

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

RESOLUTION NO. R5-2003-0148

AMENDING THE WATER QUALITY CONTROL PLAN  
FOR  
THE SACRAMENTO RIVER AND SAN JOAQUIN RIVER BASINS  
FOR THE CONTROL OF ORCHARD PESTICIDE RUNOFF AND DIAZINON  
RUNOFF INTO THE SACRAMENTO AND FEATHER RIVERS

WHEREAS, in 1975 the California Regional Water Quality Control Board, Central Valley Region, (hereafter Regional Board) adopted a Water Quality Control Plan (hereafter Basin Plan) for the Sacramento River and San Joaquin River Basins, which has been amended occasionally; and

WHEREAS, the Basin Plan may be amended in accordance with the California Water Code Section 13240, et seq.; and

WHEREAS, Water Code Section 13241 requires the Regional Board to establish water quality objectives and Section 13242 requires a program for implementation for achieving water quality objectives; and

WHEREAS, the Sacramento and Feather Rivers have been identified under the federal Clean Water Act Section 303(d) as an impaired waterbody due to elevated concentrations of diazinon; and

WHEREAS, the Regional Board recognizes that the Basin Plan does not include numeric water quality objectives for diazinon nor a plan to reduce diazinon concentrations in the Sacramento and Feather Rivers; therefore, a Basin Plan amendment is appropriate; and

WHEREAS, the proposed amendment modifies Basin Plan Chapter III (Water Quality Objectives) to establish site-specific numeric objectives for diazinon in the Sacramento and Feather Rivers; and

WHEREAS, the proposed amendment modifies Basin Plan Chapter IV (Implementation) to establish a water quality management strategy to reduce orchard pesticide runoff and diazinon discharges into the Sacramento and Feather Rivers, including the loading capacity and allocation requirements of a Total Maximum Daily Load (TMDL); and

WHEREAS, the proposed amendment modifies Basin Plan Chapter V (Surveillance and Monitoring) to include monitoring requirements to allow the Regional

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Board to assess progress in reducing diazinon discharges and preventing toxicity from orchard pesticide runoff; and

WHEREAS, the proposed amendment requires dischargers of diazinon to develop and implement a plan to reduce diazinon levels in the Sacramento and Feather Rivers; and

WHEREAS, the Regional Board has considered the costs of implementing the proposed amendment, and finds these costs to be reasonable relative to the water quality benefits to be derived from implementing the proposed amendment; and

WHEREAS, Regional Board staff developed a staff report and draft Basin Plan Amendment for external scientific peer review in February 2003 in accordance with Health and Safety Code § 57004 and the staff report and amendment have been changed to conform to the recommendations of the peer reviewers or staff has provided an explanation of why no change was made; and

WHEREAS, the Regional Board has determined that the scientific portions of the Basin Plan Amendment are based on sound scientific knowledge, methods, and practices in accordance with Health and Safety Code § 57004; and

WHEREAS, Regional Board staff held a public workshop and California Environmental Quality Act (CEQA) scoping meeting on 26 March 2003 to identify any significant issues that must be considered, and the Regional Board held a public workshop on 6 June 2003 to receive comments on the draft Basin Plan Amendment and staff report; and

WHEREAS, Regional Board staff has circulated a Notice of Public Hearing, Notice of Filing, a written staff report, an environmental checklist, and a draft proposed amendment to interested individuals and public agencies, including persons having special expertise with regard to the environmental effects involved with the proposed amendment, for review and comment in accordance with state and federal environmental regulations (23 CCR Section 3775, 40 CFR 25, and 40 CFR 131); and

WHEREAS, the Regional Board held a public hearing on 16 October 2003, for the purpose of receiving testimony on the proposed Basin Plan amendment. Notice of the public hearing was sent to all interested persons and published in accordance with California Water Code, section 13244; and

WHEREAS, the basin planning process has been certified as “functionally equivalent” to the CEQA requirements for preparing environmental documents and is, therefore, exempt from those requirements (Public Resources Code, Section 21000 et seq.); and

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WHEREAS, Regional Board staff completed an environmental checklist and functional equivalent document in compliance with the provisions of CEQA that concluded that the proposed amendment will have no potential for adverse effects, either individually or cumulatively, on wildlife or the environment; and

WHEREAS, the Regional Board concurs with staff's conclusion that the proposed amendment will have no potential for adverse effects, either individually or cumulatively, on wildlife or the environment; and

WHEREAS, a Basin Plan amendment must be approved by the State Water Resources Control Board, the Office of Administrative Law, and the U.S. Environmental Protection Agency before becoming effective; and

WHEREAS, the proposed amendment will not result in degradation of the Sacramento and Feather River water quality and maintains the level of water quality necessary to protect existing and anticipated beneficial uses; and

WHEREAS, this regulatory action meets the "Necessity" standard of the Administrative Procedures Act, Government Code, section 11353, subdivision (b):

THEREFORE BE IT RESOLVED, that, pursuant to sections 13240, et seq. of the California Water Code, the Regional Board, after considering the entire record, including oral testimony at the hearing, hereby adopts an amendment to the Basin Plan to establish a site-specific numeric water quality objective for diazinon, and to establish a water quality management strategy to reduce diazinon discharges and orchard pesticide runoff into the Sacramento and Feather Rivers, as set forth in Attachment 1; and be it further

RESOLVED, that the Executive Officer is directed to forward copies of the Basin Plan amendment to the State Water Resources Control Board in accordance with the requirements of Section 13245 of the California Water Code; and be it further

RESOLVED, that the Regional Board requests that the State Water Resources Control Board approve the Basin Plan amendment in accordance with the requirements of Sections 13245 and 13246 of the California Water Code and forward it to the Office of Administrative Law and the U.S. Environmental Protection Agency; and be it further

RESOLVED, that, if during its approval process the State Water Resources Control Board, or Office of Administrative Law, or U.S. Environmental Protection Agency determines that minor, non-substantive corrections to the language of the amendment are needed for clarity or consistency, the Executive Officer may make such changes, and shall inform the Regional Board of any such changes; and be it further

RESOLVED, the Executive Officer is authorized to sign a Certificate of Fee Exemption and following approval of the Basin Plan amendment by the U.S.

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Environmental Protection Agency submit this Certificate in lieu of payment of the Department of Fish and Game filing fee to the Secretary for Resources; and be it further

RESOLVED, following approval of the Basin Plan amendment by the U.S. Environmental Protection Agency, the Executive Officer shall file a Notice of Decision with the State Clearinghouse.

I, THOMAS R. PINKOS, Executive Officer, do hereby certify that the forgoing is a full, true, and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, Central Valley Region, on 16 October 2003.

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THOMAS R. PINKOS, Executive Officer

**Resolution No. R5-2003-0148  
Attachment 1**

**Amendments to the Water Quality Control Plan for the Sacramento  
River and San Joaquin River Basins for the Control of Orchard  
Pesticide Runoff and Diazinon Runoff into  
the Sacramento and Feather Rivers**

**Additions to Chapter III, Water Quality Objectives**

In the “Pesticides” section add:

Pesticide concentrations shall not exceed the levels identified in Table III-2A.  
[This text must be placed before the statement: “Where more than one objective may be applicable, the most stringent objective applies.”]

TABLE III-2A  
SPECIFIC PESTICIDE OBJECTIVES

<u>PESTICIDE</u>	<u>MAXIMUM CONCENTRATION AND AVERAGING PERIOD</u>	<u>APPLICABLE WATER BODIES</u>
<u>Diazinon</u>	<u>0.080 µ g/L ; 1-hour average 0.050 µ g/L ; 4-day average Not to be exceeded more than once every three years on average.</u>	<u>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).</u>

**Additions to Chapter IV, Implementation**

To the “Water Quality Limited Segments” Policy add:

To determine an allowable load for dischargers, the “Loading Capacity” must be determined. The “Loading Capacity” is the maximum amount of pollution that can be present in a water body without violating water quality objectives. The Loading Capacity can be established to address multiple pollutants or a single pollutant. The Loading Capacity can be allocated to NPDES permitted sources (point sources) as waste load allocations and to non-NPDES permitted sources (nonpoint sources) and background as load allocations. Part of the Loading Capacity may also be set aside or not assigned to account for any uncertainty in the Loading Capacity calculation.

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The Loading Capacity and allocations are established to meet Clean Water Act Section 303(d) requirements. In addition, the Loading Capacity and allocations can provide a framework for actions to be taken by the Regional Water Board for achieving pollutant reductions and attaining water quality objectives.

To the “Regional Water Board Prohibitions” section add:

*Diazinon Discharges into the Sacramento and Feather Rivers*

Beginning July 1, 2008, (i) the direct or indirect discharge of diazinon into the Sacramento and Feather Rivers is prohibited if, in the previous year (July-June), any exceedance of the diazinon water quality objectives occurred, and (ii) the direct or indirect discharge of diazinon into any sub-watershed (identified in Table IV-5) is prohibited if, in the previous year (July-June), the load allocation was not met in that sub-watershed. Prohibition (i) applies only to diazinon discharges that are tributary to or upstream from the location where the water quality objective was exceeded.

These prohibitions do not apply if the discharge of diazinon is subject to a waiver of waste discharge requirements implementing the water quality objectives and load allocations for diazinon for the Sacramento and Feather Rivers, or governed by individual or general waste discharge requirements.

To the “Pesticide Discharges from Nonpoint Sources” section add:

**Orchard Pesticide Runoff and Diazinon Runoff into the Sacramento and Feather Rivers**

1. The orchard pesticide runoff and diazinon runoff control program shall:
  - a. ensure compliance with the diazinon water quality objectives in the Sacramento and Feather Rivers through the implementation of necessary management practices;
  - b. ensure that measures that are implemented to reduce diazinon discharges do not lead to an increase in the discharge of other pesticides to levels that violate applicable water quality objectives and Regional Water Board policies; and
  - c. ensure that pesticide discharges from orchards to surface waters are controlled so that the pesticide discharges are at the lowest level that is technically and economically achievable.
  
2. Orchard dischargers must consider whether a proposed alternative to diazinon has the potential to degrade ground or surface water. If the alternative to diazinon has the potential to degrade ground water, alternative pest control methods must be considered. If the alternative to diazinon has the potential to degrade surface water,

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control measures must be implemented to ensure that applicable water quality objectives and Regional Water Board policies are not violated.

3. Compliance with water quality objectives, waste load allocations, and load allocations for diazinon in the Sacramento and Feather Rivers is required by June 30, 2008.

The water quality objectives and allocations will be implemented through one or a combination of the following: the adoption of one or more waivers of waste discharge requirements, and general or individual waste discharge requirements. To the extent not already in place, the Regional Water Board expects to adopt or revise the appropriate waiver(s) or waste discharge requirements by December 31, 2007.

4. The waste load allocations for all NPDES- permitted discharges are the diazinon water quality objectives.

5. The Regional Water Board will review the diazinon allocations and the implementation provisions in the Basin Plan at least once every five years, beginning no later than June 30, 2007.

6. Regional Water Board staff will meet at least annually with staff from the Department of Pesticide Regulation and representatives from the California Agricultural Commissioners and Sealers Association to review pesticide use and instream pesticide concentrations during the dormant spray application season and to consider the effectiveness of management measures in meeting water quality objectives.

7. The Loading Capacity (LC) for diazinon is determined by:  
 $LC = C \times Q \times a$  Unit Conversion Factor; where C= the maximum concentration established by the diazinon water quality objectives and Q= the flow (the daily average flow is used in conjunction with the 0.080  $\mu$  g/L diazinon objective and the four-day average flow is used in conjunction with the 0.050  $\mu$  g/L diazinon objective). The LC will be calculated for the Sacramento River at I Street; the Sacramento River at Verona; the Sacramento River at Colusa; and the Feather River near its mouth. The value for Q (flow) in the Loading Capacity calculations for the Sacramento River sites will be increased to account for any flood control diversions into the Yolo Bypass or Butte Sink. The best available estimates of such diversions will be used.

8. The Load Allocation for discharges into the Sacramento River between Verona and I Street is determined by the following:  
[LC(Sacramento River at I Street) minus LC(Sacramento River at Verona)]  
multiplied by 0.70.

The Load Allocations required to meet the Loading Capacity in the Sacramento River at Verona are determined by multiplying the LC calculated for the Sacramento River

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at Verona by the Load Allocation factors in Table IV-5. If the calculated Load Allocation for the Feather River or Sacramento River at Colusa is greater than the Loading Capacity for that site, then the Loading Capacity for that site applies.

The Load Allocations establish the allowable diazinon load from nonpoint source dischargers.<sup>a</sup>

9. The established waste load and load allocations for diazinon and the diazinon water quality objectives in the Sacramento and Feather Rivers represent a maximum allowable level. The Regional Water Board shall require any additional reductions in diazinon levels necessary to account for additive or synergistic toxicity effects or to protect beneficial uses in tributary waters.

10. Pursuant to CWC §13267, dischargers of diazinon must submit a management plan that describes the actions that the discharger will take to reduce diazinon discharges and meet the applicable allocations by the required compliance date.

The management plan may include actions required by State and federal pesticide regulations. The discharger must document the relationship between the actions to be taken and the expected reductions in diazinon discharge. Individual dischargers or a discharger group or coalition may submit management plans.

The management plan must comply with the provisions of any applicable waiver of waste discharge requirements or waste discharge requirements and must be submitted no later than June 30, 2005. The Regional Water Board may require revisions to the management plan if compliance with applicable allocations is not attained or the management plan is not reasonably likely to attain compliance.

11. Any waiver of waste discharge requirements or waste discharge requirements that govern the control of orchard pesticide runoff or diazinon runoff that is discharged directly or indirectly into the Sacramento or Feather Rivers must be consistent with the policies and actions described in paragraphs 1-10.

12. In determining compliance with the waste load allocations, the Regional Water Board will consider any data or information submitted by the discharger regarding diazinon inputs from sources outside of the jurisdiction of the permitted discharge, including any diazinon present in precipitation; and any applicable provisions in the discharger's NPDES permit requiring the discharger to reduce the discharge of pollutants to the maximum extent practicable.

Add a footnote associated with Item 8:

a. If the Sacramento River at Verona mean daily flow were 15,000 cubic feet per second or cfs, the loading capacity would equal approximately 2,900 grams/day for the 0.080 µg/L diazinon water quality objective. The Unit Conversion Factor would be 2.446.



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The load allocations would be approximately 493 grams/day for the Colusa Basin Drain; 348 grams/day for the Feather River; 783 grams/day for the Sacramento River at Colusa; and 957 grams/day for Sutter/Butte.

If the mean daily flow in the Feather River were 5,000 cubic feet per second or cfs, the loading capacity would be approximately 978 grams/day for the 0.080 µg/L diazinon water quality objective. The Unit Conversion Factor would be 2.446.

If the load allocation for the Feather River for that day were 348 grams/day, the load allocation would apply.

**Location Descriptions**

Colusa Basin Drain - is the Colusa Basin Drain at the confluence with the Sacramento River. The Colusa Basin Drain sub-watershed includes all land that drains into the Colusa Basin Drain.

Feather River - is the Feather River near the confluence with the Sacramento River. The Feather River sub-watershed includes all land that drains into the Feather River below the Oroville Dam, but does not include flow from the Sutter Bypass.

Sacramento River at Colusa – is the Sacramento River at the River Road bridge in the town of Colusa. (United States Geological Survey gauging Station 11389500) The Sacramento River at Colusa sub-watershed includes all land below Shasta Dam that drains to the Sacramento River at Colusa.

Sutter/Butte - is Sacramento Slough near the confluence with the Sacramento River or the sum of the Sutter Bypass near the confluence with the Feather River and Reclamation Slough near the confluence with the Sutter Bypass depending on flow conditions (minus diazinon loading resulting from Sacramento River water being bypassed into tributaries of Sacramento Slough or the Sutter Bypass). The Sutter/Butte sub-watershed includes all land that drains to Sacramento Slough, the Sutter Bypass, and Reclamation Slough.

Sacramento River at I Street – is the Sacramento River at the I Street Bridge in the city of Sacramento.

Sacramento River at Verona – is the Sacramento River at the United States Geological Survey gauging station at Verona (Station Number 11425500).

Table IV-5 Load Allocation Factors for Diazinon in the Sacramento River Watershed

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<b><u>Load Allocation Factors by Sub-watershed</u></b>			
<u>Colusa Basin Drain</u>	<u>Feather River</u>	<u>Sacramento River at Colusa</u>	<u>Sutter/ Butte</u>
<u>17%</u>	<u>12%</u>	<u>27 %</u>	<u>33%</u>

To the “Estimated Costs of Agricultural Water Quality Control Programs and Potential Sources of Financing” section add:

**Sacramento and Feather Rivers Orchard Runoff Control Program**

The total estimated costs for management practices to meet the diazinon objectives for the Sacramento and Feather Rivers are from a \$0.3 million/ year cost savings to a \$3.8 million/year cost (2001 dollars). The estimated costs for discharger monitoring, planning, and evaluation are from \$0.5 to \$9.3 million/year (2003 dollars).

Potential funding sources include:

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

**Additions to Chapter V, Surveillance and Monitoring**

Add:

The Regional Water Board requires a focused monitoring effort of pesticide runoff from orchards in the Sacramento Valley.

The monitoring and reporting program for any waste discharge requirements or waiver of waste discharge requirements that addresses pesticide runoff from orchards in the Sacramento Valley must be designed to collect the information necessary to:

1. determine compliance with established water quality objectives for diazinon in the Sacramento and Feather Rivers ;
2. determine compliance with established waste load allocations and load allocations for diazinon;
3. determine the degree of implementation of management practices to reduce off-site migration of diazinon;
4. determine the effectiveness of management practices and strategies to reduce off-site migration of diazinon;
5. determine whether alternatives to diazinon are causing surface water quality impacts;

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6. determine whether the discharge causes or contributes to a toxicity impairment due to additive or synergistic effects of multiple pollutants; and
7. demonstrate that management practices are achieving the lowest pesticide levels technically and economically achievable.

Dischargers are responsible for providing the necessary information. The 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.