



March 13, 2017

Richard Looker  
San Francisco Bay Regional Water Quality Control Board  
1515 Clay Street, Suite 1400  
Oakland, CA 94612

VIA EMAIL: [rlooker@waterboards.ca.gov](mailto:rlooker@waterboards.ca.gov)

**Subject:** BACWA comments on proposed revisions to the Clean Water Act Section 303(d) List of Impaired Water Bodies in the San Francisco Bay Basin

Dear Mr. Looker:

The Bay Area Clean Water Agencies (BACWA) appreciates the opportunity to comment on the proposed revisions to the Clean Water Act Section 303(d) List of Impaired Water bodies in the San Francisco Bay Region. BACWA is a joint powers agency whose members own and operate publicly-owned treatment works (POTWs) and sanitary sewer systems that collectively provide sanitary services to over 7.1 million people in the nine-county San Francisco Bay Area.

BACWA. Members are public agencies, governed by elected officials and managed by professionals who protect the environment and public health. BACWA supports the 303(d) review process, and would like to thank the San Francisco Regional Water Quality Control Board (Regional Water Board) for delisting indicator bacteria for eight San Francisco Bay Area beaches.

BACWA understands that the Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List does not include a provision for retiring data when considering which pollutants to add to the list. However, the data that are used to generate the new proposed 303(d) listings are generally at least ten years old. For example, the new heptachlor listing for the South San Francisco Bay is based on fish tissue and water column concentrations from a data set that ranges from 1993 to 2008. POTWs began their industrial pretreatment programs in 1989, and since then there has been a marked improvement in effluent quality. The general trend for priority pollutants, and especially industrial pollutants, in our Region has been decreasing, generally to below the limit of detection. Furthermore, a recent search of the Department of Pesticide Regulation database shows that heptachlor is not an active ingredient registered in any product at this time. Since the purpose of the 303(d) list is ostensibly to identify contaminants that will be targeted for management action, it would make sense to use data that is no older than a decade.

BACWA's primary concern with the proposed 303(d) List update is the new toxicity listing for each segment of the San Francisco Bay. Toxicity is an effect, rather than a pollutant, so it does not make sense to add it to a list that is used to identify pollutants for which Total Maximum Daily Loads are to be developed. Toxicity itself cannot be given a waste load allocation. The purpose of the toxicity test is to provide a diagnostic tool for the identification of a toxicant. For example, if further investigations show that pesticides are causing toxicity, then the pesticides themselves should be listed and controlled, not the toxic effect.

The Diazinon and Pesticide-Related Toxicity in San Francisco Bay Area Urban Creeks TMDL is an excellent example of how toxicity test results can be a first step in investigating and addressing the cause of an observed toxic effect. In the 1990s, high observed toxicity was linked to pesticides. The Stormwater Municipal Regional Permit (R2-2015-0049) includes a provision for addressing pesticide-related toxicity. Regional Water Board staff have worked with POTWs and Stormwater agencies through the Bay Area Pollution Prevention Group to develop outreach programs, educate the public about responsible pesticide use, and to urge regulators at the EPA and the California Department of Pesticide Regulation (DPR) to consider aquatic toxicity and paths to receiving waters when registering pesticides. The linkage of toxicity to pesticides has also spurred further investigations through the RMP, the Surface Water Ambient Monitoring Program, and the DPR. Without a direct linkage between observed toxicity and the toxicant, none of these actions would have been possible.

Observed toxicity effect may also be unrelated to the presence of a toxicant. The data used to generate the listings in each segment of the San Francisco Bay showed significant toxicity in sediments, but very little toxicity in the water column. The 10-day survival toxicity test with the amphipod *Eohaustorius estuarius* is the primary sediment test protocol used in the Regional Monitoring Program and the State Water Resources Control Board's Sediment Quality Objective (SQO) program. In 2014, the Regional Monitoring Program conducted a study<sup>1</sup> looking at the response of *E. estuarius* to kaolin clay particles in sediment. The results of the study showed that clay concentrations in the sediment reduced the survival rates of this species, and the effect was particularly pronounced in larger organisms. Therefore, it is probable that at least part of the observed toxic effect observed was due to interference by clay particles in the sediment itself, rather than a chemical toxicant.

This example illustrates how toxicity itself is a problematic parameter to list. Without knowledge of the toxicant, or whether the observed toxic effect is in fact due to a toxic contaminant rather than interference such as kaolin clay, it is impossible to develop a control

---

<sup>1</sup> *The effects of kaolin clay on the amphipod Eohaustorius estuarius*, Brian Anderson, Bryn Phillips, and Jennifer Voorhees Department of Environmental Toxicology, University of California, Davis May 5, 2015 SFEI Report No.: 755, See [http://www.sfei.org/sites/default/files/biblio\\_files/755\\_Anderson%20et%20al\\_Clay%20Effects\\_2015%20Final%20Report.pdf](http://www.sfei.org/sites/default/files/biblio_files/755_Anderson%20et%20al_Clay%20Effects_2015%20Final%20Report.pdf)

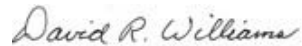
BACWA 303(d) List revision comments

March 13, 2017

Page 3 of 3

strategy. Additionally, designating the entire San Francisco Bay as toxic has a significant impact on public perception, since it is difficult to communicate to the public the nuances and uncertainties of the toxicity test results. As such, BACWA strongly recommends dropping the toxicity listing for San Francisco Bay segments pending further investigation into the cause of the observed toxic effect.

Respectfully Submitted,

A handwritten signature in cursive script that reads "David R. Williams".

David R. Williams

Executive Director

Bay Area Clean Water Agencies

cc: BACWA Board  
Eric Dunlavey, BACWA Permits Committee Chair