October 27, 2006

STATE WATER RESOURCES CONTROL BOARD
BOARD MEETING SESSION--DIVISION OF WATER QUALITY
NOVEMBER 15, 2006

ITEM 16

SUBJECT

CONSIDERATION OF A RESOLUTION APPROVING AN AMENDMENT TO THE WATER QUALITY CONTROL PLAN FOR THE SAN FRANCISCO BAY REGION (BASIN PLAN) TO ESTABLISH A WATER QUALITY ATTAINMENT STRATEGY AND TOTAL MAXIMUM DAILY LOAD (TMDL) FOR DIAZINON AND PESTICIDE-RELATED TOXICITY IN BAY AREA URBAN CREEKS

DISCUSSION

The San Francisco Bay Regional Water Quality Control Board (San Francisco Bay Water Board) adopted the proposed Basin Plan amendment on November 16, 2005 under Resolution R2-2005-0063, establishing a program to control diazinon and pesticide-related toxicity in Bay Area urban creeks.

Thirty-seven urban creeks in the San Francisco Bay Region were identified in 1998 under federal Clean Water Act § 303(d)(1) as not meeting narrative water quality standards due to toxicity to aquatic life. Studies attributed the toxicity to diazinon. Diazinon is a broad-spectrum organophosphorus pesticide used to control a variety of insect pests, such as ants.

The U.S. Environmental Protection Agency (USEPA) phased out most urban diazinon applications at the end of 2004; however, the use of alternative pesticides has increased, and new pesticides have been introduced. Some diazinon alternatives, particularly the pyrethroids, pose water and sediment quality concerns. Pyrethroids may already cause sediment toxicity in at least some Bay Area urban creeks.

Pesticides, including diazinon, enter urban creeks mainly through urban runoff after being applied outdoors for landscape maintenance, structural pest control, agricultural uses, and other pest management purposes. Factors that affect pesticide concentrations in urban creeks include: the amount used; the chemical and physical properties of the pesticide and its product formulation; the sites of use (e.g., landscaping, turf, or paved surfaces); and irrigation practices and precipitation.

Several federal, State, and local agencies and organizations oversee the manufacture, sale, use, and discharge of pesticides. USEPA can regulate pesticide manufacture, distribution, sale, and use to the extent necessary to prevent unreasonable adverse effects on the environment. The California Department of Pesticide Regulation (DPR) regulates pesticide sales and use within California and has authority over distributors, sellers, and users (including professional and over-the-counter users). DPR can require permits to apply pesticides, which include conditions such as training requirements, special handling practices, or specific prohibitions. The authority to enforce such permits is generally delegated to County Agricultural Commissioners.

The Water Boards are primarily responsible for enforcing water quality standards. The San Francisco Bay Water Board has the authority to issue and enforce National Pollutant Discharge Elimination System (NPDES) permits for point source discharges, including urban runoff through storm drains. These permits require that discharges from storm drains not cause or contribute to violations of water quality standards and that pollutant discharges are reduced to the maximum extent practicable. The San Francisco Bay Water Board may also issue and enforce Waste Discharge Requirements for nonpoint source discharges or waive these requirements with or without conditions. Bay Area urban runoff management agencies and other permitted entities are responsible for controlling urban runoff and any pollutants contained in their runoff.

Other relevant governmental agencies include the Structural Pest Control Board, which is responsible for licensing structural pest control operators, and the University of California Statewide Integrated Pest Management Program, which is responsible for pest management education and outreach.

The San Francisco Bay Water Board concluded that pesticide-related water quality impairment largely occurs because of gaps in regulatory program implementation stemming from differing legal mandates and methods of collecting and analyzing data. For instance, the processes for pesticide registration under the Office of Pesticide Program (USEPA) do not necessarily ensure compliance with the federal Clean Water Act as interpreted by the Office of Water (also USEPA).

Placement on the 303(d) list requires that a plan (a TMDL) be developed to control the identified pollutants and ensure that standards are met. The proposed amendment establishes a water quality attainment strategy, including a TMDL, for diazinon and pesticide-related toxicity that, when implemented, is expected to meet water quality objectives and protect beneficial uses of the urban creeks. Because the San Francisco Bay Water Board found that ***all*** Bay Area urban creeks can reasonably be presumed to receive pesticide discharges, and that implementation of the strategy will be most efficient if applied Region-wide, the strategy is applied to all urban creeks in the Region, including those not formally listed on the 303(d) list.

The TMDL sets numeric targets for pesticide-related acute and chronic toxicity in urban creek waters and sediment. These targets require that toxicity not exceed 1.0 acute toxic units or 1.0 chronic toxic units, as determined through standard toxicity tests. To achieve the targets, Bay Area urban creeks must not be toxic to aquatic life. In addition, the proposed amendment specifies that diazinon concentrations in the water column must not exceed 100 nanograms per liter as a one-hour average. The diazinon target is consistent with recently revised California Department of Fish and Game criteria and draft USEPA criteria. The TMDL is allocated to all urban runoff, including urban runoff associated with municipal separate storm sewer systems, CalTrans facilities, and industrial, construction, and institutional sites. Allocations are set equal to the targets.

The cornerstone of the attainment strategy is pollution prevention. This can be accomplished by using less toxic pest control methods and by applying integrated pest management techniques. “Integrated Pest Management” is a pest management strategy that focuses on long-term prevention or suppression of pest problems through a combination of techniques such as monitoring for pest presence and establishing treatment threshold levels, using non-chemical practices to make the habitat less conducive to pest development, improving sanitation, and employing mechanical and physical controls. Implementation of the strategy will focus on

(1) proactive regulatory programs, (2) education and outreach, and (3) research and monitoring. It requires urban runoff management agencies to minimize pesticide use, conduct outreach, and lead monitoring efforts. It requests pesticide and water quality regulators to better coordinate their various programs to protect water quality.

Monitoring is required to track progress in implementing the plan and meeting the targets. Municipal urban runoff permits require dischargers to characterize their discharges, which involves monitoring toxicity and specific pollutants in receiving waters. Urban runoff management agencies will design and implement acceptable monitoring programs. The strategy includes a method to determine appropriate monitoring benchmarks for specific pesticides in water. The need for comprehensive pesticide-related water quality monitoring may be moderated by efforts to monitor other factors, which serve as surrogates or indicators of water quality conditions. For example, monitoring in storm drain systems may be useful in selecting creek sampling strategies, because pesticide concentrations are easier to detect nearer to the pesticide application site.

Many of these efforts are already underway. The San Francisco Bay Water Board plans to review the attainment strategy and TMDL every five years to determine if any modifications are necessary.

POLICY ISSUE

Should the State Water Resources Control Board (State Water Board) approve the proposed amendment to the Basin Plan in accordance with the staff recommendations below?

FISCAL IMPACT

San Francisco Bay Water Board and State Water Board staff work associated with or resulting from this action can be accomplished within existing and future budgeted resources.

REGIONAL WATER BOARD IMPACT

Yes, San Francisco Bay Water Board.

STAFF RECOMMENDATION

That the State Water Board:

1. Approves the amendment to the Basin Plan adopted under San Francisco Bay Water Board Resolution No. R2-2005-0063.

2. Authorizes the Executive Director or designee to transmit the amendment and the administrative record for this action to the Office of Administrative Law and the TMDL to USEPA for approval.

DRAFT

October 27, 2006

STATE WATER RESOURCES CONTROL BOARD
RESOLUTION NO. 2006 -

APPROVING AN AMENDMENT TO THE WATER QUALITY CONTROL PLAN FOR THE SAN FRANCISCO BAY REGION (BASIN PLAN) TO ESTABLISH A WATER QUALITY ATTAINMENT STRATEGY AND TOTAL MAXIMUM DAILY LOAD (TMDL) FOR DIAZINON AND PESTICIDE-RELATED TOXICITY IN BAY AREA URBAN CREEKS

WHEREAS:

1. The San Francisco Bay Regional Water Quality Control Board (San Francisco Bay Water Board) adopted a revised Basin Plan on June 21, 1995, which was approved by the State Water Resources Control Board (State Water Board) on July 20, 1995 and by the Office of Administrative Law (OAL) on November 13, 1995.

2. On November 16, 2005, the San Francisco Bay Water Board adopted Resolution No. R2-2005-0063 (**Attachment**) amending the Basin Plan to establish a program to control diazinon and pesticide-related toxicity in Bay Area urban creeks.

3. 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.

4. San Francisco Bay Water Board staff prepared documents and followed procedures satisfying environmental documentation requirements in accordance with the California Environmental Quality Act and other State laws and regulations.

5. The TMDL amendment does not become effective until it is approved by the State Water Board, the regulatory provisions are approved by OAL and the TMDL is 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 adopted under San Francisco Bay Water Board Resolution No. R2-2005-0063.

2. Authorizes the Executive Director or designee to transmit the amendment and the administrative record for this action to OAL and the TMDL 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 Resources Control Board held on November 15, 2006.

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Song Her
Clerk to the Board