IRRIGATED LANDS REGULATORY PROGRAM
Pesticide Evaluation Advisory Workgroup

BACKGROUND INFORMATION

The Central Valley Water Board's Irrigated Lands Regulatory Program (ILRP) was initiated in 2003 with the adoption of a conditional waiver of Waste Discharge Requirements for discharges from irrigated lands. By March 2014, the Central Valley Water Board adopted eight ILRP Waste Discharge Requirements (Orders), which protect both surface water and groundwater: one Order for growers not participating in a third-party group, one commodity-based Order for rice, and six geographically-based Orders for members of third-party groups. The list of questions to be answered by the updated surface water quality monitoring program under the new Orders is at the end of this summary. An overview of Order requirements is provided in sections below.

1. Individual Discharger General Order (growers not participating in third-party)

- Order R5-2013-0100: Individual Discharger General Order

Attachment A to the Individual Discharger General Order R5-2013-0100 describes the selection process for pesticides and conditions that require monitoring in surface water under the Order:

"[…] board staff used available information on pesticides that pose a threat to surface water to create a subset list required for monitoring. This prioritization is intended to focus the growers' resources where water quality threats are highest. Initial prioritization criteria included pesticides on the 303(d) list, ILRP management plan pesticides, and high overall relative risk level pesticides (Pesticide TMDL Staff Report, February 2009). Next, staff removed pesticides that are not registered for legal use in California. Finally, staff considered available monitoring data and removed pesticides with data indicating that surface water exceedances are not likely to occur. This included pesticides where substantial data existed and where there were either no detections or detections were below toxicity levels. Pesticides remain on the monitoring list if there is not monitoring data available, if there is limited data available, or if there are detections above toxicity levels. […]

Growers are required to monitor the first irrigation and/or storm event discharge that occurs within 60-days of an application of […] pesticides […] chosen using the process described above. If there is no discharge within 60-days of an application, no sample collection will be required. This sampling requirement is triggered each time a listed pesticide is used. In developing surface water monitoring requirements, the board reviewed information on environmental degradation of pesticides (half-lives) and consulted with DPR. […] DPR has provided the recommendation that 60-days would allow for most of the pesticides to undergo substantial degradation based on its analysis of dissipation half-lives. Therefore, the sampling for these pesticides is targeted to evaluate the quality of runoff prior to the 60-day mark. […]"

Pesticides subject to monitoring in surface water (Monitoring and Reporting Program (MRP) Order R5-2013-0100, section V):

2,4-D	Copper*	Disulfoton	Oxyfluorfen	Propanil
Aldicarb	Diazinon	Diuron	Paraquat	Simazine
Atrazine	Dichlorvos	Malathion	Parathion-methyl	Thiobencarb
Chlorpyrifos	Dimethoate	Oryzalin	Prometryn	

2. Rice Order

- Order R5-2014-0032: Rice Growers in the Sacramento Valley Area

The Rice Order requires that selection of pesticides* to be monitored be based on an evaluation of previous years' monitoring results, changes in pesticide use and/or application, and assessment of the potential for affecting water quality using physical and chemical properties of the pesticides.

Specific requirements from the MRP Order R5-2014-0032 are summarized in excerpts below:

"Pesticides to be monitored are based on an evaluation of the previous years' monitoring results, whether changes in the pesticide usage has occurred (e.g., number of acres applied); and the most recent rice pesticide evaluation […]." (section III.C).

"[…] evaluation of rice pesticides relative to potential effects on surface water quality […] shall consider the following factors based on their applicability and whether information is readily available: use information (e.g., pounds applied, acres treated, timing of application, product formulation, method of application, application rate, hold times, requirements associated with drift or discharge to surface waters), physical and chemical properties of the pesticide (e.g., degradation rate, adsorption coefficients) and the pesticide's toxicity to aquatic life and risk to human health (e.g., through review of relevant toxicity studies, benchmarks or criteria established for human health or aquatic life protection), and newly registered or cancelled pesticides that are registered for use on rice fields. […] the Rice Pesticide Evaluation will be reviewed as part of a rice-specific process by Water Board staff that includes input from qualified scientists and coordination with the Department of Pesticide Regulation." (section V.C)

"[…] Pesticides […] are to be monitored during the months when peak application and/or release occur." (section III.D)

3. Geographically-based orders (growers who are third-party members)

- Order R5-2014-0030: Sacramento River Watershed
- Order R5-2014-0029: San Joaquin County and Delta Area
- Order R5-2012-0116-R2: Eastern San Joaquin River Watershed
- Order R5-2014-0002: Western San Joaquin River Watershed
- Order R5-2013-0120: Tulare Lake Basin Area
- Order R5-2014-0001: Western Tulare Lake Basin Area

Orders only outline that pesticides to be monitored are "to be determined". Generalized language pertaining to pesticide identification and monitoring schedule and frequency in the respective MRP Orders (section III) is provided below (specific language can be found in each of the Orders):

The pesticides identified as "to be determined" (TBD) shall be identified as part of a process that includes input from qualified scientists and coordination with the Department of Pesticide Regulation. Based on the evaluation factors identified in this process, the Executive Officer will provide the third-party with a list of pesticides* that require monitoring in areas where they are

* Pesticides to be monitored may include environmentally stable degradates of the registered active ingredient. The evaluation factors applied to degradates will be the same as those applied to the registered active ingredient and will include consideration of the commercial availability of analytical methods to detect the degradate. Potential degradates to evaluate will be identified through Central Valley Water Board and third-party consultation with the Department of Pesticide Regulation.

applied and have the potential to impair water quality/must be considered by the third-party for inclusion in the Monitoring Plan Update. The third-party shall apply the evaluation factors to the relevant conditions in each subwatershed and propose the pesticides to be monitored in its Monitoring Plan Update.

The third-party shall identify the appropriate monitoring periods (e.g., months, seasons) for all parameters that require testing. […] For metals, pesticides, and aquatic toxicity, the monitoring periods shall be determined utilizing previous monitoring results, knowledge of agricultural use patterns (if applicable), pesticide use trends, chemical characteristics, and other applicable criteria.

Monitoring must be conducted when the pollutant is most likely to be present. […] The frequency of data collection must be sufficient to allow determination of compliance with the relevant numeric water quality objective(s) or water quality triggers. Adequate characterization of the presence of some pollutants may require monitoring more than once per month.

Surface Water Quality Monitoring Questions

As listed in the Attachment A – Information Sheet, of adopted Orders, the basic questions to be answered by the updated surface water quality monitoring program under the Waste Discharge Requirements are similar to those established under the conditional waiver and previous MRP Orders:

1. Are receiving waters to which irrigated lands discharge meeting applicable water quality objectives and Basin Plan provisions?
2. Are irrigated agricultural operations causing or contributing to identified water quality problems[1]? If so, what are the specific factors or practices causing or contributing to the identified problems?
3. Are water quality conditions changing over time (e.g., degrading or improving as new management practices are implemented)?
4. Are irrigated agricultural operations of Members in compliance with the provisions of the Order?
5. Are implemented management practices effective in meeting applicable receiving water limitations?
6. Are the applicable surface water quality management plans effective in addressing identified water quality problems?

[1] Exceedance of an applicable water quality objective or a trend of degradation that may threaten applicable Basin Plan beneficial uses.