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July 23, 2015

William Ruh, Chair
Kurt V. Berchtold, Executive Officer
Board Members
Santa Ana Regional Water Quality Control Board
3737 Main St., Suite 500
Riverside, CA 92501

Re: Newport Bay Cooper TMDL and Non-TMDL Action Plans for other Metals; July 24, 2015 Agenda Item 14.

Dear Gentle Persons,

The Marina Recreation Association (MRA) is the largest marina trade association west of the Mississippi with a California centric perspective. Our membership includes a majority of California ocean marinas which serve the recreational boater including berthing with established environmentally sound BMP's. We support healthy and diverse marine habitats.

MRA supports efforts to protect our oceans from contaminants of all types, including copper. Our members have worked in a cooperative fashion with regional water quality control boards and the various public agencies (port districts, counties, cities) as we all come to grips with the potential negative impact of copper antifouling hull paints. The use of copper antifouling hull paint occurs throughout the state in all ocean harbors where commercial and recreational vessels are moored. We also agree with the concept that for any TMDL to be successful there needs to be buy-in from all stakeholders, including marina operators and more importantly – the recreational boater. MRA believes that utilization of best available science is a key component in generating support for Copper TMDL's. On that note, the MRA respectfully submits the following comments on the draft Newport Bay Copper TMDL before you:

Our primary concern is the utilization of the California Toxic Rule (CTR) to establish numeric target values. The CTR copper value is overly conservative, does not use the best science, and therefore will potentially initiate the wrong implementation strategy. The USEPA acknowledges the CTR copper value is overprotective. Not only did the USEPA recommend developing site-specific targets for copper, they wrote guidance to develop site-specific criteria:

From USEPA's Aquatic Life Criteria Table for Copper: "When the concentration of dissolved organic carbon is elevated, copper is substantially less toxic and use of Water-Effects Ratios (WERs) might be appropriate." From 2002 Newport Bay Copper TMDL: "Metals criteria calculation protocols are nearing completion which may enable States to calculate metals standards that more accurately represent the bioavailable portion of total metals loading through consideration of WERs. It may be relatively straightforward recalculate metals criteria based on local hardness and organic carbon data and revised WER equations. In light of the potential cost of extensive actions to further control metals loading from urban runoff in the watershed, EPA believes it may be reasonable to consider whether newly emerging criteria calculation methods would result in protective but easier-to-implement standards." MRA supports the utilization of site-specific criteria.

In your Staff's report before you, they refer to the Copper TMDL's that have been adopted for Shelter Island Yacht Basin and Marina del Rey. It is important that future Copper TMDL's build upon those that precede them. In this regard, we request that you pay particular attention to the lessons learned by the Port of San Diego regarding the development and implementation of the Shelter Island Yacht Basin TMDL. For your convenience, I have attached their writing to the Los Angeles Regional Water Control Board in response to their draft Copper TMDL regarding Marina del Rey. Of particular importance is their lesson learned of the value of utilizing site-specific criteria. The Port of San Diego now find themselves having to expend scarce and precious resources to implement a Copper TMDL (to the exclusion of other pressing environmental concerns) with the intent of mitigating a problem that probably does not exist.

The importance of site-specific criteria was also underscored during the process of establishing the Copper TMDL for Marina del Rey. The State and Los Angeles Regional Water Quality Control Boards recognized the value of site-specific modeling, including Biotic Ligand Model (BLM). In that Copper TMDL, provisions were made for site-specific modeling including WERs and BLM. The County of Los Angeles is currently conducting site-specific modeling.

The San Francisco Bay Regional Water Quality Control Board has adopted the use of site-specific models in determining target values.

Simply stated, MRA's concern is that it is widely understood that CTR does not reflect the true toxicity in a specific water body. This is commonly understood by the marina industry and recreational boaters. We stand ready to support appropriate mitigation efforts to combat the negative impact copper is creating in Newport Bay and how vessel copper hull antifouling paint and maintenance practices are contributing to the problem. What we are asking for is that best available science be utilized in determining the magnitude of the problem.

In closing, I will quote from Karen Holman in her writing to the Los Angeles Regional Quality Control Board on behalf of the Port of San Diego, "Our experience has taught us that working through the TMDL adoption process and having success in implementing pollutant reducing activities requires support from the regulated community." It is our contention that utilizing best available scientific tools in establishing target values is a critical component in obtaining support from those being regulated.

Sincerely,



R. Kevin Ketchum
President

With attachments:

- Comment Summary and Response on November 5, 2013 Draft: Reconsideration of the Total Maximum Daily Load for Toxic Pollutants in Marina del Rey Harbor; Port of San Diego comment.
- California Toxic Rule Copper Value tear sheet.

**Comment Summary and Response on November 5, 2013 Draft:
 Reconsideration of the Total Maximum Daily Load for Toxic Pollutants in Marina del Rey Harbor
 Comment due date: January 15, 2014**

15.1	Karen Holman, Port of San Diego	<p>For several years, the District has been at the forefront of this copper issue and has made significant progress in working to develop a core understanding of the concerns and the challenges of complying with water quality regulations that stem from the use of a legally available product, such as copper antifouling paint.</p> <p>The District has taken a leadership role by developing model programs for hull paint research, as well as implementing policy-based efforts to address the impacts from in-water hull cleaning. In that regard, the District noted that many of the technical references and findings identified in the proposed Marina del Rey TMDL Amendment are based largely upon the methodology and modeling used in the Shelter Island TMDL and the District's work implementing actions under that TMDL. On that note, the District respectfully submits the following comments on the Marina del Rey TMDL Amendment:</p>	<p>Comment noted. The Regional Board acknowledges the strong leadership role the District has taken in implementing the Shelter Island Yacht Basin TMDL.</p>
15.1b		<p>Modeling and Methodology</p> <p>There has been a long-standing concern over the load allocations identified in the Shelter Island TMDL, namely the loading estimates allocated to passive leaching and hull cleaning. Appendix A of the proposed Marina del Rey TMDL Amendment identifies the average dissolved copper emission rate from hull cleaning to be 8.5 µg/cm²/event, the same rate used in the Shelter Island TMDL's loading calculations. Additionally, the proposed Marina del Rey TMDL Amendment (specifically pages 33-34 of the technical report) notes that other studies also were evaluated, including a more-recent study by AMEC (2006) in which a hull cleaning rate of 10 µg/cm²/event was calculated. Furthermore, on those same pages, you also acknowledge that the U.S. Navy is currently conducting a study on the contribution of copper from antifouling paint, and further, that the study may aid in future refinement of the loading calculations.</p>	<p>The Regional Board agrees that the most current and best available science should be utilized in the TMDL and, in particular, that the new information in Earley 2013 should be utilized. See comment 04.2 regarding Earley 2013 Leaching Data.</p> <p>The Regional Board also agrees that the Shelter Island box model is an appropriate tool for determining load allocations, as long as the data used to populate the model reflects the most up-to-date science. To that end, the model has been populated with the most recent science and site-specific data for Marina del Rey Harbor.</p> <p>Additionally, the TMDL can be revised at any time to incorporate new scientific findings.</p>

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	<p>The aforementioned U.S Navy study was recently published, entitled, Life Cycle Contributions of Copper from Vessel Painting and maintenance activities (SPAWAR, November 2013). It examines copper paint emissions over a paint's three-year life cycle. This report was a part of the Department of Pesticide Regulation's (DPR) paint re-evaluation process. Of importance, the report identifies different hull cleaning emission rates from those used in the Shelter Island TMDL and identified in the AMEC 2006 study.</p> <p>The District supports the use of sound science and advancements in scientific technologies. New information that has been scientifically validated should be taken into account and used when calculating or considering water quality regulations. Your staff is commended for taking the 2006 AMEC study information and comparing it against the Shelter Island TMDL's loading calculations for boat hull cleaning inputs. As you noted, the differences in the emission rates (8.5 µg/cm²/event predicted in previous work compared to 10 µg/cm²/event in AMEC study) resulted in a less than 1% change in the modeling output. Now the most recent U.S. Navy study suggests an even a greater contribution may be attributable to boat cleaning and boat movement. Prior to the adoption of the TMDL, we recommend that the same analysis be conducted to determine how this new information may change the modeling output and the findings of this analysis should be included in your technical report.</p> <p>Our experience has taught us that working through the TMDL adoption process and having success in implementing pollutant reducing activities requires support from the regulated community. Assertions have been made by stakeholders that the Shelter Island TMDL's hull cleaning</p>	
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		<p>emission rates and consequent loading allocations are incorrect, thus leading to questions about the scientific validity of the TMDL itself. The resulting uncertainty behind the supporting science creates implementation challenges because the general public (i.e. boating community) hears mixed messages about what needs to occur to remedy the situation.</p> <p>To that end, the District would strongly encourage your staff do its due diligence to evaluate the emission rates from the multiple studies. While the Shelter Island box model may be appropriate tool for determining load allocations, the data used to populate the model should reflect the most up-to-date science. It is also suggested that the technical report clearly identify and discuss each study and how each one was evaluated and used in the TMDL amendment process. Additionally, as new studies continue to increase our understanding of how chemicals behave in the environment, we recommend including appropriate language in the TMDL resolution to enable this scientifically relevant information be easily incorporated, once data is collected without another re-opener process.</p>	
15.2		<p>State Legislation (AB425) In October 2013, Governor Brown signed into law Assembly Bill 425 (Atkins) relating to copper-based antifouling paint. The legislation requires that, by February 1, 2014, the DPR “shall determine a leach rate for copper based antifouling paint used on recreational vessels and make recommendations for appropriate mitigation measures that may be implemented to address the protection of aquatic environments from the effects of exposure to that paint if it is registered as a pesticide”. Thus, the DPR’s copper antifouling paint re-evaluation process will consider management practices and other approaches to mitigate elevated copper concentrations in</p>	<p>The Regional Board agrees that the results of any efforts to address copper discharge from antifouling paints at the state-wide level should be considered in this TMDL and that AB 425 may positively benefit the Shelter Island Yacht Basin TMDL as well as the proposed revision to the Marina del Rey Harbor Toxic Pollutants TMDL. Potential antifouling paints with lower leaching rates of copper resulting from DPR’s effort legislated by AB 425 may aid responsible parties in achieving the proposed TMDL. It is not foreseeable that information gained through AB 425 will alter the numeric targets or waste load allocations in the proposed TMDL; consequently, adoption of the TMDL should not be delayed while awaiting results of this effort.</p>

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		<p>marinas. It is our understanding that the DPR's paint re-evaluation process as part of this legislation is on schedule.</p> <p>The District sponsored AB425 because the legislation's outcome could have positive benefits on the implementation strategy for the Shelter Island TMDL, and possibly reduce or eliminate the need for further copper-related TMDLs in San Diego Bay. Since the DPR's report and its findings may have relevance to the load allocations and/or implementation of the proposed Marina del Rey TMDL Amendment, it is recommended that the report's findings be included into your TMDL amendment. As such, there could be a benefit to reviewing and/or considering the DPR report prior to the adoption of the Marina del Rey TMDL Amendment to avoid any potential inconsistencies in regulatory approaches throughout the state.</p>	<p>See response to comment 05.12</p>
15.3		<p>Consider Site-specific Water Quality Objectives</p> <p>The District recognizes the importance of considering site-specific factors when developing TMDLs. The Shelter Island TMDL did not use site-specific objectives in the technical methodology; however, there is an increasing body of evidence suggesting that the current water quality objective of 3.1 µg/L may be overly protective of the beneficial uses in the Shelter Island Yacht Basin. For the District and other stakeholders subject to the Shelter Island TMDL, re-opening the TMDL for Shelter Island to consider site-specific water quality objectives will be a lengthy and expensive process for both the regulated parties and the Regional Board.</p>	<p>See response to comment 04.4</p> <p>The TMDL may be revised at any time to incorporate the results of new scientific study, including a site-specific objective if appropriate. The potential water column impairment due to copper in the water column was discussed in the Staff Report for the original Marina del Rey Harbor Toxic Pollutants TMDL. As no special studies have been conducted investigating a potential site-specific objective since the original TMDL became effective in 2006, water quality objectives promulgated by the California Toxics Rule are the appropriate water quality criteria for copper in the water column of Marina del Rey Harbor.</p>
		<p>As one of the parties implementing various copper reducing activities to meet the 3.1 µg/L water quality objective in the Shelter Island TMDL, the District would encourage the use of site-specific water quality objectives at the onset of the TMDL</p>	

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		<p>process. Because the Marina del Rey TMDL Amendment has not yet been adopted, it may be beneficial to 1) consider extending the amendment hearing until a site-specific study can be completed, or 2) include appropriate language in the TMDL resolution to enable site-specific objectives to be easily incorporated, once data is collected without another re-opener process.</p>	
15.4		<p>Timeline for Compliance</p> <p>Based on District staff's experience, the proposed 11-year timeframe for complying with an 85% reduction in copper loading may be challenging. The District has been actively encouraging the use of alternative paints for over six years. While we recognize that much of the groundwork for evaluating paints has been expedited by some of our research and paint testing efforts, we have learned that informing the local boating public about alternative hull paints, securing grant funds, and encouraging a behavior change takes time.</p> <p>Additionally, the cost to convert boats to non-copper alternatives still remains significantly higher than the cost of using copper antifouling paint. Our local San Diego Bay boatyards have had years of experience applying alternative paints, yet some have only recently included the application process into their normal course of business. Our experience has taught us that the fundamental behavioral shifts needed to embrace alternative paints both at the boatyard and throughout the local boating community take time, regardless of the work that has been done elsewhere.</p>	<p>See response to comments 02.9 and 04.3</p>
15.5		<p>Statewide Consistency</p> <p>The District believes that reducing copper in marinas is a concern statewide. To that end, we continue to encourage a permanent resolution to hull paint-related pollutant loading</p>	<p>The Regional Board is supportive of and looks forward to collaborating in broader efforts to address water quality impairments resulting from antifouling paints. Such efforts will include regional collaboration with the San Diego Regional Board,</p>

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		<p>and are therefore committed to supporting and encouraging that regulations be consistent at a state or federal level.</p> <p>The District believes that it is critical that the regions work together. Reducing copper levels in marinas is a statewide issue that requires consistency as new regulations are developed. As more TMDLs are adopted, they will drive local solutions that may not be the most appropriate approach for addressing an issue that is common throughout the state. We continue to encourage statewide solutions that do not place local businesses at an economic disadvantage.</p> <p>As your Regional Board embarks on the copper reduction requirements proposed in the Marina del Rey TMDL Amendment, we encourage you to work with our San Diego Regional board as well as with the DPR to fully understand the complexities and impacts that TMDLs may have locally, regionally, and across the state.</p>	<p>Santa Ana Regional Board, DPR and the Port of San Diego and statewide efforts including collaboration with DPR.</p>
15.6		<p>The District remains firm to its commitment to conduct operations and manage resources in an environmentally sensitive and responsible manner; however, we also strive to ensure that regulations are effective in balancing the economic feasibility of implementing pollution control measures with protecting the health of our waters. Our interest in the proposed Marina del Rey TMDL Amendment stems from the need for developing and using consistent methods to develop the regulations that impact impairments that are common throughout California. As we in San Diego move through our own TMDL process, we appreciate the openness of your staff to work together and ensure that regulations being presented in Marina del Rey are created consistently and with the most updated information available.</p>	<p>The Regional Board appreciates the Port of San Diego contributing comments based on experience gained through implementing the Shelter Island Yacht Basin TMDL and looks forward to collaborating on efforts to reduce copper discharge from antifouling paints.</p>

CALIFORNIA TOXIC RULE COPPER VALUE

The CTR copper value is overly conservative, does not use the best science, and therefore will initiate the wrong implementation strategy.

Acknowledging Overprotective CTR Values

The USEPA acknowledges the CTR copper value is overprotective. Not only did the USEPA recommend developing site-specific targets for copper, they wrote guidance to develop site-specific criteria:

From USEPA's Aquatic Life Criteria¹ Table for Copper

"When the concentration of dissolved organic carbon is elevated, copper is substantially less toxic and use of Water-Effect Ratios (WERs) might be appropriate."

From 2002 Newport Bay Copper TMDL²

"Metals criteria calculation protocols are nearing completion which may enable States to calculate metals standards that **more accurately represent the bioavailable portion** of total metals loading through consideration of WERs. It may be relatively straightforward recalculate metals criteria based on local hardness and organic carbon data and revised WER equations. In light of the potential cost of extensive actions to further control metals loading from urban runoff in the watershed, EPA believes it may be reasonable to consider whether newly emerging criteria calculation methods would result in protective but easier-to-implement standards."

Calculated Site-specific Copper Values

Site	Site-Specific Copper Value*	References
San Diego Bay	North Bay 3.9 to 4.2 µg/kg South Bay 5.5 to 5.9 µg/kg	Rosen et al. 2005; Chadwick et al. 2008
Shelter Island Yacht Basin	8.8 to 8.9 µg/kg	Santorin 2012
South San Francisco Bay	14.8 µg/kg	Tetra Tech/Ross & Associates/EOA 2000; Paquin et al. 2000
Mugu Lagoon	4.7 to 11.0 µg/kg	Larry Walker Associates 2005

* Site-specific copper values were based on measured WERs or BLM calculated WERs

Benefits of Using BLM

CTR	WER	BLM
	\$150,000 to \$2,000,000	\$30,000 to \$100,000
Run in laboratory with artificial sea water	Run in laboratory with actual sea water	Run on computer with actual sea water data
Protective of marine life	Protective of marine life	Protective of marine life
Estimates mortality	Estimates mortality	Estimates bioavailability
USEPA approved	USEPA Approved	Currently under evaluation

The WER approach has been approved and recommended for use in similar situations by the USEPA for nearly 30 years. In 2001, the USEPA developed specific guidance³ for streamlined procedures for conducting WERs for copper.

Site-specific criteria will be higher than CTR. CTRs were developed to be overly protective, because they needed to be protective of every possible water condition in California. Therefore, all site-specific criteria will be higher than 3.1 µg/kg.

Developing Site-specific Number Targets

Biotic Ligand Model (BLM) is now available to develop more accurate site-specific numeric targets for dissolved metals and develop these targets more efficiently. The BLM for marine water quality is currently under review by the USEPA. The need for these tools to estimate meaningful criteria is now more critical than ever through the use of best available science.

Allow USEPA to approve marine BLM so that RWQCB and the marina communities can more accurately and effectively address copper.

¹ <http://water.epa.gov/scitech/swguidance/standards/criteria/current/index.cfm#cc>

² http://www.waterboards.ca.gov/rwqcb8/water_issues/programs/tmdl/docs/sd_crk_nb_toxics_tmdl/summary0602.pdf

³ http://water.epa.gov/scitech/swguidance/standards/handbook/upload/2007_04_17_criteria_copper_copper.pdf