



CENTRAL VALLEY REGIONAL
WATER QUALITY CONTROL BOARD

AMENDMENTS TO THE WATER QUALITY CONTROL
PLAN FOR THE SACRAMENTO AND
SAN JOAQUIN RIVER BASINS

FOR

THE CONTROL OF DIAZINON AND CHLORPYRIFOS
DISCHARGES

FINAL STAFF REPORT
MARCH 2014

APPENDIX C

PROPOSED BASIN PLAN AMENDMENT



CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

This Appendix contains the proposed Amendment to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (Basin Plan). This proposed Basin Plan Amendment consists of additions and modifications to several sections of the current Basin Plan. Deletions are shown in strikeout (except where entire section are deleted), and additions are shown by underline. The Executive Summary provides a summary of this proposed Basin Plan Amendment. **Changes from the March 2014 draft are shown in red. Deletions from the March 2014 draft are shown in red with double strikethrough. The draft Resolution shows the Proposed Amendment with all of these changes incorporated.**

Changes to Chapter III, Water Quality Objectives

Modify Table III-2A as follows:

TABLE III-2A

SPECIFIC PESTICIDE OBJECTIVES

PESTICIDE	MAXIMUM CONCENTRATION AND AVERAGING PERIOD
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Chlorpyrifos	0.025 µg/L ; 1-hour average (acute) 0.015 µg/L ; 4-day average (chronic) Not to be exceeded more than once in a three year period. APPLICABLE WATER BODIES
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San Joaquin River from Mendota Dam to Vernalis (Reaches include Mendota Dam to Sack Dam (70), Sack Dam to Mouth of Merced River (71), Mouth of Merced River to Vernalis (83), Sacramento River from Shasta Dam to Colusa Basin Drain (13) and the Sacramento River from the Colusa Basin Drain to I Street Bridge (30). Feather River from Fish Barrier Dam to Sacramento River (40). Delta Waterways listed in Appendix 42.

Bear Creek (San Joaquin and Calaveras Counties), Bear River (43), Lower (below Camp Far West Reservoir), Berenda Creek (Madera County), Berenda Slough

(Madera County), Colusa Basin Drain (29), Coon Creek, Lower (Sutter County), Deadman Creek (Merced County), Del Puerto Creek, Dry Creek (tributary to Tuolumne River at Modesto, E Stanislaus County), Duck Creek (San Joaquin County), French Camp Slough, Gilsizer Slough, Ingram Creek, Jack Slough, Live Oak Slough, Lone Tree Creek, Main Drainage Canal (Butte County), Merced River, Lower (McSwain Reservoir to San Joaquin River) (81), Mormon Slough (from Stockton Diverting Canal to Bellota Weir), Morrison Slough (Sutter County), Orestimba Creek, Pixley Slough (San Joaquin County), Salt Slough, Spring Creek (Colusa County), Stanislaus River, Lower (Goodwin Dam to San Joaquin River) (90), Tuolumne River, Lower (Don Pedro Dam to San Joaquin River) (86), Ulati Creek (Solano County), Wadsworth Canal, Westley Wasteway (Stanislaus County), Winters Canal (Yolo County), Yankee Slough (Placer and Sutter Counties)

Waters with designated or existing¹ WARM and/or COLD beneficial uses that are not upstream of the major dams in Table III-2B.

¹ Existing as defined in Title 40 of the Code of Federal Regulations, section 131.3(e)

Diazinon 0.16 µg/L ; 1-hour average (acute)
 0.10 µg/L ; 4-day average (chronic)
 Not to be exceeded more than once in a three year period.

APPLICABLE WATER BODIES

As noted above for chlorpyrifos

Add a new Table III-2B as shown:

TABLE III-2B

MAJOR DAMS DEMARKING THE UPSTREAM EXTENT OF THE WATER BODIES WITH DIAZINON AND CHLORPYRIFOS WATER QUALITY OBJECTIVES

<u>Dam</u>	<u>Associated Reservoir</u>	<u>River System</u>
<u>Monticello Dam</u>	<u>Lake Berryessa (55)</u>	<u>Putah Creek</u>
<u>Black Butte Dam</u>	<u>Black Butte Reservoir (26)</u>	<u>Stony Creek</u>
<u>Camanche Dam</u>	<u>Camanche Reservoir (62)</u>	<u>Mokelumne River</u>
<u>Camp Far West Dam</u>	<u>Camp Far West Reservoir</u>	<u>Bear River</u>
<u>Cache Creek Dam</u>	<u>Clear Lake (53)</u>	<u>Cache Creek</u>
<u>New Don Pedro Dam</u>	<u>Don Pedro Reservoir (85)</u>	<u>Tuolumne River</u>
<u>Buchanan Dam</u>	<u>Eastman Lake (Buchanan Reservoir) (76)</u>	<u>Chowchilla River</u>
<u>Folsom Dam</u>	<u>Folsom Lake (50)</u>	<u>American River</u>
<u>Englebright Dam</u>	<u>Harry L. Englebright Reservoir</u>	<u>Yuba River</u>
<u>Hidden Dam</u>	<u>Hensley Lake (Hidden Reservoir) (73)</u>	<u>Fresno River</u>
<u>Keswick Dam</u>	<u>Keswick Reservoir</u>	<u>Sacramento River</u>
<u>New Exchequer Dam</u>	<u>McClure Lake (Exchequer Reservoir) (79)</u>	<u>Merced River</u>
<u>Friant Dam</u>	<u>Millerton Lake (68)</u>	<u>San Joaquin River</u>
<u>New Hogan Dam</u>	<u>New Hogan Reservoir (65)</u>	<u>Calaveras River</u>
<u>Oroville Dam</u>	<u>Lake Oroville (39)</u>	<u>Feather River</u>
<u>San Luis Dam</u>	<u>San Luis Reservoir (91)</u>	-
<u>Scotts Flat Dam</u>	<u>Scotts Flat Reservoir</u>	<u>Deer Creek</u>
<u>Goodwin Dam</u>	<u>Tulloch Reservoir (89)</u>	<u>Stanislaus River</u>
<u>Whiskeytown Dam</u>	<u>Whiskeytown Reservoir (14)</u>	<u>Clear Creek</u>

Changes to Chapter IV, Implementation

Under “Regional Water Board Prohibitions”

Add the following new prohibition:

7. Diazinon and Chlorpyrifos Discharges

Dischargers are prohibited from discharging chlorpyrifos and/or diazinon at concentrations that exceed water quality objectives to waters with designated or existing² WARM and/or COLD beneficial uses unless:

- The discharge is regulated under a waiver of waste discharge requirements or individual or general waste discharge requirements, or
- The discharge is upstream of one of the dams listed in Table III-2B.

In “Pesticide Discharges from Nonpoint Sources”

Change the Section heading as follows:

Pesticide Discharges from Nonpoint Sources

Add the following sentence to the paragraph currently starting with the words “To ensure the best possible program”:

“The Board recognizes that implementation of the authorities of agencies that regulate pesticide use, including CDPR, USEPA Office of Pesticide Programs, and County Agricultural Commissioners, should be one of the primary mechanisms for addressing pesticide-caused water quality impairments. To ensure the best possible program, the Board will coordinate its pesticide control efforts with other agencies and organizations. Wherever possible, the burdens on pesticide dischargers will be reduced by working through the DFA (now CDPR) or other appropriate regulatory processes.”

Add the following new Subsection:

Diazinon and Chlorpyrifos Discharges

1. The diazinon and chlorpyrifos discharge control program shall:

² Existing as defined in Title 40 of the Code of Federal Regulations, section 131.3(e)

- a. Ensure compliance with water quality objectives for diazinon and chlorpyrifos in the Sacramento and San Joaquin River Basins through the implementation of management practices;
 - b. Ensure measures that are implemented to reduce discharges of diazinon and/or chlorpyrifos do not lead to an increase in the discharge of other pesticides to levels that cause or contribute to exceedances of applicable water quality objectives.
 - c. Encourage implementation of measures or practices by all dischargers that result in concentrations of chlorpyrifos and diazinon in all discharges that are below the water quality objective ~~s~~ concentrations.
2. Dischargers are responsible for ensuring that their pesticide discharges to surface water and groundwater, including discharges of pesticides used as alternatives to diazinon and/or chlorpyrifos do not cause or contribute to exceedance of applicable water quality objectives.
 3. Except as otherwise stated in the Basin Plan, ~~the Board will require dischargers of diazinon and/or chlorpyrifos to comply with diazinon and chlorpyrifos water quality objectives as soon as practicable, but no later than [5 years from the effective date of this Amendment].~~ compliance with water quality objectives for diazinon and chlorpyrifos shall be as soon as practicable. The Regional Board shall establish time schedules for compliance with such objectives in Waste Discharge Requirements or waivers in accordance with existing laws and policies. Where no existing law or policy directs the length of the compliance schedule, discharges shall be reduced to ensure compliance with the proposed water quality objectives not later than [10 years from the effective date of this Amendment].

The Board will ensure that dischargers will comply with diazinon and chlorpyrifos water quality objectives by modifying existing waste discharge requirements and existing waivers (where provisions necessary for implementation are not already in place), by adopting new waste discharge requirements or waivers, or by enforcing the diazinon and chlorpyrifos discharge prohibition. ~~If necessary, ¶~~the Board will ensure that existing waste discharge requirements and waivers will be modified as soon as possible, but no later than [five years from the effective date of this Amendment].

4. The Central Valley Water Board intends to review the diazinon and chlorpyrifos implementation provisions in the Basin Plan no later than [7 years from the effective date of this Amendment].

5. The water quality objectives for diazinon and chlorpyrifos represent a maximum allowable level and shall be considered additively as defined by the Policy for Application of Water Quality Objectives (IV-16.00 – 18.00). The Board shall require additional reductions in diazinon or chlorpyrifos levels if such reductions are necessary to account for additive or synergistic toxicity effects or to protect beneficial uses.

6. The Executive Officer shall require agricultural dischargers that discharge diazinon and/or chlorpyrifos to water bodies listed in Table III-2A Applicable Water Bodies that are not attaining the diazinon and/or chlorpyrifos objective(s) to submit management plans. These management plans shall consider the watershed of the water body that is not attaining the objective(s) and must describe actions that the agricultural discharger will take to meet applicable diazinon and chlorpyrifos water quality objectives by the required compliance dates. Management plans must describe:
 - a. The causes of the nonattainment of objectives;
 - b. The actions that the discharger will take to reduce diazinon and/or chlorpyrifos discharges in order to meet the diazinon and/or chlorpyrifos water quality objectives as soon as practicable but no later than ~~ten~~ five years from the effective date of this Amendment.]
 - c. A schedule for the implementation of those actions;
 - d. A monitoring plan to track effectiveness of pollution controls; and
 - e. A commitment to revise pollution controls, as necessary.

Management plans for water bodies not attaining the water quality objective(s) as of [Effective date of amendment] are due no later than **one year** from the effective date of this amendment.] Management plans that address diazinon and/or chlorpyrifos exceedances and that have already been submitted can be used to fulfill this requirement, provided that they contain all the required elements 6a through 6e described above.

After [effective date of this Amendment], if the Executive Officer determines that a water body listed in Table III-2A Applicable Water Bodies is exceeding an applicable diazinon and/or chlorpyrifos water quality objective, the Executive Officer shall require that dischargers that discharge diazinon and/or chlorpyrifos to that water body submit a management plan to the Board. Management plans are due within one year after the discharger receives notification that such a determination has been made.

If a water body that is exceeding the diazinon and/or chlorpyrifos objective(s) is being used by a discharger to represent water quality conditions in multiple water bodies, the Executive Officer shall require the submittal of a management plan that addresses all of the represented water bodies.

~~7.~~ Management plans may include actions required under state and federal pesticide laws and regulations. Management plans must include documentation of the relationship between the actions to be taken and reductions in diazinon and/or chlorpyrifos discharges that are reasonably likely to attain compliance with diazinon and chlorpyrifos water quality objectives. The Executive Officer may allow individual dischargers or a discharger group or coalition to submit management plans. The management plan must comply with the provisions of any applicable waste discharge requirements or waiver. Management plans may address discharges to multiple downstream water bodies for which discharge reductions are required. The Executive Officer may require revisions to the management plan if compliance with applicable water quality objectives is not attained.

~~7. 8.~~ Any waste discharge requirements or waivers that govern the control of pesticide discharges to Table III-2A Applicable Water Bodies, must be consistent with the policies and actions described in paragraphs 1-6~~7~~ of this section.

Under “Estimated Costs of Agricultural Water Quality Control Programs and Potential Sources of Financing”

Add the underlined text shown below:

Diazinon and Chlorpyrifos Discharges

The costs estimated in this section were calculated in consideration of the requirements for diazinon and chlorpyrifos discharges only. Most of these compliance costs likely already exist due to other Board Requirements under the Irrigated Lands Regulatory Program, and the requirements for diazinon and chlorpyrifos in the Sacramento and Feather Rivers, the San Joaquin River Basin, and the Sacramento-San Joaquin Delta.

The total estimated costs for management practices to meet the diazinon and chlorpyrifos objectives in the Sacramento and San Joaquin River Basins range from \$5 to \$21.6 million/year (2010 dollars). The estimated costs for agricultural discharger compliance monitoring, planning, and evaluation range from \$~~1.6 4.5~~

to ~~\$6.0~~ ~~\$4.4~~ million/year (2010 dollars). The estimated annual costs range from ~~\$6.6~~ ~~\$6.4~~ to ~~\$27.6~~ ~~\$26~~ million (2010 dollars).

Potential funding sources include:

1. Those identified in the San Joaquin River Subsurface Agricultural Drainage Control Program and the Pesticide Control Program.

Changes to Chapter 5, Surveillance and Monitoring

Add the following new Section:

Diazinon and Chlorpyrifos Discharges

The Central Valley Water Board will ensure that there will be a focused monitoring effort to monitor pesticide discharges in the Sacramento and San Joaquin River Basins.

The Board will require those that discharge diazinon and chlorpyrifos to provide information to the Board. This information may come from the dischargers' monitoring efforts; monitoring programs conducted by state or federal agencies or collaborative watershed efforts; or from special studies that evaluate the effectiveness of management practices. To be used in determining compliance with the water quality objectives, diazinon and chlorpyrifos concentration data must be from ~~laboratory~~ analysis with limits of quantification (**reporting limits**) at or below the water quality objective concentrations.

Agricultural Discharge Monitoring

The monitoring and reporting program for any waste discharge requirements or waiver of waste discharge requirements that address ~~es~~ agricultural pesticide discharges to Table III-2A Applicable Water Bodies must be designed to collect the information necessary to:

1. Determine compliance with established water quality objectives applicable to diazinon and/or chlorpyrifos;
2. Determine the extent of implementation of management practices to reduce off-site migration of diazinon and/or chlorpyrifos;

3. Determine the effectiveness of management practices and strategies to reduce off-site migration of diazinon and/or chlorpyrifos;
4. Determine whether alternatives to diazinon and/or chlorpyrifos are being discharged at concentrations which have the potential to cause or contribute to exceedances of applicable water quality objectives; and
5. Determine whether the discharge causes or contributes to a toxicity impairment due to additive or synergistic effects of multiple pollutants.

Representative monitoring may be used to determine compliance with the water quality objectives. Monitoring shall be representative of all Table III-2A Applicable Water Bodies, either directly or through a representative monitoring program. Changes in monitoring requirements may be required if pesticide use data, management practices, runoff potential, or other information indicates additional or less monitoring, including discontinuation of monitoring for diazinon and/or chlorpyrifos is needed to meet the monitoring requirements.

Municipal Storm Water and Municipal and Domestic Wastewater Monitoring

The monitoring and reporting program for any waste discharge requirements that address discharges to Table III-2A Applicable Water Bodies from

- municipal storm water
- municipal or domestic wastewater, or
- other non-agricultural sites where diazinon or chlorpyrifos are applied,

must be designed to collect the information necessary to:

1. Determine whether the discharge causes or contributes to an exceedance of water quality objectives for diazinon and/or chlorpyrifos;
2. Determine whether the discharge causes or contributes to a toxicity impairment due to additive or synergistic effects of multiple pollutants; and
3. Determine whether alternatives to diazinon and/or chlorpyrifos are being discharged at concentrations with the potential to cause or contribute to exceedances of water quality objectives. ¶

With Executive Officer approval, representative monitoring programs, including coordinated regional monitoring programs, may be used to meet the monitoring goals listed above. Regular monitoring for diazinon and chlorpyrifos can be

discontinued upon a showing by a discharger that such pesticides are not found in the effluent at concentrations with the potential to cause or contribute to exceedances of water quality objectives. In developing the monitoring and reporting programs for specific dischargers, the Board will, in coordination with DPR assist the discharger in identifying diazinon and chlorpyrifos alternatives for which monitoring may be necessary.