

**Comments on the
REVISED DRAFT STATEWIDE GENERAL NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM PERMIT FOR THE DISCHARGE OF AQUATIC
PESTICIDES FOR AQUATIC WEED CONTROL
IN WATERS OF THE UNITED STATES, dated April 6, 2004**

Comments Submitted by
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I find that the April 6, 2004, revision of the February 10, 2004, original draft General NPDES Permit for the Discharge of Aquatic Pesticides for Aquatic Weed Control in Waters of the US has the potential to significantly weaken the protection of non-target species in the Treatment Area for herbicide application. The revised draft introduces technically invalid approaches for potentially evaluating the impact of chemicals on aquatic life by eliminating the need for aquatic life toxicity testing for those chemicals with water quality criteria. Chemicals at concentrations below the water quality criteria can, through additive and synergistic effects with other chemicals in the water, cause toxicity to aquatic life.

In addition, the revised draft's elimination of the discussion of the required aquatic life toxicity and bioassessment monitoring is inappropriate and fails to provide the needed guidance on the toxicity testing and bioassessment components of the monitoring plan. As I commented on the February 10, 2004, original draft permit, there is need to strengthen the toxicity and bioassessment monitoring. A discussion of the characteristics of this monitoring should be included in the permit or an addendum to it.

I find that the revisions of the February 10, 2004, draft permit have not adequately and reliably addressed significant deficiencies that were discussed in my comments on this draft. The SWRCB's limiting of the comments to revisions of the February 10, 2004, draft permit does not permit discussing several significant deficiencies in this draft that were not addressed by the State Board staff in its revisions. I am incorporating by reference my original comments,

Lee, G. F., "Comments on Draft Statewide General National Pollutant Discharge Elimination System Permit for the Discharge of Aquatic Pesticides for Aquatic Weed and Pest Control in Waters of the United States," Comments Submitted to the California State Water Resources Control Board by G. Fred Lee & Associates, El Macero, CA, March (2004).

These comments are available at <http://www.gfredlee.com/aqweedpermit-comments.pdf>.
Specific comments on the revisions of the draft permit are presented below.

Fact Sheet

The April 6, 2004, revised draft NPDES aquatic weed herbicide application permit Fact Sheet, on page 3 in the copper discussion, contains the statement,

“Sediment copper concentrations exceeded National Oceanographic and Atmospheric Administration (NOAA) Effect Ratio Low and Medium values. However, the limited toxicity observed in the sediments indicates that the majority of the copper is not bioavailable.”

There are several aspects of this statement which reflect a lack of understanding of sediment chemistry/toxicology. First, the co-occurrence so-called sediment quality guidelines are not NOAA values. They are Long and Morgan values. NOAA administration has made it clear that these values should not be called NOAA values. Senior NOAA staff (Dr. Tom O’Connor) have shown that the Long and Morgan values are not reliable. Second, those who understand sediment chemistry and toxicology know that the Long and Morgan co-occurrence values are not reliable for any purpose, including screening for toxicity. An excerpt from a report submitted to the SWRCB and CVRWQCB,

Lee, G. F. and Jones-Lee, A., “Unreliability of Sediment Co-Occurrence-Based Approaches for Evaluating Aquatic Sediment Quality,” Excerpts from Lee, G. F. and Jones-Lee, A., “Organochlorine Pesticide, PCB and Dioxin/Furan Excessive Bioaccumulation Management Guidance,” California Water Institute Report TP 02-06 to the California Water Resources Control Board/Central Valley Regional Water Quality Control Board, 170 pp, California State University Fresno, Fresno, CA, December (2002). <http://www.gfredlee.com/UnrelSedCooccur.pdf>

presents a discussion of the unreliability of co-occurrence-based approaches for evaluating sediment quality. As discussed, there is no relationship between copper (and, for that matter, other constituent) concentrations in sediments and sediment toxicity.

Page 15 states,

“Water hardness shall be determined by the calculation method because it is more accurate than the titration method.”

While no reference is given, it is assumed that the so-called “calculation method” refers to the APHA, et al., calculation method for determination of hardness. While APHA, et al., indicates that the calculation method is the preferred method for determination of hardness, that assessment may not be appropriate for evaluating the hardness that is used in estimating the water quality criterion for copper. The APHA, et al., calculation approach assumes that only calcium and magnesium are the constituents responsible for hardness. While that is generally true, it is not always true. Further, with respect to the hardness correction on heavy metal toxicity, it is possible that the titration method is a more appropriate means of adjusting the criterion value than the calculation method, since it more properly considers that constituents other than calcium and magnesium, which are measured in the titration assessment of hardness,

also affect copper toxicity. I am reviewing this matter further with US EPA Criteria and Standards Branch in Washington, D.C.

Page 21 states,

“The purpose of toxicity testing is to determine if the aquatic pesticide applications cause toxicity in the receiving water. Since the active ingredients, surfactants, and breakdown products used in these aquatic pesticides are known and have receiving water limitations and/or are analyzed for in the MRP, toxicity testing is not necessary. This General Permit specifies receiving water limitations for each active ingredient that has State or USEPA-based water quality objectives or criteria and when available for their breakdown products and surfactants. These limitations are adequate to protect the beneficial uses of the receiving waters.”

This statement is not technically valid since it ignores additive and synergistic impacts of toxicants. A herbicide can be present at just below the water quality objective (WQO), which in combination with other chemicals in the water, causes toxicity to non-target aquatic life. Toxicity tests should be required for all pesticide applications.

Draft Permit

Page 25 of the Draft Permit states,

“16. DPR regulates the use of pesticide-treated commodities and sites where needed to ensure that pesticide residues or breakdown products do not pose a hazard to human health or the environment. DPR also regulates the use of pesticides to reduce the release of residues from treated sites.”

As I discussed in two previous sets of comments submitted to the SWRCB on the draft aquatic weed NPDES permit (see above reference), this statement is not accurate. DPR does not “ensure” that the use of a pesticide will not “pose a hazard to human health or the environment.” I am concerned that the SWRCB staff have persisted with this inaccurate statement as to DPR’s approach for regulating pesticides. If the statement were true, there would not be the massive problems that now exist with diazinon and chlorpyrifos as pollutants in the State’s waters. These chemicals are being used in accordance with DPR regulations. SWRCB staff responsible for these statements need to become familiar with DPR’s registration process and stop making unreliable statements about the protective nature of pesticide registration/labeling.

Monitoring and Reporting Program

Page 5 of the Monitoring Requirements states,

“Hardness shall be determined by the calculation method.”

As discussed above, this approach may not be appropriate. I would not include the statement that hardness shall be determined by the calculation method until it has been demonstrated that

hardness measured by the calculation method is appropriate for adjusting the toxicity of copper for hardness.

Page 7 states,

“Post-Event Monitoring

Post-event samples shall be collected within the tTreatment aArea and immediately downstream of the treatment area in flowing waters or adjacent to the tTreatment aArea in non-flowing waters within one-week after the application event.”

As discussed in my comments on the draft permit, this sampling plan requirement is inadequate to protect non-target aquatic life located near the Treatment Area. Please see my previous comments on this issue.

Beginning on page 7 and for the next several pages, all the draft discussion of the toxicity and bioassessment monitoring has been deleted from the revised draft. Rather than deleting this requirement, as I discussed on the draft permit it should be strengthened to properly protect non-target aquatic life. While this discussion may not need to be in the permit, it must be referenced in the permit, and a document providing detailed guidance on the toxicity and bioassessment monitoring must be readily available as part of the permit.