the following:

- an instruction sheet with contact notification list and phone numbers;
- absorbent material capable of absorbing up to five gallons of liquid;
- shovel, broom, dustpan, gloves; and
- warning tape to secure the area in case clean-up cannot be accomplished immediately.

C. District personnel who apply pesticides will be trained in the use of the spill kits.

D. District personnel responsible for pest management shall maintain a written pesticide spill response and notification procedure, and all employees who apply pesticides shall be familiar with the notification procedure.

VIII PESTICIDE USAGE REPORTS

A. The CCWD Pest Control Advisor shall produce a monthly Pesticide Usage Report and provide it to the County Agriculture Commission.

B. At the end of the calendar year, the CCWD Pest Control Advisor shall provide copies of the monthly Pesticide Usage Reports to the IPM Committee, which will compile an annual, District-wide, Pesticide Usage Report (annual report). The annual report shall be retained on file with the IPM Committee and made available upon request to interested parties.

C. Additional reports for the Los Vaqueros watershed are only required for submittal to oversight agencies: All rodenticide use within the Los Vaqueros watershed shall be reported to the California Department of Fish and Game on a quarterly basis and to the U.S. Fish and Wildlife Service on an annual basis.

IX ROLE OF THE IPM COMMITTEE

The IPM Committee shall meet at least twice per year, or more often if necessary, to provide oversight of the District's IPM Program and Procedures. The IPM Committee shall also be responsible for issuing and updating this IPM Program Summary and Procedures, as necessary. The Committee chair will rotate annually among the member departments.

IPM Committee responsibilities shall include:

A. compilation of annual District-wide pesticide usage report;
B. annual review of IPM Program Summary and Procedures including revisions, if necessary; and
C. as necessary, to review requests for new pesticides for possible addition to the list of approved least-toxic pesticides.

APPENDIX B

MONITORING PLAN[10]

[10] The enclosed Monitoring Plan was prepared and submitted to the State Water Resources Control Board (SWRCB) in accordance with the SWRCB's Water Quality Order No. 2001-12-DWQ, Statewide General National Pollutant Discharge Elimination System (NPDES) Permit for Discharges of Aquatic Pesticides to Waters of the United States (General Permit), General Permit No. CAG990003, which was issued by the SWRCB in July of 2002. As indicated in Mitigation Measure *HYDRO-2* (see Section 3, Item VIII a) of this Mitigated Negative Declaration CCWD will continue to implement this Monitoring Plan until such time as the implementation of a new Monitoring Plan is deemed required or otherwise determined unnecessary under the NPDES program or other applicable program. Note, the enclosed Monitoring Plan has been revised, where necessary, to reflect existing conditions.

Contra Costa Water District
Individual Monitoring Plan
Original Submittal February 28, 2002
(Revised May 10, 2002)
Aquatic Pesticide NPDES Permit
General Permit No CAG990003

A recent court decision ruled that the application of aquatic pesticides on certain waters requires a National Pollutant Discharge Elimination System (NPDES) Permit. In response to this ruling, the State Water Resources Control Board (SWRCB) issued General Permit Number CAG 990003, *NPDES Permit for Discharge of Aquatic Pesticides to Surface Waters of the United States* (Permit) on July 19, 2001. The Permit allows for short-term and seasonal "discharges" by public entities of "pollutants" into the "waters of the United States." The Permit requires, amongst other things the development, submission and implementation of a monitoring plan.

This document describes the Individual Monitoring Plan (Plan) of the Contra Costa Water District (CCWD)(the District) as required by the Permit. The Plan is prepared with guidance from Attachment B to the Water Quality Order No. 2001-12-DWQ.

The Plan elements are identified as follows:

1. Characterization of representative aquatic pesticide application projects
2. Visual assessment of existing or potential adverse impacts on beneficial uses caused by application of pesticides
3. Water quality analyses for selected constituents and parameters to demonstrate full restoration of water quality and beneficial uses of the receiving waters following project completion
4. A Quality Assurance Plan (QAP to provide references, standardized procedures and quality specifications for the sampling, analysis, and data review procedures for the monitoring program
5. An evaluation of any non-toxic or less-toxic pest control methods that may provide a practicable substitute for pesticide application
6. Evaluation of the effectiveness of representative best management practices (BMPs) to eliminate or reduce the discharge of pollutants and minimize the areal extent and duration of impacts caused by the discharge of pollutants.

Introduction

CCWD provides water to over 450,000 people, and numerous agricultural and industrial customers in north, central and east Contra Costa County. The water, primarily dependent on chloride levels, is drawn from three different locations along the Sacramento-San Joaquin Delta. The majority of the water is ultimately conveyed through a canal system either to other raw water reservoirs for storage and potable water treatment, or directly to customers for end use. The total length of the Contra Costa Canal (the Canal) is about 53 miles.

Aquatic pests, which include algae, and surface and submerged aquatic weeds (e.g., *Egeria densa*, Water Hyacinth, Cattails, *Oscillatoria sp.*, and Eurasian Milfoil), propagate in the Canal and reservoirs. Unabated, these aquatic pests will affect the taste of the water and create odors, treatment plant operations, and the operation and integrity of the conveyance and storage systems. As such, aquatic pesticides or other means of mitigation are necessary to provide high

quality drinking water, and maintain the functional operation of treatment plants and conveyance and storage systems.

The following describes the CCWD Monitoring Plan as required by the Permit.

The Monitoring Plan

1. Characterization

- Diversity of actual pesticide use
  - Chelated copper compounds
    - Cutrine
    - Komeen
  - Glyphosate
    - Rodeo
  - Fluridone
    - Sonar
- Diversity of season
  - Year-round
- Receiving water types (Site Map, Attachment 1)
  - Unlined, open channel canal – contiguous with Rock Slough
    - Contra Costa Canal (the Canal) from Rock Slough to Pumping Plant No. 1
  - Concrete lined, open channel canal – isolated from other waters of the US
    - Contra Costa Canal from Check 8 (near Clyde) to Martinez Reservoir
  - Slough
    - Mallard Slough at the Mallard Slough Pump Station
  - Reservoirs – contiguous with the canal system, but isolated from other waters of the US
    - Los Vaqueros Reservoir
    - Contra Loma Reservoir
    - Mallard Reservoir
    - Martinez Reservoir
- Climate (CCWD, 1997)[i]
  - CCWD's service area is generally a warm Mediterranean climate; with dry summers and cool, wet winters. The northern and eastern portions of the service area, along the Sacramento River and in the Delta region, have relatively strong and frequent winds. Average annual precipitation ranges from 13.34 inches in Antioch to 18.36 inches in Walnut Creek. The differences reflect proximity to the coast as well as topography. Approximately 85% of the annual rainfall occurs between October and March, with an average intensity of 0.048 inches per hour and a total storm volume of 0.59 inches (WCC, 1989)[ii]
- Differing rates of pesticide applications or concentrations
  - Slough or Unlined Canal
    - Localized spot treatments for aquatic weed control

        - Chelated copper – 0.8 to 1.0 mg/L target range
        - Glyphosate - ≤ 2%
    - Lined Canal
        - Measured drip application for algae control
            - Chelated copper – 0.8 to 1.0 mg/L target range

- Differing rates of pesticide applications or concentrations (cont.)
    - Reservoir
        - Nearshore applications for aquatic weed control
            - Chelated copper – 0.8 to 1.0 mg/L target range
            - Glyphosate - ≤ 2%
        - Open water treatment for algae control
            - Chelated copper – 0.8 to 1.0 mg/L target range
- Project size
    - Unlined canal
        - 4 lineal miles
        - Project - Localized spot treatments for aquatic weed control
            - Area – 3.95 miles
            - Volume – 200 acre feet
            - Flow – 5 to 50 cfs
    - Lined canal
        - 28 lineal miles – from Check 8 to Martinez Reservoir
        - Project - Measured drip application for algae control
            - Area – 20 miles
            - Volume – 50 acre feet
            - Flow – 5 to 20 cfs
    - Mallard Slough
        - < 1 lineal mile
        - Project - Localized spot treatments for aquatic weed control
            - Area - .5 miles
            - Volume – 100 acre feet
            - Flow – tidal exchange only
    - Reservoirs
        - Los Vaqueros Reservoir
            - Area – 1,500 acres
            - Volume – 100,000 acre-feet
            - Three year old reservoir; No treatments to date
        - Contra Loma Reservoir
            - Area – 120 acres
            - Volume – 1657 acre-feet
        - Mallard Reservoir
            - Area – 206 acres
            - Volume – 2148 acre-feet

- Martinez Reservoir
  - Area – 80 acres
  - Volume – 230 acre-feet
- Project - Nearshore applications for aquatic weed control
  - Area – 120 surface acre feet
  - Volume – 820 acre feet
  - Flow - negligible
- Project - Open water treatment for algae control
  - Area – 220 surface acre feet
  - Volume – 1074 acre feet
  - Flow – negligible

2. Visual Assessment

Visual assessment monitoring provides a simple qualitative method to evaluate the existing and potential aquatic pesticide adverse impacts on beneficial uses. Changes in beneficial uses might occur when high levels of pollutants are introduced to a body of water. Some of these changes might be visually apparent in certain physical, environmental, and biological aspects of that body of water. By observing certain physical, environmental, and biological conditions at the treatment area, one can simplistically evaluate the existing and potential impacts of an aquatic pesticide.

There are limitations to visual assessment monitoring when evaluating the existing adverse impacts on beneficial uses. Because of the introduction or influence of other pollutants, the assessment may not accurately identify or reflect the adverse impacts of an aquatic pesticide. Other pollutants, from sources such as upstream discharges from construction sites or municipal stormwater runoff, may cause or contribute to adverse impacts on physical, environmental, and biological conditions at the treatment area. These other pollutants can easily cause one to overstate or improperly identify aquatic pesticide existing adverse impacts. As such, the influence of these other pollutants must be taken into consideration when conducting a visual assessment for existing adverse impacts.

Visual assessment offers more value when evaluating the potential aquatic pesticide adverse impacts on beneficial uses. Potential adverse impact zones within the treatment area can be identified and assessed prior to the aquatic pesticide application. The assessment may require adjustments in the aquatic pesticide application to minimize the potential adverse impacts.

A visual assessment of the existing and potential adverse impacts at the treatment area will be conducted prior to aquatic pesticide application. The assessment will include evaluations of the following observations that may impact beneficial uses:

- Discoloration
- Erosion
- Excessive Sediment

- Floating or Suspended Material
- Potential Nuisance Condition
- Impacts to Fish
- Impacts to Wildlife
- Impacts to Non-Target Aquatic Pests

3. Water Quality Analyses

40 CFR Part 136 specifies test procedures for water quality analyses associated with NPDES reporting. However, of the aquatic pesticides used by CCWD only copper has an approved method listed in the referenced CFR (40 CFR Part 136.3, Table IB). Table ID.--List of Approved Test Procedures for Pesticides includes neither glyphosate nor fluridone. In light of this other methods approved by the EPA will be utilized for the purposes of meeting this Plan element.

Sampling will be conducted during each pesticide application for the active ingredients in the pesticides applied as follows:

- Unlined canal
  - Sample at confluence of Rock Slough and the Canal
    - before application and
    - within one hour after treatment
- Lined canal
  - Sample at downstream wasteway, if in use
    - before application and
    - within one hour after treatment
- Reservoirs
  - Sample before application and
  - 10 feet from point of application within four hours of treatment

4. Quality Assurance Plan

The active ingredients of the proposed compounds and the most appropriate analytical methods are as follows:

- Copper
  - EPA 220.2
- Glyphosate
  - EPA 547
- Fluridone
  - Eliza immunoassay (SePRO FasTest method)

CCWD's Bollman Water Quality Laboratory is certified for the analysis of copper by the approved method and may opt to analyze this element in-house, depending on workload at the time of sampling. Certification is granted by the State of Califorina Environmental Laboratory Accreditation Program, Certificate No. 1548. Otherwise the District will utilize State certified private laboratories for the analysis of the target pesticides.

All the elements of the Quality Assurance Plan required by the Plan are contained herein by reference to the District's Quality Assurance Program on file at the Bollman Water Quality Laboratory.

5. Evaluation of Alternative Control Methods

CCWD has, as part of the development and maintenance of its integrated pest management plan, evaluated, tested and utilized non-toxic and less-toxic pest control methods. Under BMP 3a and 3c (Attachment 2) treatment options that minimize or eliminate the use of pesticides are evaluated when control of an aquatic pest is required. Some examples that have been utilized include:

- Mechanical harvesting and removal
- Vacuum removal of attached algae
- When water demand allows the draw down of the Canal, or a reservoir, weeds can be removed from the shoreline without impact to the water body
- Physical barriers for floating macrophytes

In the process of evaluating treatment options for encountered pest problems, each alternative is reviewed with respect to the costs and, practical and political barriers to implementation.

6. Evaluation of BMP Effectiveness

In January of 2002 CCWD submitted our BMPs under the referenced General Permit (Attachment 2). As the District implements the Permit and all its elements, an annual evaluation of the effectiveness of CCWD's BMPs will be undertaken and reported to the SWRCB as part of the broader Annual Report required by January 31st of the following year.
The BMPs will be evaluated with respect to their effectiveness in eliminating or reducing the discharge of aquatic pesticides, and the minimization of the areal extent and duration of impacts from the discharge of aquatic pesticides.

---

[i] Contra Costa Water District, Sanitary Survey of the Contra Costa Canal, May 1997
[ii] Woodward-Clyde Consultants, Analysis of Storm Event Character for Selected Rainfall Gages, 1989

Contra Costa Water District
Best Management Practices
January 2002
Aquatic Pesticide NPDES Permit
General Permit No. CAG 990003

A recent court decision ruled that the application of aquatic pesticides on certain waters requires a National Pollutant Discharge Elimination System (NPDES) permit. In response to this ruling, the State Water Resources Control Board issued General Permit Number CAG 990003, *NPDES Permit for Discharge of Aquatic Pesticides to Surface Waters of the United States* (permit) on July 19, 2001. The permit allows for short-term and seasonal "discharges" by public entities of "pollutants" into the "waters of the United States." The permit requires, amongst other things, the implementation of Best Management Practices (BMPs). This document describes the BMPs of Contra Costa Water District (CCWD) as required by the permit.

Introduction

CCWD provides water to over 450,000 people, and numerous agricultural and industrial customers in north, central and east Contra Costa County. The water, primarily dependent upon chloride levels, is drawn from three different locations along the Sacramento-San Joaquin Delta. The majority of the water is ultimately conveyed through a canal system either to other raw water reservoirs for storage and potable water treatment, or directly to customers for end use. The total length of the canal is about 53 miles.

Aquatic pests, which include algae, and surface and submerged aquatic weeds (e.g., *Egeria densa,* Water Hyacinth, Cattails, *Oscillatoria sp.,* and Eurasian Milfoil), propagate in the canal and reservoirs. Unabated, these aquatic pests will affect the taste of the water and create odors, treatment plant operations, and the operation and integrity of conveyance and storage systems. As such, aquatic pesticides or other means of mitigation are necessary to provide high quality drinking water, and maintain the functional operation of treatment plants and conveyance and storage systems.

Following are descriptions of CCWD BMPs as required by the permit. The descriptions follow the permit BMPs alphanumerically.

Implementation of BMPs

1. CCWD is registered with the Contra Costa County Agricultural Commissioner office for the application of pesticides. CCWD staff includes a licensed Pest Control Advisor with Qualified Applicator License, and four (4) Qualified Applicator Certificate persons. Pesticide use is always conducted per the pesticide label instructions. This registration, licensing, certification, and use of pesticide in accordance with the label satisfy the requirements of BMP 1 of the permit.

2. On August 27, 2001, CCWD notified potentially affected public and governmental agencies of our intent to apply aquatic pesticides under the permit. Notification was provided to about 30 public and governmental agencies prior to any aquatic pesticide application under the permit. A copy of the notification letter and distribution list is attached (Refer to Attachment 1). Completion of this notification satisfies BMP 2 of the permit.

3. CCWD follows the permit BMPs to maximize aquatic pest control efforts and minimize adverse impacts to the environment. These practices, described in detail below, are in accordance to the permit. These BMPs are documented by CCWD for each aquatic pesticide application, as well as in each instance where a feasible option to aquatic pesticide use is employed. A copy of this documentation is presented in Attachment 2.

   a. A site inspection is always conducted by CCWD prior to treatment to verify the need for treatment through the proper identification of the aquatic pest and the appropriate aquatic pesticide. This preliminary evaluation also considers the use of treatment options to minimize or eliminate the use of aquatic pesticides. These options include lowering canal or reservoir water levels to expose aquatic pests above the water line, or use of mechanical or physical harvesting.

      When pesticide applications will occur in the canal, canal wasteway gates are inspected for leaks. This inspection prevents unintended discharges to receiving waters by ensuring that the wasteway gates are leak free or maintenance is required prior to pesticide application.

      Completion of this inspection is documented by CCWD in Attachment 2 (refer to *Preliminary Site Evaluation*) and satisfy the requirements of BMP 3.a..

b. If the Preliminary Site Evaluation determines that aquatic pesticide treatment is appropriate, then specific site indicators are observed by CCWD to ensure the appropriate application of the aquatic pesticide. These indicators, which impact the treatment effectiveness with respect to the specific aquatic pesticide use and specific site, include: tidal evaluation, sunlight, water temperature, wind conditions, and water flow. Each indicator is assessed for acceptability of the specific aquatic pesticide at the specific site (i.e., canal, reservoir, intake channel). Any indicator that is not acceptable may result in the ineffective use of an aquatic pesticide. Such a condition requires that the treatment process to be modified and/or a preliminary evaluation be conducted at a later date.

Completion of this evaluation is documented by CCWD in Attachment 2 (refer to *Site Evaluation Indicators, Secondary Evaluation*) and satisfy the requirements of BMP 3.b..

c. To reduce potential water quality impacts, CCWD has identified and uses several alternatives to aquatic pesticide use. These alternatives, which are also discussed in BMP 3.a. above, have been effective in the removal of aquatic pests under certain conditions. For example, when water demand is low, a reservoir or the canal water level can be drawn down to allow mitigation of aquatic pests that are exposed above the water line. This practice allows aquatic pest mitigation without the introduction of a pesticide into the water. If an alternative is practical, this is noted during the Preliminary Site Evaluation. If the alternative is used to "treat" the aquatic pest, then it is noted and the amount of estimated acreage treated is recorded (refer to Attachment 2, *Preliminary Site Evaluation*).

   Completion of this evaluation satisfy the requirements of BMP 3.c..

d. Immediately prior to treatment, CCWD observes the site indicators to ensure that the treatment and aquatic pesticide use will be effective without excessive impact on water quality. If any indicator is not acceptable, the treatment is canceled and rescheduled to a later date. On the rescheduled date, indicators are again evaluated to determine if treatment can effectively occur. This evaluation process continues until all indicators are acceptable.

   Completion of this evaluation is documented by CCWD in Attachment 2 (refer to *Site Evaluation Indicators, Immediately Prior to Treatment*) and satisfy the requirements of BMP 3.d..

e. All CCWD pesticide use, aquatic and otherwise, is evaluated and monitored under the CCWD Integrated Pest Management Program (IPMP). The mission of the CCWD IPMP is to effectively manage pests and pesticide use in an environmentally safe manner to protect surface waters. This mission requires that CCWD use the least toxic pesticide and/or approach available, and periodically assess the use of pesticide and mitigation practices.

   To accomplish this mission, the IPMP mandates that a Steering Committee be in place to oversee and approve pesticide use at CCWD. At minimum, the Steering Committee meets on a calendar year quarterly basis to meet this mandate. An annual report is produced by the Steering Committee on CCWD annual pesticide use. Consistent with the BMP 3.e., the Steering Committee assesses aquatic pesticide use for control efficacy and water quality impacts.

APPENDIX C

MATERIAL SAFETY DATA SHEETS FOR COPPER-BASED AQUATIC PESTICIDES

Material Safety Data Sheet

EMERGENCY

FOR CHEMICAL EMERGENCY: SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL
CHEMTREC - DAY or NIGHT - (800) 424-9300

Product Name: **AB CLEARIGATE**

SECTION I - GENERAL INFORMATION

Manufacturer's Name: APPLIED BIOCHEMISTS
W175 N11163 Stonewood Drive
Suite 234
Germantown, WI 53022-4799
(800) 558-5106

Trade Name & Synonyms:	**AB CLEARIGATE**
Chemical Name & Synonyms:	CHELATED ELEMENTAL COPPER
Generic Description:	COPPER – ALGAECIDE, HERBICIDE
Formula:	PROPRIETARY
D.O.T. Proper Shipping Name:*	PESTICIDES, LIQUID, TOXIC, FLAMMABLE, NOS (Copper Triethanolamine)
D.O.T. Hazard Class:	6.1, PG III
U.N. or N.A. Identification #:	UN 2903
D.O.T. Emergency Response Guide(1996 ed.):	131

* Subsidary CORROSIVE label required per 49CFR 172.402(a)(2). NFPA Class II COMBUSTABLE LIQUID

Hazardous Mat'ls ID System Values (HMIS):	Health -2	Flammability -2	Reactivity -1	Personal Protection -B
Nat'l Fire Protection Assn. (NFPA 704M):	Health -2	Flammability -2	Reactivity -1	Specific Hazard:

SECTION II - HAZARDOUS INGREDIENTS

Hazardous Component(s)	CAS#	PEL	TLV
Copper Carbonate	12069-69-1	1 mg/m^3	1.0 mg/m^3
Monoethanolamine	141-43-5	3 ppm	3 ppm
Triethanolamine	102-71-6	NOT ESTABLISHED	NOT ESTABLISHED
D-Limonene	5989-27-5	NOT ESTABLISHED	NOT ESTABLISHED

Ingredients listed in this section have been determined to be hazardous as defined in 29 CFR 1910.1200. Materials determined to be health hazards are listed if they comprise 1% or more of the composition. Materials identified as carcinogens are listed if they comprise 0.1% or more of the composition. Information on proprietary materials is available as provided in 29 CFR 1910.1200 (i) (1).

SECTION III - PHYSICAL DATA

Boiling Point (F):	212°F	Specific Gravity (water = 1):	1.0 - 1.1
Vapor Pressure (mm Hg):	NOT DETERMINED	% Volatile (by Volume):	NOT DETERMINED
Vapor Density (air = 1):	> 1	Evaporation Rate:(Ether = 1)	< 1
Melting Point (F):	N/A	pH:	9.5 - 10.0
Solubility in Water:	MISCIBLE IN WATER		
Appearance & Odor:	BLUE VISCOUS LIQUID - ORANGE ODOR.		

SECTION IV - FIRE & EXPLOSION DATA

Flash Point :	118°F	Method:	TAG CLOSED CUP
Extinguishing Media:	CO_2, H_2O, DRY CHEMICAL. POLYMER FOAM FOR LARGE FIRES.		
Special Fire Fighting Procedures:	USE NIOSH APPROVED SELF-CONTAINED BREATHING APPARATUS.		
Unusual Fire & Explosion Hazards:	NONE		

SECTION V - REACTIVITY DATA

Stability -	_____Unstable	__X__Stable
Conditions to Avoid:	AVOID CONTACT WITH STRONG ACIDS AND NITRATES.	
Incompatibility (Materials to Avoid):	STRONG ACIDS AND NITRITES.	
Hazardous Decomposition Products:	OXIDES OF NITROGEN	
Hazardous Polymerization:	_____Will Occur	__X__Will Not Occur
Conditions to Avoid:	CONTACT WITH STRONG ACIDS AND NITRITES.	

AB CLEARIGATE

SECTION VI - HEALTH HAZARD DATA

Acute Health Hazards: LD_{50} Rat = 1.75 g/Kg
Chronic Health Hazards: NONE KNOWN
Signs & Symptoms of Exposure: IRRITATING TO SKIN AND EYES, VAPORS OR MISTS MAY CAUSE IRRITATION WITH PAIN, COUGHING AND DISCOMFORT TO EYES, NOSE, THROAT AND CHEST.

Medical Conditions Generally Aggravated by Exposure: UNKNOWN

Chemical Listed as Carcinogen or Potential Carcinogen by:

National Toxicology Program:	Yes:	No: ✔
I.A.R.C. Monographs:	Yes:	No: ✔
O.S.H.A.	Yes:	No: ✔

Emergency & First Aid Procedures: FOR PRINCIPLE ROUTE OF ENTRY, SEE APPROPRIATE EMERGENCY PROCEDURES BELOW.
NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

Route of Entry:
- Inhalation: REMOVE TO FRESH AIR. ADMINISTER OXYGEN IF NECESSARY.
- Eyes: FLUSH WITH LARGE AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. GET IMMEDIATE MEDICAL ATTENTION.
- Skin: FLUSH WITH LARGE AMOUNTS OF WATER FOR AT LEAST 15 MINUTES.
- Ingestion: IF INGESTED, GET IMMEDIATE MEDICAL ATTENTION.

SECTION VII - SPILL OR LEAK PROCEDURES

Steps to be Taken in Case Material is Released or Spilled: SOAK UP WITH APPROPRIATE ABSORBENT SUCH AS CLAY OR OTHER INERT INGREDIENT. GROUND CORN COB IS THE IDEAL ABSORBENT.
DO NOT FLUSH INTO SANITARY SEWERS.

Waste Disposal Methods: INCINERATE IN A FURNACE. MORE THAN 5 (FIVE) GALLONS, CONTACT LOCAL AUTHORITIES FOR DIRECTIONS.

SECTION VIII - SPECIAL PROTECTION AND CONTROL MEASURES

Respiratory Protection (Specify Type): NOT REQUIRED

Ventilation - Local Exhaust: ACCEPTABLE; Special Exhaust: NOT REQUIRED
Mechanical Exhaust: ACCEPTABLE; Other Exhaust: NOT REQUIRED

Protective Equipment - Gloves: RUBBER; Eye Protection: SPLASH GOGGLES OR FACE SHIELD

Other Protective Equipment: EYEWASH AND SAFETY SHOWER SHOULD BE AVAILABLE WITHIN THE IMMEDIATE WORKING AREA.

Work or Hygienic Practices: USE SAFE CHEMICAL HANDLING PROCEDURES SUITABLE FOR THE HAZARDS PRESENTED BY THIS MATERIAL.

SECTION IX - SPECIAL PRECAUTIONS

Precautions to be Taken in Handling and Storage: STORE AT TEMPERATURES BETWEEN 55°F and 100°F. DO NOT STORE IN DIRECT SUNLIGHT. NFPA Class II COMBUSTABLE LIQUID

Other Precautions: DO NOT CONTAMINATE WATER, FOOD OR FEED BY STORAGE, DISPOSAL OR CLEANING OF EQUIPMENT. STORE IN A COOL, DRY PLACE.

KEEP OUT OF REACH OF CHILDREN

JHW3
Date of Last Revision: 06/09/00

Material Safety Data Sheet

EMERGENCY

FOR CHEMICAL EMERGENCY: SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL
CHEMTREC - DAY or NIGHT - (800) 424-9300

Product Name: **AB CUTRINE PLUS**

SECTION I - GENERAL INFORMATION

Manufacturer's Name: APPLIED BIOCHEMISTS
W175 N11163 Stonewood Drive
Suite 234
Germantown, WI 53022-4799
(800) 558-5106

Trade Name & Synonyms:	**AB CUTRINE PLUS**
Chemical Name & Synonyms:	CHELATED ELEMENTAL COPPER
Generic Description:	COPPER - ALGICIDE
Formula:	PROPRIETARY
D.O.T. Proper Shipping Name:	CORROSIVE LIQUID NOS (Copper Ethanolamine Complex)
D.O.T. Hazard Class:	EIGHT
U.N. or N.A. Identification #:	UN 1760, PG III
D.O.T. Emergency Response Guide (1996 ed.):	154

Hazardous Mat'ls ID System Values (HMIS): Health -2 Flammability -0 Reactivity -1 Personal Protection -B
Nat'l Fire Protection Assn. (NFPA 704M): Health -1 Flammability -0 Reactivity -1 Specific Hazard:

SECTION II - HAZARDOUS INGREDIENTS

Hazardous Component(s)	CAS#	PEL	TLV
Copper Carbonate	12069-69-1	1 mg/m^3	1 mg/m^3
Monoethanolamine	141-43-53	ppm	3 ppm
Triethanolamine	102-71-6	NOT ESTABLISHED	NOT ESTABLISHED

Ingredients listed in this section have been determined to be hazardous as defined in 29 CFR 1910.1200. Materials determined to be health hazards are listed if they comprise 1% or more of the composition. Materials identified as carcinogens are listed if they comprise 0.1% or more of the composition. Information on proprietary materials is available as provided in 29 CFR 1910.1200 (i) (1).

SECTION III - PHYSICAL DATA

Boiling Point (F):	212°F	Specific Gravity (water = 1):	1.1 - 1.2
Vapor Pressure (mm Hg):	NOT DETERMINED	% Volatile (by Volume):	NOT DETERMINED
Vapor Density (air = 1):	> 1	Evaporation Rate:(Ether = 1)	< 1
Melting Point (F):	NOT APPLICABLE	pH:	10.0-11.0
Solubility in Water:	MISCIBLE IN WATER		
Appearance & Odor:	BLUE VISCOUS LIQUID. SLIGHT AMINE ODOR.		

SECTION IV - FIRE & EXPLOSION DATA

Flash Point : NOT DETERMINED Method: TAG CLOSED CUP
Extinguishing Media: CO_2, H_2O, DRY CHEMICAL. POLYMER FOAM FOR LARGE FIRES
Special Fire Fighting Procedures: USE NIOSH APPROVED SELF-CONTAINED BREATHING APPARATUS.
Unusual Fire & Explosion Hazards: NONE

SECTION V - REACTIVITY DATA

Stability - _____Unstable __X__Stable
Conditions to Avoid: AVOID CONTACT WITH STRONG ACIDS AND NITRATES.
Incompatibility (Materials to Avoid): STRONG ACIDS AND NITRITES.
Hazardous Decomposition Products: OXIDES OF NITROGEN
Hazardous Polymerization: _____Will Occur __X__Will Not Occur
Conditions to Avoid: CONTACT WITH STRONG ACIDS AND NITRITES.

AB CUTRINE PLUS

SECTION VI - HEALTH HAZARD DATA

Acute Health Hazards: $LD_{50(RAT)}$ = 1930mg/Kg: CORROSIVE TO SKIN
Chronic Health Hazards: NONE KNOWN
Signs & Symptoms of Exposure: CONTACT WITH SKIN AND EYES, VAPORS OR MISTS MAY CAUSE IRRITATION WITH PAIN, COUGHING AND DISCOMFORT TO EYES, NOSE, THROAT AND CHEST.

Medical Conditions Generally Aggravated by Exposure: MAY CAUSE SKIN SENSITIZATION.

Chemical Listed as Carcinogen or Potential Carcinogen by:

National Toxicology Program:	Yes:	No: ✔
I.A.R.C. Monographs:	Yes:	No: ✔
O.S.H.A.	Yes:	No: ✔

Emergency & First Aid Procedures: FOR PRINCIPLE ROUTE OF ENTRY, SEE APPROPRIATE EMERGENCY PROCEDURES BELOW.
NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

Route of Entry:
- Inhalation: REMOVE TO FRESH AIR. ADMINISTER OXYGEN IF NECESSARY.
- Eyes: FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. GET MEDICAL ATTENTION.
- Skin: FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. WASH CLOTHES THOROUGHLY BEFORE REUSE.
- Ingestion: IF INGESTED, GET IMMEDIATE MEDICAL ATTENTION.

SECTION VII - SPILL OR LEAK PROCEDURES

Steps to be Taken in Case Material is Released or Spilled: SOAK UP WITH APPROPRIATE ABSORBENT THAT DOES NOT CONTAIN CLAYS. GROUND CORNCOB IS THE IDEAL ABSORBENT. DO NOT FLUSH INTO SANITARY SEWERS.

Waste Disposal Methods: INCINERATE IN A FURNACE. MORE THAN 5 (FIVE) GALLONS, CONTACT LOCAL AUTHORITIES FOR DIRECTIONS.

SECTION VIII - SPECIAL PROTECTION AND CONTROL MEASURES

Respiratory Protection (Specify Type): NOT REQUIRED

Ventilation - Local Exhaust: ACCEPTABLE — Special Exhaust:: NOT REQUIRED
Mechanical Exhaust: ACCEPTABLE — Other Exhaust: NOT REQUIRED

Protective Equipment - Gloves: RUBBER — Eye Protection: SPLASH GOGGLES OR FACE SHIELD

Other Protective Equipment: EYEWASH AND SAFETY SHOWER SHOULD BE AVAILABLE WITHIN THE IMMEDIATE WORKING AREA.

Work or Hygienic Practices: USE SAFE CHEMICAL HANDLING PROCEDURES SUITABLE FOR THE HAZARDS PRESENTED BY THIS MATERIAL.

SECTION IX - SPECIAL PRECAUTIONS

Precautions to be Taken in Handling and Storage: STORE AT TEMPERATURES BETWEEN 32°F AND 100°F. DO NOT STORE IN DIRECT SUNLIGHT

Other Precautions: DO NOT CONTAMINATE WATER, FOOD OR FEED BY STORAGE, DISPOSAL OR CLEANING OF EQUIPMENT. STORE IN A COOL, DRY PLACE.

KEEP OUT OF REACH OF CHILDREN

JK Date of Last Revision: 10/08/03

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT IDENTIFICATION

Product Name:	Komeen®

HAZARDS CLASSIFICATION (0-minimal, 1-slight, 2-moderate, 3-serious, 4-severe)

NFPA:	HEALTH-2 FIRE-1 REACTIVITY-0
HMIS:	HEALTH-2 FIRE-1 REACTIVITY-0

MANUFACTURER

Company Name:	Griffin Corporation
Address:	PO Box 1847, Rocky Ford Road Valdosta, GA 31603-1847

EMERGENCY PHONE NUMBERS

Griffin Corporation:	(800) 237 1854
Chemtrec:	(800) 424 9300

2. COMPOSITION/ INFORMATION ON INGREDIENTS

Component Name	% by Wt.	CAS#	ACGIH TLV	OSHA PEL
Elemental Copper *	8%	Not available	Not determined	Not determined
Inert ingredients	92%			

*derived from copper-ethylenediamine complex and copper sulfate pentahydrate.
Components not precisely identified are proprietary or not hazardous.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Dark Purple liquid that may cause moderate irritation to the eyes and skin. See below for route-specific details.

POTENTIAL HEALTH EFFECTS

Inhalation:	Toxic if inhaled.
Eye Irritation:	Considered to be a moderate irritant. Avoid eye contact with the product by using chemical safety glasses or goggles. May cause redness, swelling, and discharge, but is reversible.
Skin Irritation:	Slight skin irritant.
Skin Absorption:	Slightly toxic dermally.
Ingestion:	Moderately toxic by ingestion.

4. FIRST AID MEASURES

Inhalation:	Remove victim to fresh air. If not breathing, give artificial respiration preferably mouth-to-mouth. Get professional medical attention.
Eye Contact:	Hold eyelids open and flush with water for 15-20 minutes until no evidence of chemical remains. Get professional medical attention if irritation persists.
Skin Contact:	Remove contaminated clothing and shoes. Wash with plenty of soap and water for 15-20 minutes until no evidence of chemical remains. Get professional medical attention if irritation persists.
Ingestion:	If ingested, contact physician or call Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

5. FIRE FIGHTING MEASURES

Flash Point & Method:	Not determined
Flammable Limits:	Not determined
Autoignition Temperature:	Not determined

FIRE FIGHTING HAZARDS & PROCEDURES

General Hazard:	Prevent human exposure to fire, smoke, fumes or products of combustion.
Extinguishing Media:	Not determined
Fire Fighting Equipment:	Wear protective clothing and self-contained breathing apparatus.
Hazardous Combustion Products:	Decomposes above 200°C.

6. ACCIDENTAL RELEASE MEASURES

Spill or Leak Procedures:	Cover the spill with an absorbent material such as sweeping compound or lime. Sweep up and place in suitable (fiberboard) containers for later disposal.

7. HANDLING AND STORAGE

Storage Temperature:	Store below 35°C (95°F). Decomposes above 200°C. Average shelf life under proper storage conditions is 2 years.
General Information:	Store in a clean, dry area. Do not store near feed, food or within the reach of children.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

Ventilation:	Provide local exhaust ventilation and/or general dilution ventilation to meet published exposure limits.
Respiratory Protection:	Wear dual cartridge respirator for dusts and mists.
Eye Protection:	Wear protective eyewear to prevent contact with this substance.
Protective Clothing:	Wear rubber gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES

Vapor Pressure:	No appreciable vapor pressure. Open containers can lose small amounts of water by volatilization.
Density:	1.22
Solubility in Water:	Soluble in water and alcohols.
pH:	9.62
Boiling Point:	215°F. Loses water and decomposes at high temperatures.
Melting Point:	Not determined
Odor:	Odorless
Color:	Dark purple
Physical State:	Liquid

10. STABILITY AND REACTIVITY

General:	This material is stable under normal conditions.
Conditions to Avoid:	Should not be used where pH of water is below 6 due to the possibility that the copper chelate may dissociate and release copper ions which could subsequently be precipitated as insoluble copper salts. Should not be applied when water temperature is below 60°F.
Hazardous Decomposition:	Decomposes above 200°C.
Hazardous Polymerization:	Material is not known to polymerize.

11. TOXICOLOGICAL INFORMATION

ACUTE

Inhalation:	Acute inhalation LC_{50} = 0.81 mg/L (rat - 4 hour).
Eye Irritation:	Considered to be a moderate irritant. Avoid eye contact.
Skin Irritation:	Considered to be a slight irritant to the skin. Material is a non-sensitizer to the skin.
Skin Absorption:	Acute dermal LD_{50} > 2,000 mg/kg.
Ingestion:	Oral LD_{50} = 498 mg/kg.

12. ECOLOGICAL INFORMATION

For detailed ecological information, write to the address listed in Section 1 of this MSDS or call 912/242-8635 and ask for Regulatory Affairs.

13. DISPOSAL CONSIDERATIONS

Comply with appropriate disposal regulations. Landfill solids at permitted sites. Use registered transporters.

14. TRANSPORT INFORMATION

Department of Transportation (DOT) / International Air Transport Association (IATA) / International Maritime Organization (IMO):

Classification:	Copper Based Pesticide, Liquid, Toxic (Copper-Ethylenediamine Complex 8%)
Class:	6.1
Identification Number:	UN 3010
Packing Group:	III

15. REGULATORY INFORMATION

OSHA:	This product is considered hazardous under the OSHA Hazardous Communication Standard 29 CFR 1910.1200.
TSCA:	All product components are on the TSCA Chemical Inventory.
CERCLA:	Releases of this material to air, land, or water are not reportable to the National Response Center under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or to the state and local emergency planning committees under the Superfund Amendments and Reauthorization Act (SARA) Title III Section 304.
RCRA:	When a decision is made to discard this material as supplied, it does not meet RCRA's characteristic definition of ignitability, corrositivity, or reactivity, and is not listed in 40 CFR 261.33.
SARA TITLE III	
311/312 Hazard Categories:	This product has been reviewed according to the EPA "Hazard Categories" and is categorized as an acute health hazard (40 CFR 370.41).
313 Reportable Ingredients:	This product does not contain any material listed in Section 313 above de minimis concentrations.

16. OTHER INFORMATION

REVISION SUMMARY

This Material Safety Data Sheet replaces the one dated 06/20/96. Revisions have been made in the following sections: 2.

Komeen® is a registered trademark of Griffin Corporation.

The information in this MSDS relates to this specific material. It may not be valid for this material if used in combination with any other materials or in any process. It is the users' responsibility to satisfy themselves as to the suitability and completeness of this information for their own particular use.

Material Safety Data Sheet

SePRO

Nautique*

Aquatic Herbicide

Emergency Phone: 317-580-8282
General Phone: 317-580-8282

EPA Reg. Number: 55146-42-67690
Effective Date: June 9, 1998

SePRO Corporation - Carmel, IN

1) INGREDIENTS: (% w/w, unless otherwise noted)

Copper as Elemental**	9.1%
Inert Ingredients	90.9%
Total	100.0%

**One gallon contains 0.91 pounds of elemental copper from a mixed ethylenediamine triethanolamine copper complex (1 liter contains 110.0 grams copper).

2) PHYSICAL DATA:

- **BOILING POINT:** Not determined
- **MELTING/FREEZING POINT:** Not determined
- **VAP. PRESS:** Approximately the same as water
- **VAP. DENSITY:** Not determined
- **SOL. IN WATER:** Soluble
- **SP. GRAVITY:** 1.2
- **VISCOSITY:** Not determined
- **APPEARANCE:** Dark purple liquid
- **ODOR:** Slight ammoniacal
- **pH:** Not determined

3) FIRE AND EXPLOSION HAZARD DATA

- **FLASH POINT:** Not determined
- **IGNITION TEMPERATURE:** Not determined
- **FLAMMABLE LIMITS:**
  - **LFL:** Not determined
  - **UFL:** Not determined

7) FIRST AID MEASURES

- **EYE CONTACT:** Immediately flush eyes with flowing water while holding eyelid away from eyeball. Continue washing for at least 15 minutes. Do not remove contact lenses if worn. Get prompt medical attention.
- **SKIN CONTACT:** Immediately flush skin thoroughly with water for at least 15 minutes while removing contaminated clothing and shoes. Wash thoroughly with soap and water. Get medical attention if irritation persists. Wash clothing before reuse. Discard contaminated leather articles such as shoes and belt.
- **IF SWALLOWED:** Do not induce vomiting! Get immediate medical attention. If patient is fully conscious, give 1 or 2 glasses of water or milk.
- **INHALATION:** Remove to fresh air. Give artificial respiration if not breathing. If breathing is difficult, oxygen may be given by qualified personnel. Obtain medical attention.
- **NOTE TO PHYSICIAN:** Corrosive. May cause stricture. If lavage is performed, suggest endotracheal and/or esophagoscopic control. If burn is present, treat as any thermal burn after decontamination. No specific antidote. Supportive care. Treatment is based on the judgment of the physician in response to reactions of the patient. Prolonged or repeated inhalation may aggravate preexisting asthma, liver and kidney disease.

  Corrosive to eyes and skin. Causes irreversible eye damage.

8) HANDLING PRECAUTIONS:

- **ENGINEERING GUIDELINE(S):** Ventilation adequate to meet exposure limits for components (See Regulatory Information)
- **VENTILATION:** Use general or local exhaust ventilation to meet TLV requirements.

- **EXTINGUISHING MEDIA:** All purpose foam preferable.
- **FIRE FIGHTING EQUIPMENT:** Wear protective clothing and positive pressure breathing apparatus.

4) REACTIVITY DATA:

- **STABILITY:** Stable
- **INCOMPATIBILITY:** Strong Acids and Nitrites. Should not be used in water where the pH is less than 6.0 due to the possible breakdown of the copper chelate, which could form copper ions, which would precipitate. Should not be applied to water when temperature of the water is below 60° Fahrenheit (15° C).
- **HAZARDOUS DECOMPOSITION PRODUCTS:** Decomposes above 390° F (200° C). May form oxides of carbon & nitrogen.
- **HAZARDOUS POLYMERIZATION:** Will not occur.

5) ENVIRONMENTAL AND DISPOSAL INFORMATION

- **ENVIRONMENTAL DATA:** Not determined
- **ACTION TO TAKE FOR SPILLS:** Ventilate area. Avoid breathing vapors. Wear respiratory protection and avoid contact with skin, eyes, or clothing. Contain spill if possible. Absorb the spill with an absorbent material such as a sweeping compound, oil absorbent, or lime. Sweep up the material and place it in an appropriate waste chemical container. Wash the spill area with water containing a strong detergent, absorb it, and place in the waste chemical container. Seal the container and dispose of it in an approved manner. Thoroughly flush the spill area to remove any remaining residue.
- **DISPOSAL METHOD:** Responsibility for proper waste disposal rests with owner of the waste. Consult with local and environmental authorities. Contaminated materials should be placed in sealed drums and shipped to an approved chemical dump for disposal in accordance with all federal, state and local regulations.

6) HEALTH HAZARD DATA:

This product meets the OSHA definition of toxic.

- **ACUTE ORAL LD_{50}:** (Rats) – 680 mg/kg. EPA Category III
- **ACUTE DERMAL LD_{50}:** (Rabbits) – 700 mg/kg. EPA Category II
- **ACUTE INHALATION LC_{50}:** (Rats) – 2.1 mg/L. EPA Category IV
- **PRIMARY EYE IRRITATION:** (Rabbits) – EPA Category I
- **PRIMARY DERMAL IRRITATION:** (Rabbits) – EPA Category I
- **DELAYED CONTACT DERMAL SENSITIZATION:** Sensitizer

Components are not listed as carcinogens or potential carcinogens by NTP, IARC, or OSHA.

- **RESPIRATORY PROTECTION:** Wear NIOSH approved dust and mist respirator if mists are generated during use.
- **SKIN PROTECTION:** Waterproof rubber, neoprene or plastic groves, chemical apron, boots, etc. as needed to prevent skin contact.
- **EYE PROTECTION:** Chemical eye goggles.
- **OTHER:** Eye bath, safety shower

9) ADDITIONAL INFORMATION:

- **SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:** Utilize good personal hygiene practices and exercise normal liquid handling procedures. Store below 95° F (35° C) whenever possible. Decomposes at temperatures above 400° F (200° C). Average shelf life under proper storage conditions in the original sealed containers is 2 years. Store in a clean, dry area. Keep out of reach of children. Harmful if swallowed, adsorbed through skin, or if inhaled. Avoid breathing of spray mist or contact with skin, eyes, or clothing.
- **MSDS STATUS:**
  - Date of Issue: **June 9, 1998**
  - Revision Reflected: **First Issue**

10) REGULATORY INFORMATION:

(Not meant to be all-inclusive—selected regulations represented).

- **NOTICE:** The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is included for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See MSDS Sheet for health and safety information.
- **SARA HAZARD CATEGORY:** This product has been reviewed according to the EPA "hazard categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories: An immediate health hazard
- **EPCRA Section 302:** This product contains ethylenediamine, which is an EPCRA extremely hazardous substance.
- **EPCRA Section 313 Toxics Release Inventory:** This product contains copper, which is on the toxics release inventory (TRI) list.
- **TOXIC SUBSTANCE CONTROL ACT (TSCA):** All components of this product are on the TSCA Inventory.
- **OSHA HAZARD COMMUNICATION STANDARD:** The product is a "hazardous chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
- **DOT HAZARDOUS MATERIAL NAME:** Copper based

POTENTIAL HEALTH EFFECTS

- **EYE:** Corrosive to eyes. Corneal injury may be severe, extensive, and, if not treated promptly, could result in permanent impairment of vision. Causes severe irritation, experienced as discomfort or pain, excess blinking and tear production, marked excess redness and swelling of the conjunctiva, and chemical burns of the eye. Avoid eye contact with the product by using approved safety glasses or goggles.
- **SKIN:** Corrosive to skin. Avoid contact. May cause local discomfort or pain, severe excess redness and swelling, tissue destruction, fissures, ulceration, and possibly bleeding into the injured area. Prolonged or widespread contact may result in the absorption of potentially harmful amounts of material.
- **INGESTION:** May be toxic. May cause burns of mouth and throat, abdominal pain, nausea, vomiting, diarrhea, dizziness, weakness, thirst, collapse, and possible coma. The nature and severity of these signs and symptoms will be dependent on the amount swallowed. Aspiration into the lungs may occur during ingestion or vomiting, resulting in lung injury.
- **INHALATION:** Vapor may be irritating and may cause excessive tear formation, burning sensation of the nose and throat, coughing, wheezing, shortness of breath, nausea and vomiting. Extremely high vapor concentrations may cause lung damage. Some individuals may develop asthma.

pesticides, liquid, toxic, (mixed copper ethylenediamine/triethanolamine complex)

- **DOT HAZARD CLASS:** Class 6.1

This product is a proprietary mixture for which no human health hazard data exist. The OSHA hazard communication standard requires that such mixtures be assumed to present the same health hazard as do the components that constitute at least 1% of the mixture (0.1% for carcinogens). OSHA has noted, however, that including them in a mixture may alter the hazards of individual components. Components of this product that are listed as Hazardous Materials and/or present in quantities as defined in OSHA 29 CFR 1910.1200:

Ingredient	CAS#	EXPOSURE LIMIT
Ethylenediamine	107-15-3	10 ppm or 25 mg/m^3, TWA, OSHA & ACGIH
Triethanolamine	102-71-6	5 mg/m^3, TWA, ACGIH
Copper Dust		1 mg/m^3, TLV (ACGIH)

- **NATIONAL FIRE PROTECTION ASSOCIATION (NFPA 704) (4=Extreme; 3=High; 2=Moderate; 1=Slight: 0=Insignificant)**
  - **Toxicity: 3**
  - **Flammability: 0**
  - **Reactivity: 1**

The Information Herein Is Given In Good Faith, But No Warranty, Express Or Implied, Is Made. Consult SePRO Corporation For Further Information.

APPENDIX D

DISSOLVED COPPER CONCENTRATIONS
(PRE- AND POST-TREATMENT, 2001 THROUGH 2003)

TABLE D-1
BASELINE CONDITIONS FOR COPPER

Location	Date Collected	Reported Results
Contra Loma Reservoir		
	7/10/2001	<0.004 mg/L
	1/8/2002	<0.05 mg/L
	4/2/2002	<0.004 mg/L
	7/10/2002	<0.004 mg/L
	10/9/2002	<0.1 mg/L
Fish Screen at Rock Slough		
	7/9/2001	<0.004 mg/L
	1/7/2002	<0.05 mg/L
	4/1/2002	0.004 mg/L
	7/8/2002	<0.004 mg/L
	10/7/2002	<0.05 mg/L
Los Vaqueros Reservoir		
	8/16/2001	<0.01 mg/L
	4/11/2002	<0.004 mg/L
	7/11/2002	<0.004 mg/L
	10/7/2002	<0.05 mg/L
Mallard Reservoir		
	7/9/2001	0.005 mg/L
	1/7/2002	<0.05 mg/L
	4/1/2002	0.006 mg/L
	7/8/2002	0.006 mg/L
	10/7/2002	<0.05 mg/L
Martinez Reservoir		
	7/10/2001	0.004 mg/L
	1/8/2002	<0.05 mg/L
	4/2/2002	0.01 mg/L
	7/9/2002	0.016 mg/L
	10/8/2002	<0.05 mg/L

NOTE: AFTER TREATMENT SAMPLES ARE COLLECTED AFTER 1 HR IN CANALS, AND AFTER 4 HRS IN RESERVOIRS.

TABLE D-2
PRE- AND POST-APPLICATION TREATMENTS FOR COPPER

Location	Date Collected	Reported Results
2001		
Fish Screen at Rock Slough		
Before	5/23/2001	<0.004 mg/L
After		<0.004 mg/L
Before	5/24/2001	<0.004 mg/L
After		0.014 mg/L
Before	6/21/2001	<0.004 mg/L
After		<0.004 mg/L
Before	6/22/2001	0.005 mg/L
After		<0.004 mg/L
Before	9/11/2001	0.011 mg/L
After		0.21 mg/L
Before	9/14/2001	<0.005 mg/L
After		0.026 mg/L
Martinez Reservoir		
Before	6/28/2001	0.018 mg/L
After	6/28/2001	0.423 mg/L
Mallard Reservoir		
Before	8/28/2001	0.02 mg/L
After		0.1 mg/L
Before	9/14/2001	0.01 mg/L
After		0.03 mg/L
Before	9/17/2001	0.02 mg/L
After		0.06 mg/L
Before	9/20/2001	0.03 mg/L
After		0.03 mg/L
Before	9/21/2001	0.03 mg/L
After		0.03 mg/L
Before	9/27/2001	0.046 mg/L
After		0.46 mg/L

TABLE D-2
PRE- AND POST-APPLICATION TREATMENTS FOR COPPER (Continued)

Location	Date Collected	Reported Results
Mallard Reservoir (cont.)		
Before	12/21/2001	<0.1 mg/L
After		0.7 mg/L
Before	12/28/2001	0.04 mg/L
After		0.12 mg/L
2002		
Fish Screen at Rock Slough		
Before	4/2/2002	<0.004 mg/L
After		<0.004 mg/L
Before	4/3/2002	0.005 mg/L
After		0.071 mg/L
Before	5/1/2002	<0.004 mg/L
After		0.013 mg/L
Before	5/13/2002	<0.004 mg/L
After		0.055 mg/L
Before	5/14/2002	0.005 mg/L
After		0.037 mg/L
Before	5/15/2002	0.007 mg/L
After		0.113 mg/L
Before	6/12/2002	0.013 mg/L
After		0.101 mg/L
After	6/13/2002	0.034 mg/L
Before	6/14/2002	0.013 mg/L
After		0.034 mg/L
Before	7/8/2002	0.014 mg/L
After		0.008 mg/L
Before	7/9/2002	0.012 mg/L
After		0.006 mg/L
Before	7/10/2002	0.008 mg/L
After		0.008 mg/L
Before	8/7/2002	0.008 mg/L

Location	Date Collected	Reported Results
After		0.031 mg/L
Fish Screen at Rock Slough (cont.)		
Before	8/8/2002	0.011 mg/L
After		0.023 mg/L
Before	8/9/2002	0.012 mg/L
After		0.029 mg/L
Before	9/4/2002	0.008 mg/L
After		0.005 mg/L
Before	9/6/2002	0.016 mg/L
After		0.012 mg/L
Before	9/9/2002	<0.004 mg/L
After		0.004 mg/L
Martinez Reservoir		
Before	8/1/2002	0.004 mg/L
After		0.02 mg/L
Before	8/20/2002	0.007 mg/L
After		0.023 mg/L
Before	8/30/2002	0.017 mg/L
After		0.031 mg/L
Canal between Clayton & Cowell	8/2/2002	2.47 mg/L
Mallard Reservoir		
Before	8/8/2002	0.008 mg/L
After		0.325 mg/L
Before	9/5/2002	0.01 mg/L
After		0.015 mg/L
Before	10/4/2002	0.007 mg/L
After		0.036 mg/L
Before	10/16/2002	0.013 mg/L
After		0.095 mg/L
2003		
Fish Screen at Rock Slough		
Before	4/17/2003	<0.004 mg/L

Location	Date Collected	Reported Results
After		0.044 mg/L
Fish Screen at Rock Slough (cont)		
Before	4/18/2003	0.006 mg/L
After		0.305 mg/L
Before	5/15/2003	<0.004 mg/L
After		0.073 mg/L
Before	5/16/2003	0.007 mg/L
After		0.016 mg/L
Before	5/17/2003	0.007 mg/L
After		0.013 mg/L
Before	6/13/2003	0.005 mg/L
After		0.013 mg/L
Before	6/16/2003	0.006 mg/L
After		0.005 mg/L
Before	6/17/2003	<0.004 mg/L
After		<0.004 mg/L
Before	7/14/2003	<0.004 mg/L
After		0.152 mg/L
Before	7/15/2003	0.005 mg/L
After		0.005 mg/L
Before	7/16/2003	<0.004 mg/L
After		<0.004 mg/L
Before	8/11/2003	0.008 mg/L
After		0.089 mg/L
Before	8/12/2003	0.009 mg/L
After		<0.004 mg/L
Before	8/13/2003	0.005 mg/L
After		0.033 mg/L
Before	9/8/2003	0.007 mg/L
After		0.012 mg/L
Before	9/9/2003	<0.004 mg/L
After		<0.004 mg/L
Before	9/10/2003	<0.004 mg/L

Location	Date Collected	Reported Results
After		<0.004 mg/L
Martinez Reservoir		
Before	6/18/2003	0.009 mg/L
After		0.014 mg/L
Before	6/19/2003	0.033 mg/L
After		0.037 mg/L
Before	6/26/2003	0.024 mg/L
After		0.089 mg/L
Before	6/27/2003	0.006 mg/L
After		0.037 mg/L
Before	6/30/2003	0.186 mg/L
After		0.89 mg/L
Before	7/11/2003	0.007 mg/L
After		0.067 mg/L
Before	7/17/2003	0.02 mg/L
After		0.011 mg/L
Before	8/8/2003	0.004 mg/L
After		0.024 mg/L
Before	8/21/2003	0.009 mg/L
After		0.029 mg/L
Before	8/28/2003	0.011 mg/L
After		0.037 mg/L
Before	8/29/2003	0.004 mg/L
After		0.072 mg/L
Before	9/4/2003	0.021 mg/L
After		0.016 mg/L