



California Stormwater Quality Association®

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Public Hearing (8/21/12)
Policy for Toxicity Assessment and Control
Deadline: 8/21/12 by 12 noon

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August 21, 2012

Charles R. Hoppin, Chairman and Members
State Water Resources Control Board
1001 I Street, Sacramento, CA 95814



Subject: Comment Letter – Policy for Toxicity Assessment and Control

Dear Chairman Hoppin and Members:

The California Stormwater Quality Association (CASQA) appreciates this opportunity to provide comments regarding the Draft Policy for Toxicity Assessment and Control, dated June 2012 (Draft Policy). The Draft Policy is intended to supersede the toxicity control provisions of the Policy for the Implementation of Toxic Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP) and all toxicity testing provisions in Regional Water Quality Control Plans (Basin Plans). As currently drafted, the Policy will apply to discharges from municipal separate storm sewer systems (MS4) regulated by Phase I and Phase II national pollutant discharge elimination system (NPDES) permits. CASQA has submitted comments on the previous versions of the Draft Policy^{1,2,3} and many of our previous comments and recommendations are still relevant. The enclosed comments are consistent with and build upon the comments previously submitted by CASQA.

CASQA supports the need to establish a policy to control toxicity in our receiving waters. Toxicity is a critical environmental issue for aquatic life beneficial uses and must be addressed through a progressive and technically sound approach. However, the Draft Policy should recognize that toxicity monitoring for stormwater discharges present specific challenges. Stormwater discharges are intermittent, with variable quality, and therefore the occurrence of toxicity can be brief – and due to the transient nature of storm events, follow-up monitoring is technically challenging and not a valid means of verifying causes of observed toxicity. After decades of data collection by California MS4 stormwater programs, the composition of urban runoff and primary causes of toxicity (i.e., pesticides) from runoff are well characterized. According to the California State Water Resources Control Board, toxicity is widespread in California watersheds—and is almost exclusively caused by currently used pesticides.⁴

¹ Written comments submitted August 9, 2010, in response to the Preliminary Draft Policy for Whole Effluent Toxicity Assessment and Control, dated July 7, 2010.

² Oral comments submitted on November 16, 2010 at the State Water Resources Control Board workshop on the Draft Policy.

³ Written comments submitted January 21, 2011, in response to the Draft Policy for Toxicity Assessment and Control, dated October 2010.

⁴ Hunt, J., Markiewicz, D., and Pranger, M. *Summary of Toxicity California Watersheds, 2001-2009*. Prepared for the California State Water Resources Control Board Surface Water Ambient Monitoring Program. November 2010.

Pesticide-related toxicity in surface waters receiving urban runoff has created a multi-million dollar regulatory burden for our municipality members. While we do agree that there are specialized studies or investigations where targeted toxicity sampling is highly useful, our concern is that the Draft Policy and attached guidance will lead to routine but expensive data collection that provides limited additional information to our understanding of the causes of stormwater toxicity. Ongoing routine aquatic toxicity monitoring generates additional data that are not necessary for the characterization of stormwater discharges, and diverts considerable resources away from addressing known causes of toxicity.

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Considering the resources required to identify and manage toxicity, and the limited resources currently available to our public agencies, we believe that the State should focus the toxicity policy on addressing the causes of known recurring toxicity. Given these factors, we recommend that stormwater discharges (Part III B) be removed from the Draft Policy, and a separate policy be drafted to appropriately address toxicity related to stormwater.

Our comment letter further elaborates on our concerns below.

8.2 → **The numeric objective in the Draft Policy is problematic, while a narrative objective would be protective of aquatic health.**

CASQA appreciates the revisions to the Draft Policy to recognize the complexities of addressing toxicity for non-wastewater dischargers – particularly, the recognition that application of numeric effluent limits is infeasible for stormwater dischargers. However, the numeric objective and implementation procedures established by the Draft Policy could be applied to dischargers subject to toxicity TMDLs. There is currently no discussion of how a numeric objective should be used in the context of TMDLs and no implementation procedures that prevent the application of the numeric objective as an instantaneous, single sample exceedance.

8.3 → The numeric objectives in the Draft Policy will lead to inappropriate impairment listings based on the acknowledged best-case 5% false determination of toxicity, the numeric objective calculation, and the existing 303(d) listing criteria. Table 3.1 of California's 303(d) listing policy specifies that if two or more of 24 measurements in a waterbody exceeds the water quality objective, the waterbody will be listed as impaired.⁵ At a false determination rate of 5%, 34% of California's waterbodies would be expected to be incorrectly listed as impaired based on an assessment of 24 samples. Although the Draft Policy was modified to try to address the issues with the false determination rate through the implementation procedures for wastewater dischargers, the implications of the false determination rate were not addressed for the numeric objective itself. The selection of numeric objectives has broader implications for 303(d) listings, TMDL development, and non-wastewater dischargers. Ultimately, many of these inappropriate impairment listings will lead to unnecessary diversion of resources for regulating agencies and the regulated community.

If a narrative objective were included, it will be possible for the Regional Water Boards to use the information in the Draft Policy to identify an appropriate numeric target, while providing

⁵ State Water Resources Control Board. 2004. Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List. Adopted September 2004.

them with the flexibility to include implementation procedures that are consistent with the implementation procedures in the Draft Policy for all types of dischargers.

CASQA recommends that the State Water Board establish narrative toxicity objectives, which will be fully protective and allow for flexibility in regulating discharges.

8.4 → The Draft Policy should provide justification for requiring chronic toxicity testing for stormwater dischargers.

The variable nature of stormwater runoff presents unique challenges in accurately characterizing water quality and potential receiving water impacts. This is especially true for toxicity monitoring, where the science required to effectively characterize the duration, exposure, and environmental impacts of stormwater toxicity is lacking, and the application of methods derived for continuous wastewater discharges is not appropriate. The standard EPA whole effluent toxicity (WET) test methods were developed for continuous point source wastewater discharges and do not take into account the unique features of stormwater. The applicability of the WET method for use on intermittent stormwater samples has never been properly validated. Of primary concern is the mismatch between the exposure periods for toxicity testing, typically lasting four to ten days, and the duration of stormwater discharges, typically lasting some number of hours, and rarely exceeding one full day.

Appendix E recommends a chronic toxicity test renewal strategy using the initial stormwater sample – thus exposing the test organism to stormwater for periods far exceeding the duration of actual exposure to stormwater in the real world. The State Water Board acknowledges these challenges in Appendix E of the Draft Policy:

One reason that aquatic toxicity tests of urban runoff are applied less uniformly than point sources is due to runoff's unique challenges. Unpredictability in flow and water quality, particularly those associated with storms, makes sampling difficult. Runoff flows and contaminant concentrations can change orders of magnitude in less than an hour (Tiefenthaler et al. 2008). Moreover, the sources of toxicants in runoff are more diffuse than in point sources, making identifying and controlling toxicants more challenging.

Nonetheless, Part B.2 of the Draft Policy recommends that "...stormwater dischargers implement a chronic toxicity monitoring program" but does not provide justification for a chronic exposure period. Mandating toxicity test chronic exposure periods that can be seven days or more is overly conservative for assessing stormwater events. Attachment B of our prior (August 9, 2010) comment letter identifies the major challenges associated with toxicity testing and indicates the need to develop more appropriate testing protocols for stormwater. An initial investigation should involve evaluation of the feasibility of various approaches, through pilot studies of various options.

CASQA recommends that an appropriate technical approach to characterizing toxicity for stormwater discharges be developed for the State of California.

8.5 → Stormwater should be addressed through a separate policy, and Appendix E should be issued as a separate guidance document from the Draft Policy

We reiterate our request that the State Water Board remove implementation provisions applicable to stormwater dischargers from the Draft Policy. The constituents of concern for urban runoff are well known, as is the fact that changes in the use of registered pesticides will change their presence in urban runoff.

8.6 → In addition, while CASQA appreciates the State Water Board's intent to clarify issues related to toxicity testing of stormwater discharges, CASQA urges that this Draft Policy is not the appropriate vehicle for issuing a stormwater toxicity testing guidance document. It is our understanding from members of the Municipal Stormwater Toxicity Testing Committee that is referenced in Appendix E that the Toxicity Testing Tool for Storm Water Dischargers was not finalized and was not ready for inclusion in a State policy. CASQA requests that Appendix E be removed from the Policy, and that after further consideration its subject matter be addressed in a separate guidance document developed with stakeholder input and thorough technical review.

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8.6 → We also have a number of concerns with the guidance. For example, the monitoring questions on page 33 of Appendix E mimic the Southern California Monitoring Coalition (SMC) efforts to use questions to drive monitoring efforts. However, the questions presented in Appendix E skip over the first step addressed by the SMC – to ask the question of whether there is a water quality issue in the receiving water and determine the extent of the problem. The questions presented in Appendix E begin with an assumption of toxicity in the receiving water, and initially target urban runoff for evaluation of toxicity. Appendix E specifies in detail the types of storms that should be monitored (by naming the storm size, number of storms, specific storm event – first storm event of the wet season, etc.) but fails to identify the locations for the monitoring, including whether the locations are to be discharges or receiving waters although sites were identified as “integrator sites” or “targeted sites.” We would suggest that the guidance base its monitoring suggestions on the goal of characterizing toxicity in the receiving water, and then identify follow-up procedures for characterizing urban runoff after toxicity is identified. The guidance appears to err on the side of too much detail in one area, and too little in other areas. It is also worth noting that even in the subsequent procedures to identify sources, pesticide toxicity is likely from one of two sources: homeowner applications and vector control applications. In the latter case the application is for public safety and therefore efforts to control the application are limited especially by an MS4. In summary, CASQA suggests that Appendix E begin its monitoring questions by evaluating whether toxicity exists in the receiving water, and then generally follow the subsequent procedures outlined to assess the source of the water quality issue.

CASQA recommends that stormwater be addressed through a separate policy and that Appendix E be developed and issued as a separate guidance document. Within Appendix E, CASQA suggests clarifications to the guidance to indicate that monitoring designed to evaluate potential stormwater contributions to toxicity should begin in the receiving water, and only if necessary, move to the stormwater outfalls.

CASQA comments on Policy for Toxicity Assessment and Control

In closing, CASQA appreciates the opportunity to comment on the Draft Policy and we hope that our comments will assist you in identifying additional improvements as the Policy is further developed. Please contact me at (760) 603-6242 or Geoff Brosseau, our Executive Director at (650) 365-8620 if you have any questions or would like to discuss our comments further.

Sincerely,

A handwritten signature in black ink that reads "Richard Boon". The signature is written in a cursive, flowing style.

Richard Boon, Chair
California Stormwater Quality Association

cc: Brian Ogg, State Water Board
Paul Hann, State Water Board
Rik Rasmussen, State Water Board
Bruce Fujimoto, State Water Board
CASQA Executive Program Committee
CASQA Board of Directors