STATE WATER RESOURCES CONTROL BOARD
BOARD MEETING SESSION – CENTRAL VALLEY REGIONAL WATER BOARD
JUNE 16, 2015

ITEM 5

SUBJECT

CONSIDERATION OF A PROPOSED RESOLUTION APPROVING AN AMENDMENT TO THE WATER QUALITY CONTROL PLAN FOR THE SACARAMENTO AND SAN JOAQUIN RIVER BASINS (BASIN PLAN) FOR THE CONTROL OF DIAZINON AND CHLORPYRIFOS DISCHARGES

DISCUSSION

On March 28, 2014, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) adopted Resolution No. R5-2014-0041 amending the Basin Plan to establish water quality objectives for the organophosphate pesticides diazinon and chlorpyrifos. The objectives are applicable within water bodies in the Sacramento and San Joaquin River Basins, below major dams with WARM and/or COLD aquatic life beneficial uses, including 31 water bodies which are impaired by these pesticides. The Basin Plan amendment also includes a control program to ensure the numeric water quality objectives will be achieved.

Impairments

Diazinon and chlorpyrifos are insecticides that are currently widely used in agriculture in the Central Valley. They are applied to several crops by approximately 2400 growers in the Sacramento and San Joaquin River Basins, the main uses being applications to walnuts, almonds, peaches, plums and prunes, alfalfa and tomatoes. Though these insecticides were also once widely used in urban settings, the United States Environmental Protection Agency has recently cancelled almost all of their nonagricultural uses. Since the early 1990s, these insecticides have impaired surface water bodies in the Sacramento and San Joaquin River Basins. Concentrations in municipal stormwater and wastewater have declined dramatically since the EPA cancellation of almost all non-agricultural uses in the early 2000's. Concentrations in agricultural areas have also declined, and some impairments that were due to agricultural sources have been resolved, but several water bodies in agricultural areas remain impaired by these pesticides.

All of the diazinon and chlorpyrifos water quality impairments in the Sacramento and San Joaquin River Basins are found in lower elevations of the Valley, below the major dams, because these are the areas where there is the most pesticide use and where there is the most runoff from agricultural and urban sources. Previous Basin Plan Amendments have established water quality objectives, Total Maximum Daily Loads (TMDLs) and programs of implementation addressing diazinon and chlorpyrifos impairments in the Sacramento and Feather Rivers, the San Joaquin River and the Sacramento-San Joaquin Delta. In the Sacramento and San Joaquin River Basins, below the major dams, there are 47 remaining impairments in 31 water bodies due to discharges of one or both these pesticides from agricultural sources. Since these pesticides continue to be widely used in agricultural areas in the Sacramento and San Joaquin River Basins, there is potential for additional diazinon and chlorpyrifos impairments in other water bodies that have not yet been evaluated.

Water Quality Objectives

The water quality objectives for diazinon and chlorpyrifos are the same as those previously established for the Sacramento, Feather and San Joaquin Rivers and the Sacramento-San Joaquin Delta. The objectives are based on criteria developed by the California Department of Fish and Wildlife (CDFW) using U.S. EPA methodologies for the protection of aquatic life, which is the beneficial use most sensitive to these pesticides. The objectives are maximum 1-hour and 4-day concentrations, not to be exceeded more than once in a three-year period. The objectives apply to the 31 waterbodies impaired by diazinon and/or chlorpyrifos, and all water bodies in the Sacramento and San Joaquin River Basins below major dams with WARM or COLD aquatic life beneficial uses.

Implementation

The amendment contains a control program to ensure timely attainment of the objectives. The amendment specifies that the Board will ensure the objectives are attained through modifying or adopting waste discharge requirements or waivers within 5 years of the effective date of the amendment and by enforcing the prohibition.

Dischargers to waterbodies not attaining the objectives are required to submit management plans describing the cause of nonattainment of the objectives, actions to be taken to reduce the concentrations in discharges in order to meet the objectives, a schedule for those actions, monitoring and a commitment to revised pollution controls as necessary. These provisions will be implemented through the Boards Irrigated Lands Regulatory Program, as agriculture is the sole remaining significant source of these pesticides. Compliance with the proposed objectives is due within timelines set by existing plans and policies, but where no plan or policy dictates the compliance schedule, compliance is due as soon as practicable but no later than ten years from the effective date of the amendment.

The federal Clean Water Act generally requires that the Board establish TMDLs to address pollutant exceedances that result in water quality impairments (i.e., federal Clean Water Act section 303(d) listings). However, if the Board can demonstrate that other pollution control requirements will successfully address an impairment, then a TMDL is not required. This Amendment establishes the pollution control requirements described above for the 31 water bodies that are currently on the 303(d) list due to diazinon and/or chlorpyrifos impairments and for all the water bodies for which those objectives are established. The controls prescribed in the amendment and through the Irrigated Lands Regulatory Program's waste discharge requirements will result in attainment of water quality standards related to diazinon and chlorpyrifos in these waterbodies, as demonstrated in appendix F of the staff report and acknowledged in Resolution R5-2014-0041. Therefore upon adoption of the propose amendment, in the next update to the Integrated Report, the diazinon and chlorpyrifos impairments for these 31 waterbodies can be recommended to U.S. EPA to be placed in Integrated Report "category 4b" which are impairments "addressed by actions other than TMDLs". The Central Valley Water Board's staff report contains a specific "category 4b demonstration" which provides documentation of how the pollution control requirements for diazinon and chlorpyrifos that will be in place when the amendment is effective, will address all of the elements is U.S. EPA's guidance for supporting listing an impairment in "category 4b" as an alternative to TMDL development.

Because the implementation provisions apply to all the waterbodies for which the objectives are established, the implementation of the amendment by the Board should prevent or quickly address future diazinon and chlorpyrifos impairments in water bodies that are not currently on the 303(d) list. The Proposed Amendment is fully consistent with previous amendments addressing diazinon and chlorpyrifos in the Sacramento and Feather Rivers, the San Joaquin River, and the Sacramento-San Joaquin Delta. The Board's implementation of the control program and the Board's coordination with the California Department of Pesticide Regulation, the United States Environmental Protection Agency's Office of Pesticide Programs, and the County Agricultural Commissioners, is expected to fully address all diazinon and chlorpyrifos impairments in the Sacramento and San Joaquin River Basins.

Prohibition

To help ensure unregulated sources will not prevent attainment of the objectives, the amendment prohibits unregulated discharges of these pesticides at concentrations above the water quality objectives.

Interagency Coordination

The amendment contains recognition by the Board that implementation of the authorities of agencies that regulate pesticide use, including CDPR, U.S. EPA Office of Pesticide Programs, and County Agricultural Commissioners, should be one of the primary mechanisms for addressing pesticide-caused water quality impairments.

Monitoring and Surveillance

The amendment contains monitoring requirements for municipal storm water, domestic wastewater, and agricultural dischargers, allows for representative monitoring, and contains provisions that address potential replacement pesticides. Specific monitoring activities are not prescribed, however monitoring and reporting programs must be designed to collect information necessary to make a number of specific determinations, including if objectives are being attained, the degree and effectiveness of management practice implementation, if alternative pesticides are causing water quality impacts, and if discharges are causing or contributing to toxicity impairments due to multiple pollutants. The amendment explicitly allows for collaborative monitoring efforts and representative monitoring programs and allows data collected by other entities to be used by the dischargers in their monitoring and reporting. In addition, the amendment allows discontinuation of monitoring when data are not needed to meet the monitoring requirements, such as in areas where diazinon or chlorpyrifos are no longer used.

Cost Estimate

The agricultural costs estimated in the amendment 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 already in the Basin Plan.

There are numerous management practices that can be implemented by growers to effectively reduce diazinon and chlorpyrifos discharges including alternative pest management practices, pesticide application practices, and water management practices. The per-acre costs for the practices examined range from a cost savings of $17 per year to an added expense of $218 per year (2010 dollars). These costs for each crop were compared to cost of production and ranged from a minor cost savings to a maximum estimated 5-9% increase in production costs. The higher-end estimate is, however, less likely to be implemented as growers are likely to find ways to implement the most affordable cost effective solutions. All these costs are also likely somewhat high as the estimate did not account for other existing requirements of the Basin Plan or ILRP WDRs, pesticide use regulations, the benefits of their implementation such as erosion reduction, and the fact that many of these practices would help to reduce discharges of other pollutants of concern, such as sediment, herbicides, other pesticides, and nutrients. The cost of management practices was multiplied by the number of applicable acres to yield an estimate of the total costs for agricultural management practices to meet the diazinon and chlorpyrifos objectives in the Sacramento and San Joaquin River Basins which range from $5 to $21.6 million/year (2010 dollars).

Monitoring and reporting costs for agriculture to meet the amendment's monitoring goals was estimated as costing from $677 to $2500 per grower. The lower end cost assumed a collective monitoring and reporting program, while the higher cost assumed individual monitoring and reporting. Multiplying these costs by the approximately 2,400 growers who apply diazinon and chlorpyrifos, the total annual monitoring cost is 1.6 to 6 million (2010 dollars) for agriculture, although many of these costs would likely be incurred in meeting existing Basin Plan and ILRP requirements.

Summing the estimated total annual management practice and monitoring and reporting costs for agriculture, the estimated total annual costs for agriculture range from $6.6 to $27.6 million (2010 dollars), although these are likely high-end estimates as described above.

For stormwater and wastewater dischargers significant new efforts to control these pesticides to meet the proposed objectives are not expected. Therefore the cost of the Proposed Amendment to these dischargers should be the cost of monitoring for diazinon and chlorpyrifos, as well as monitoring for potential replacement products and potential additive toxic effects.

For municipal and domestic wastewater treatment plans, total cost of monitoring and reporting for the Basin Plan control program is approximately $21,000 per five-year permitting cycle, or $4200 per year per facility. For municipal storm water dischargers, the total cost of monitoring and reporting for the Basin Plan control programs is approximately $31,000 per five-year permitting cycle or $6,200 per year for each storm water discharger. An alternative cost of compliance was estimated for stormwater to describe potential costs if a collective monitoring effort used under which monitoring would be collected at representative facilities, but collected more frequently. Costs for this method of compliance monitoring were estimated at approximately $2,300 per year for each storm water discharger. The costs of diazinon and chlorpyrifos monitoring for wastewater and stormwater dischargers will likely go down in the future as diazinon and chlorpyrifos concentrations are further reduced and requirements to monitor for them are relaxed or eliminated in response as specifically allowed in the amendment.

POLICY ISSUE

Should the State Water Board approve the amendment to the Central Valley Water Board's Basin Plan for the Sacramento and San Joaquin River Basins to establish water quality objectives for diazinon and a control program to ensure the numeric water quality objectives will be achieved?

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 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. Approve the resolution to amend the Central Valley Water Board's Basin Plan for the Sacramento and San Joaquin River Basins.

2. Authorize the Executive Director or designee to submit the amendment adopted under Central Valley Water Board Resolution No. R5-2014-0041 and the administrative record for this action to the Office of Administrative Law as approved.

3. Authorize the Executive Director or designee to submit the water quality objectives adopted under Central Valley Water Board Resolution No. R5-2014-0041 to the U.S. Environmental Protection Agency for approval as water quality standards.

State Water Board action on this item will assist the Water Boards in reaching Goal 1 of the Strategic Plan Update: 2008-2012 to fully support the beneficial uses for all 2006-listed water bodies by 2030. In particular, approval of this item will assist in fulfilling Objective 1.1, Action 1.1.5. to identify document and begin implementation of strategies with broad application that can be applied through policies and permits to restore water quality, and that may eliminate the need to develop a TMDL.

D R A F T

STATE WATER RESOURCES CONTROL BOARD
RESOLUTION NO. 2015-

APPROVING AN AMENDMENT TO THE WATER QUALITY CONTROL PLAN FOR THE SACARAMENTO AND SAN JOAQUIN RIVER BASINS (BASIN PLAN) FOR THE CONTROL OF DIAZINON AND CHLORPYRIFOS DISCHARGES

WHEREAS:

1. On March 28, 2014, the Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) adopted Resolution No.R5-2014-0041, an amendment to the Water Quality Control Plan for the Sacramento and San Joaquin River Basins (Basin Plan amendment) for the control of diazinon and chlorpyrifos discharges.

2. The Central Valley Water Board found that the analysis contained in the California Environmental Quality Act (CEQA) "Substitute Environmental Documentation" for the proposed Basin Plan amendment, including the CEQA Checklist, the final staff report entitled "*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* " and the responses to comments complies with the State Water Board's regulations for the implementation of CEQA, as set forth in the California Code of Regulations, Title 23, sections 3775 through 3781. The State Water Board has reviewed the Substitute Environmental Documentation for the Basin Plan amendment and concurs with the Central Valley Water Board's findings and determinations, including the Statement of Overriding Considerations.

3. The Central Valley Water Board also adopted the Basin Plan amendment pursuant to the "Necessity" standard of the Administrative Procedures Act, Government Code section 11353, subdivision (b).

4. The Central Valley Water Board found the Basin Plan amendment is consistent with the Statement of Policy with Respect to Maintaining High Quality of Waters in California (State Water Board Resolution No. 68-16) and the federal Antidegradation Policy (40C.F.R. § 131.12), in that it does not allow degradation of water quality, but requires restoration of water quality and attainment of water quality standards.

5. 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, and section 13242, which requires a program of implementation for achieving water quality objectives, and section 13141, which requires an estimate of the total cost of the implementation of an agricultural water quality control program, along with an identification of potential sources of financing, and section 13241, which requires consideration of specific factors in adopting new water quality objectives. With adoption of the Proposed Amendment, the Central Valley Water Board will have established pollution control requirements that will address all of the diazinon and chlorpyrifos impairments for the thirty-two water body segments impaired by diazinon and/or chlorpyrifos consistent with the requirements of section 303(d) of the federal Clean Water Act.

6. 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 water quality standards applicable to waters of the United States must also receive approval from the U.S. Environmental Protection Agency (U.S. EPA).

THEREFORE BE IT RESOLVED THAT:

The State Water Board:

1. Approves the Basin Plan amendment adopted under Central Valley Water Board Resolution No. R5-2014-0041.

2. Authorizes and directs the Executive Director or designee to submit the Basin Plan amendment adopted under Central Valley Water Board Resolution No. R5-2014-0041 to OAL for approval of the regulatory provisions and to U.S. EPA for approval of the TMDL.

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 Resources Control Board held on June 16, 2015.

Jeanine Townsend
Clerk to the Board