

**STATE WATER RESOURCES CONTROL BOARD  
BOARD MEETING SESSION--DIVISION OF WATER QUALITY  
FEBRUARY 19, 2008**

**ITEM 7**

**SUBJECT**

CONSIDERATION OF A RESOLUTION APPROVING AN AMENDMENT TO THE WATER QUALITY CONTROL PLAN FOR THE SACRAMENTO RIVER AND SAN JOAQUIN RIVER BASINS (BASIN PLAN) FOR THE CONTROL OF DIAZINON AND CHLORPYRIFOS RUNOFF INTO THE SACRAMENTO AND FEATHER RIVERS

**DISCUSSION**

On May 3, 2007, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) adopted Resolution No. R5-2007-0034 ([Attachment](#)) amending the Basin Plan for the control of diazinon and chlorpyrifos runoff into the Sacramento and Feather Rivers. The proposed Basin Plan amendment addresses discharges of diazinon and chlorpyrifos into the Sacramento and Feather Rivers.

Diazinon and chlorpyrifos are man-made pesticides used to exterminate destructive pests and insects in urban and agricultural settings. A fraction of urban and agricultural diazinon and chlorpyrifos applications can reach surface water during rainfall or irrigation events and enter the Sacramento or Feather Rivers or their tributaries. Monitoring since the early 1990s by state and federal agencies and other groups has confirmed the presence of diazinon and chlorpyrifos at levels of concern in the Sacramento and Feather Rivers. Diazinon and chlorpyrifos can be acutely toxic to aquatic life, wildlife, and humans. Aquatic invertebrates are the aquatic organisms most sensitive to diazinon and chlorpyrifos exposure. The Sacramento and Feather Rivers are currently listed on the Clean Water Act section 303(d) list for aquatic toxicity due to diazinon and chlorpyrifos. In the near future, agriculture will be the dominant source, since the United States Environmental Protection Agency (USEPA) has banned the sale of all non-agricultural uses of diazinon and most non-agricultural uses of chlorpyrifos.

In 2003, the Central Valley Water Board adopted Resolution [R5-2003-0148](#), which approved a Basin Plan amendment establishing total maximum daily loads (TMDLs) and a program of implementation plans for diazinon in the Sacramento and Feather Rivers. The amendment included the requirement to review the diazinon allocations and the implementation provisions at least once every five years, beginning no later than June 30, 2007. The compliance date associated with these water quality objectives is June 30, 2008. In addition to the Basin Plan requirements, a review of the diazinon water quality objectives has also been incorporated into an order, issued on July 22, 2005 by the Sacramento County Superior Court [(*Makhteshim Agan of North America v. State Water Resources Control Board; Regional Water Quality Control Board-Central Valley Region, Sac. Cty. Sup. Ct. – Case No. 04CS00871*)].

The proposed Basin Plan amendment includes new numeric water quality objectives and TMDLs for both diazinon and chlorpyrifos, and diazinon and chlorpyrifos wasteload allocations for point sources and load allocations for nonpoint sources. Changing the proposed objective allows for protection of beneficial uses, and prevention of pollution or nuisance without requiring

the discharger to incur the additional costs that might be required to meet the existing objective. Because diazinon and chlorpyrifos have been shown to exhibit additive toxicity when present together, the proposed Basin Plan amendment establishes a loading capacity for the Sacramento and Feather Rivers based on combined diazinon and chlorpyrifos concentrations.

Central Valley Water Board staff has determined that the scientific portions and scientific basis of the proposed amendment to control discharges of diazinon and chlorpyrifos into the Sacramento and Feather Rivers are based on source material that has already been peer reviewed. Furthermore, the proposed amendment does not depart from the scientific approach of the other Basin Plan amendments from which it is derived.

## **WATER QUALITY OBJECTIVES**

This Basin Plan amendment proposes to revise the diazinon water quality objectives and adopt new water quality objectives for chlorpyrifos. The Basin Plan does not currently include numeric objectives for chlorpyrifos in the Sacramento and Feather Rivers, but narrative water quality objectives regarding pesticides and toxicity, applicable to chlorpyrifos, are present. The existing objective for diazinon was established in 2003 based on California Department of Fish and Game (CDFG) application of the USEPA criteria derivation method. Since that time, the manufacturer of diazinon (Makhteshim Agan of North America, Inc. or MANA) has provided new information showing that the results from one of the toxicity tests used to derive the CDFG diazinon criteria were reported incorrectly. Central Valley Water Board staff concluded that the toxicity test data sheets were inconsistent in the way test results were reported, and the toxicity test results reported in the literature could neither be definitively confirmed nor changed to a value which is an order of magnitude higher, as suggested by MANA. CDFG also concluded it was impossible to discern the correct toxicity test results for the questionable study, and has recalculated the diazinon criteria to exclude the questionable toxicity test values. But CDFG has also noted that the recalculation assumes no new information has been collected that would affect the criteria. Central Valley Water Board staff confirmed these recalculated values. While the proposed objective is higher than the existing one, it is still designed to provide protection to the most sensitive present or future beneficial use. The objectives were derived using USEPA methods and were applied to data sets screened by CDFG.

## **TMDL**

The proposed amendment establishes for chlorpyrifos and revises for diazinon the loading capacity, wasteload allocations, and load allocations to the Sacramento and Feather Rivers. The loading capacity and allocations are established at levels necessary to attain the applicable numeric water quality objectives within the Sacramento and Feather Rivers. A combined additive toxicity formula, found in the Basin Plan, is used to set a loading capacity that accounts for the combined toxicity of diazinon and chlorpyrifos. Equating the allocations to the loading capacity provides an implicit margin of safety, since no dilution credit is given.

## **IMPLEMENTATION**

The proposed amendment is implemented through the Irrigated Lands Conditional Waiver, which addresses agricultural sources of waste constituents, including diazinon and chlorpyrifos discharges, and the National Pollutant Discharge Elimination System (NPDES) permit requirements, which address point sources of diazinon and chlorpyrifos. Under the Irrigated Lands Regulatory Program, discharges of diazinon and chlorpyrifos will be regulated through implementation of an enforceable conditional waiver of waste discharge requirements.

Additionally, a conditional prohibition is kept as a regulatory backstop for the Irrigated Lands Regulatory Program. The Nonpoint Source Policy requires nonpoint source dischargers to describe the management practices that will be implemented to attain water quality objectives. The Central Valley Water Board will require the submission of a management plan by a coalition of dischargers or by individual dischargers. Where dischargers have already submitted management plans to control diazinon, these plans will need to be modified to incorporate control of chlorpyrifos. The compliance date for both diazinon and chlorpyrifos is proposed to be the effective date of the Basin Plan amendment. The Central Valley Water Board has committed to review the diazinon and chlorpyrifos allocations and the implementation provisions in the Basin Plan no later than June 30, 2013.

## **MONITORING**

The proposed amendment requires a focused monitoring effort of agricultural pesticide runoff into the Sacramento and Feather Rivers. The monitoring and reporting program will be designed to measure: (1) compliance with water quality objectives, load allocations, and loading capacity; (2) implementation and effectiveness of management practices to reduce offsite migration of diazinon and chlorpyrifos; (3) degradation of surface water quality from alternatives to diazinon and chlorpyrifos; (4) additive or synergistic effects of multiple pollutants; and (5) whether management practices achieve the lowest pesticide levels that are technically and economically achievable.

## **COSTS**

The total costs estimated by Central Valley Water Board staff for management practices to meet the diazinon and chlorpyrifos objectives for the Sacramento and Feather Rivers range from \$0 to \$6.2 million/year (2007 dollars). The estimated costs for discharger monitoring, planning, and evaluation range from \$0.3 to \$1.5 million/year (2007 dollars). The estimated total annual costs range from \$0.3 to \$7.7 million.

## **POLICY ISSUE**

Should the State Water Resources Control Board (State Water Board) approve the amendment to revise the Basin Plan for the Sacramento River and San Joaquin River Basins for the control of diazinon and chlorpyrifos runoff into the Sacramento and Feather Rivers as adopted under Central Valley Water Board [Resolution No. R5-2007-0034](#)?

## **FISCAL IMPACT**

Central Valley Water Board and State Water Board staff work associated with or resulting from this action will be addressed with existing and future budgeted resources.

## **REGIONAL WATER BOARD IMPACT**

Yes, approval of this resolution will amend the Central Valley Water Board's Basin Plan.

## **STAFF RECOMMENDATION**

That the State Water Board:

1. Approves the amendment to the Basin Plan as adopted under Central Valley Water Board [Resolution No. R5-2007-0034](#).
2. Authorizes the Executive Director or designee to submit the amendment adopted under Central Valley Water Board [Resolution No. R5-2007-0034](#), as approved, and the administrative record for this action to the Office of Administrative Law and the TMDL and water quality objectives to USEPA for approval.

# DRAFT

## STATE WATER RESOURCES CONTROL BOARD RESOLUTION NO. 2008-

### APPROVING AN AMENDMENT TO THE WATER QUALITY CONTROL PLAN FOR THE SACRAMENTO RIVER AND SAN JOAQUIN RIVER BASINS (BASIN PLAN) FOR THE CONTROL OF DIAZINON AND CHLORPYRIFOS RUNOFF INTO THE SACRAMENTO AND FEATHER RIVERS

#### WHEREAS:

1. On May 3, 2007, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) adopted Resolution No. R5-2007-0034 ([Attachment](#)) amending the Basin Plan for the control of diazinon and chlorpyrifos runoff into the Sacramento and Feather Rivers.
2. The Central Valley Water Board found that the analysis contained in the total maximum daily load (TMDL) staff report, the California Environmental Quality Act (CEQA) checklist, notice of public hearing, and notice of filing prepared by Central Valley Water Board staff comply with the requirements of the State Water Board's certified regulatory CEQA process, as set forth in the California Code of Regulations, Title 23, section 3775 et seq.
3. The Central Valley Water Board found that the proposed amendment is consistent with State Water Board [Resolution No. 68-16](#), in that the changes to water quality objectives (i) consider maximum benefit to the people of the state, (ii) will not unreasonably affect present and anticipated beneficial use of waters, and (iii) will not result in water quality less than that prescribed in policies, and the proposed amendment is consistent with the federal Antidegradation Policy (40 CFR part 131.12). The proposed amendment requires actions to be taken to implement management practices to ensure compliance with water quality objectives. Such actions are of maximum benefit to the people of the state. Control of discharges of diazinon and chlorpyrifos to the Sacramento and Feather Rivers is necessary to protect beneficial uses of the Sacramento and Feather Rivers. The proposed amendment will not unreasonably affect present and anticipated beneficial uses nor result in water quality less than described in applicable policies because the amendment are intended to result in compliance with water quality objectives. The actions to be taken are not expected to cause other impacts on water quality.
4. The State Water Board finds that the Basin Plan amendment is in conformance with Water Code section 13240, which specifies that Regional Water Quality Control Boards may revise Basin Plans; section 13241, which authorizes Regional Water Quality Control Boards to establish water quality objectives; section 13242, which requires a program of implementation of water quality objectives; and section 13243 which authorizes Regional Water Quality Control Boards to specify certain conditions or areas where the discharges of certain types of waste will not be permitted. The State Water Board also finds that the two TMDLs, as reflected in the Basin Plan amendment, are consistent with the requirements of federal Clean Water Act section 303(d).
5. In an order, the Sacramento County Superior Court required the Central Valley Water Board to reconsider the diazinon objectives adopted by [Resolution No. R5-2003-0148](#) (October 16, 2003), no later than June 30, 2007 (*Makhteshim Agan of North America v. State Water Resources Control Board; Regional Water Quality Control Board-Central Valley Region, Sac. Cty. Sup. Ct. - Case No. 04CS00871*).

# DRAFT

6. Based on the record as a whole, including draft Basin Plan amendment, the environmental document, accompanying written documentation, and public comments received, the Central Valley Water Board found that the amendment will not result in adverse effects on fish, wildlife, or the environment, and therefore no mitigation measures are proposed. The Central Valley Water Board found that the record as a whole and the procedures followed by staff comply with applicable CEQA requirements (23 California Code of Regulations [CCR] section 3775 et seq, Public Resources Code sections 21080.5, 21083.9, and 21159, 14 CCR section 15187).
7. A Basin Plan amendment does not become effective until approved by the State Water Board and until the regulatory provisions are approved by the Office of Administrative Law (OAL). The TMDL and water quality objectives must also be approved by the U.S. Environmental Protection Agency (USEPA).

THEREFORE BE IT RESOLVED THAT:

The State Water Board:

1. Approves the amendment to the Basin Plan as adopted under Central Valley Water Board [Resolution No. R5-2007-0034](#).
2. Authorizes the Executive Director or designee to submit the amendment adopted under Central Valley Water Board [Resolution No. R5-2007-0034](#), as approved, and the administrative record for this action to OAL and the TMDL and water quality objectives to USEPA for approval.

## CERTIFICATION

The undersigned, Clerk to the Board, does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Board held on February 19, 2008.

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Jeanine Townsend  
Clerk to the Board