GEI Consultants

Copper Development Association Inc.
Copper Alliance

April 25, 2018

California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Re: Comment Letter – 2017-19 Triennial Review

To Dr. Celine Gallon,

Thank you for the opportunity to provide input on the California Regional Water Quality Control Board, Los Angeles Region's (Regional Water Board) proposed revision to the regional Basin Plan. On behalf of our client, the Copper Development Association (CDA), we encourage the Regional Water Board to consider the copper biotic ligand model (BLM) for the basis of the Basin Plan's freshwater copper water quality objectives. CDA played a significant role in sponsoring scientific research used in development of the freshwater BLM for copper, which was adopted by the United States Environmental Protection Agency (USEPA) in its latest national ambient water quality criteria (USEPA 2007). CDA is now interested in encouraging efforts by states and tribes to incorporate these latest recommended USEPA national criteria for copper into their water quality standards programs.

It is our understanding that as part of the 2017-2019 Triennial Review, the Regional Water Board is considering revising their numeric water quality objectives to reflect updates made to Clean Water Act (CWA) section 304(a) nationally recommended water quality criteria. In light of this goal, we ask that the Regional Water Board revise their freshwater copper water quality objectives to be consistent with the nationally recommended criteria, and adopt the BLM as the basis of these objectives.

The Basin Plan currently relies of the criteria promulgated through the California Toxics Rule (CTR; 40 CFR 131.38), which for copper, only takes into account hardness as a factor that modifies copper toxicity. Using only hardness as a modifying factor for metals criteria is an outdated approach that excludes a substantial body of peer-reviewed scientific literature demonstrating that additional modifying factors can and should be incorporated into regulatory benchmarks or standards, while providing the same levels of aquatic life protection required under the CWA (USEPA 1985, 1994, 2001, 2007). Like most metals, copper toxicity is a function of its bioavailability, which in addition to being controlled by hardness, is also strongly related to other important factors such as dissolved organic carbon (DOC), alkalinity, pH, and temperature. The key strength of the BLM is that it accounts for multiple factors—in addition to hardness—that mitigate or exacerbate copper's toxic effect on aquatic life.

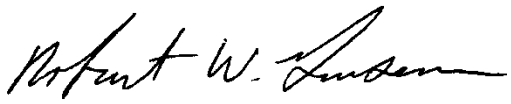
In addition to the freshwater copper BLM, a saltwater BLM has also been developed which leverages the significant amount of research on the effects of copper to saltwater organisms that has been done since the 1985 revision of the criteria document and is currently being reviewed by the USEPA. We recommend the Regional Water Board consider evaluating the saltwater BLM to update the copper marine water quality objectives as well.

Similar to copper, BLMs have been developed, validated, and are available for regulatory use for several other metals, including zinc, lead, nickel, and cadmium. While USEPA has yet to develop formal recommended national ambient water quality criteria using BLMs for these other metals, the models are widely available (e.g., for zinc BLM-based criteria, see DeForest and Van Genderen 2012) and are being applied in regulatory programs in several European countries. CDA fully supports and shares their desire

to move towards bioavailability models, such as the BLM, as being the current state of both scientific and regulatory practice.

We appreciate the opportunity to provide input on the proposed updates to Los Angeles Regional Water Quality Control Board Basin Plan. Please let us know if you have any questions. We look forward to discussing this with you further.

Sincerely,
GEI CONSULTANTS, INC.



Robert W. Gensemer, Ph.D., GEI
Senior Ecotoxicologist

Carrie Claytor, CDA
Director of Health, Environment and Sustainable Development

RWG
cc: Steven Canton, GEI
John Gondek, GEI
David DeForest, Windward Environmental
Eric Van Genderen, International Zinc Association

References

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