

November 30, 2020

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RE: Comments on East San Joaquin Surface Water Quality Monitoring Program Review Panel Draft Report

Sent via electronic submission to: steve@scwarp.org

Dear East San Joaquin Surface Water Quality Monitoring Program Review Panel (Expert Panel),

American Rivers is a national nonprofit organization with a mission to protect wild rivers, restore damaged rivers, and conserve clean water for people and nature. Much of our work in California's Central Valley takes place at the interface of agriculture and the water environment, and we are deeply concerned about the continuing impacts of agricultural pollution, as well as the sustainable management of both surface water and groundwater resources. We greatly appreciate the work done by the Expert Panel over the last year to conduct a review of the ESJ Surface Water Quality Monitoring Program, and we hope that recommendations made by the Expert Panel will lead to improvements to the monitoring program and better management of agricultural pollution in the future.

Sean Bothwell of the California Coastkeeper Alliance is submitting a separate comment letter to the Expert Panel, and I concur with the concerns and recommendations in that letter. The purpose of my letter is to reiterate some comments I made during the November 6 Expert Panel meeting, focused on some technical points in the Panel's Draft Report. While I strongly support the recommendations made by the Expert Panel regarding toxicity testing, pesticide evaluation, and dissolved oxygen, some details regarding the specific recommendations are confusing as currently laid out in the Draft Report, and require some clarification.

1. Pesticide Evaluation Protocol

While I generally agree with the Panel's recommendations on expanding the Pesticide Evaluation Protocol (page 11), some of the language is unclear. The following comments include suggestions for clarifying the wording of the recommendations.

Comparison of ALRVs and LC50s for toxicity test species

The first sentence under STEP 8. Toxicity test appropriateness evaluation, states:

“Evaluate the aquatic life reference values (ALRVs), assuming these are based on the most updated toxicity information, and the LC50 for toxicity test species for each selected pesticide.”

First, it should not be assumed that the ALRVs are based on the most updated toxicity information. It has currently been approximately 5 years since these values were updated by Board staff. If the intent of the Panel recommendation is that these values be updated annually, I certainly agree with that recommendation. However, the Board staff should be the party responsible for updating those values.

Second, it is not clear what is meant by “evaluate”. Given the context of the full paragraph, it appears to mean that for each pesticide, the ALRVs should be compared to the LC50 values for the most sensitive toxicity test species used in the Program. The sentence above could be restated more clearly as follows:

“For each pesticide, compare the LC50 for the most sensitive toxicity test species currently used in the Program to the aquatic life reference values (ALRVs), which should be updated annually by Board staff based on most recent toxicity information.”

Appropriate use of toxicity test species

The second bullet under step 8 states *“If test species are not sufficiently sensitive (i.e., LC50 of the species is substantially higher (e.g., 10 times) than ALRVs for the selected pesticide), incorporate the toxicity test for the most sensitive species for the pesticide into the Program. If a standard test is not available, note the need for future development of this test.”*

However, in some cases it may be infeasible to use the most sensitive species for routine toxicity testing, due to difficulty of maintaining populations in a laboratory, high variability in survival, etc. Therefore, rather than focusing on the need for future development of a test using the most highly sensitive species, it may be best to select another species that is also highly sensitive but more practical to use for routine testing. The phrasing above could be restated as follows:

“If test species are not sufficiently sensitive (i.e., LC50 of the species is substantially higher (e.g., 10 times) than ALRVs for the selected pesticide), incorporate the toxicity test for the most sensitive species for the pesticide into the Program. If a standard test for the most sensitive species is not available, evaluate available toxicity tests using other highly sensitive species. If no appropriate test is available for a highly sensitive species, note the need for future development of this test.”

Analytical detection limits

STEP 9. Analytical chemistry method appropriateness evaluation, states:

“Determine if the methods selected from step 6 have detection limits less than or equal to the ALRVs. Detection limits should ideally be well below (e.g., 10X or 100X) the ALRV.

- If methods from step 6 are sensitive enough to measure the pesticide at the ALRV, they will be considered sufficient.*
- If methods from step 6 are not sensitive enough to measure the pesticide at the ALRV, adopt an appropriate method that will be sensitive enough to detect the pesticide at this concentration in accordance with the prior recommendation (see Recommendation 3.2.2).*
- If an appropriate method with sufficient sensitivity is not available, highlight this fact when reporting monitoring results.”*

In the first sentence I believe what is intended is that instead of 10X or 100X the ALRV, it should be 1/10 or 1/100 the ALRV.

The wording “sensitive enough to measure the pesticide at the ALRV” in the first two bullets is confusing, and seems contradictory to the above sentence. This sentence seems to imply that if the detection limit is equal to the ALRV, it is sufficient.

I suggest the following wording for clarification:

“Determine if the methods selected from step 6 have detection limits less than or equal to the ALRVs. Detection limits should ideally be well below (e.g., ~~10X~~ 1/10 or ~~100X~~ 1/100) the ALRV.

- If methods from step 6 are sensitive enough to measure the pesticide at a concentration of 1/10 the ALRV or lower, they will be considered sufficient.*
- If methods from step 6 are not sensitive enough to measure the pesticide at a concentration of 1/10 the ALRV, adopt an appropriate method that will be sensitive enough to detect the pesticide at this concentration in accordance with the prior recommendation (see Recommendation 3.2.2).*
- If an appropriate method with sufficient sensitivity is not available, highlight this fact when reporting monitoring results.”*

2. Dissolved Oxygen

I agree with Recommendation 3.3.1 that DO should be measured continuously or at time of day when concentrations are likely to be lowest. However, until those additional data are available, more statistical analysis work could be done with the existing data, potentially providing valuable insights that could help steer future data collection. In Recommendation 3.3.2, the Panel recommends doing more statistical analysis using a subset of DO data collected early in the morning. An alternative would be to use the full data set, but include both time of day and time

of year, either as a continuous variables or as a factors in the statistical analysis. This way, the full data set could be used while accounting for the influence of time of day and season. In addition to helping to better elucidate patterns and identify relationships with the various stressors, this information gained from this type of analysis could be useful for determining how to make future changes in the monitoring to allow for most effective use of resources in identifying the likely cause of low DO.

3. Expand development of management plans and focused outreach

I agree with the Recommendation 3.4.1 to expand outreach to areas where no water quality testing is performed, when exceedances are detected at monitoring sites within the zone. However, the Panel recommendations still leave a big gap because there is currently no mechanism to review overall pesticide use outside of the monitoring subwatersheds. The Panel's recommendations include a review of pesticide use reports only for those pesticides for which an exceedance was detected in the monitored subwatersheds. At no point in the process is a review of pesticide use patterns in the entire zone conducted. The pesticide evaluation protocol includes review of pesticide use only within the monitored subwatersheds. It is quite possible that pesticide use in other areas of the zone could be substantially different, with high use of other pesticides that are never considered in the program. This remains a significant gap in the program.

American Rivers appreciates the opportunity to provide input on this important matter, and we thank all of the Expert Panel members and Dr. Steve Weisberg for the time and careful consideration put into this review. Please feel to contact me with any questions or to discuss any of the issues raised above.

Sincerely,



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