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October 17, 2016

Linda Candelaria, PhD | Environmental Scientist
Santa Ana Regional Water Quality Control Board
3737 Main Street, Suite 500
Riverside, CA 92501-3348

Dear Linda Candelaria:

COMMENT LETTER - AMENDMENTS TO THE WATER QUALITY CONTROL PLAN – SANTA ANA REGION TO INCORPORATE THE NEWPORT BAY COPPER TMDLS, AND NON-TMDL ACTION PLANS FOR ZINC, MERCURY, ARSENIC AND CHROMIUM

Thank you for the opportunity to comment on the proposed Amendments to the Water Quality Control Plan –Santa Ana Region to incorporate the Newport Bay Copper Total Maximum Daily Loads (TMDLs), and Non-TMDL Action Plans for Zinc, Mercury, Arsenic and Chromium. Enclosed are comments submitted on behalf of the County of Los Angeles Department of Beaches and Harbors (Department).

We look forward to your consideration of our comments. If you have any questions, please contact me at (310) 305-9512 or mtripp@bh.lacounty.gov.

Very truly yours,

Michael Tripp

MICHAEL TRIPP
Chief of Planning

COMMENTS FROM THE COUNTY OF LOS ANGELES DEPARTMENT OF BEACHES AND HARBORS ON THE AMENDMENTS TO THE WATER QUALITY CONTROL PLAN –SANTA ANA REGION TO INCORPORATE THE NEWPORT BAY COPPER TMDLS, AND NON-TMDL ACTION PLANS FOR ZINC, MERCURY, ARSENIC AND CHROMIUM

Section 1.1 Environmental Setting

The text for the description of San Diego Creek (page 7) in the staff report does not align with Figure 1-2 and it is unclear as to what is designated as Reach 1 and 2. The Department recommends that consistency be achieved by adding missing drainage such as Rattlesnake Canyon and Round Canyon conveyances to the figure and the other conveyances shown on the map be described in detail. The Department also recommends that the dividing point between Reach 1 and 2 be clearly shown on the map.

The Department recommends providing a map that shows the features described in the Upper Newport Bay subsection as the purpose of Section 1.1 as a whole should be to clearly describe and identify the location, size and appearance of important features.

The Department recommends providing a map that shows the features described in the Lower Newport Bay subsection as the purpose of Section 1.1 as a whole should be to clearly describe and identify the location, size and appearance of important features.

Section 4.1.5. Potential Revisions to Copper (Cu) Objectives: Water Effects Ratio and Marine Cu Biotic Ligand Model (Cu BLM)

The Department contends that reference to the estuary/marine biotic ligand model (BLM) is not relevant to the discussion and should be removed from the staff report as it is still in draft form.

Section 4.2.2.3 Copper (Cu) Reduction in Lower Newport Bay (CWA 319(h) grant) and Section 5.6.1.3.1.5 Conversion of Boats from Cu AFPs to Nontoxic Coatings

The Department recommends that it should be noted in Section 4.2.2.3 that all 10 boats that were converted to non-toxic paints converted back to copper antifouling paints at the conclusion of the study as reported by the Los Angeles Times http://www.latimes.com/local/california/la-me-newport-bay-copper-20150806-story.html.

Section 5.4 Loading Capacity and Linkage Analysis for Copper

It has not been clearly demonstrated as to how the input values for the calculation of the dissolved mass loading have been developed or how the calculations in Appendix 7 have been derived. The Department recommends that further detail documenting the development of the input parameters, assumptions and equations including a sensitivity analysis with regard to estimated parameters be included in the staff report.

Section 5.6 Implementation Plan for the Copper TMDLs, Section 6.0 NON-TMDL ACTION PLANS (ACTION PLANS) FOR ZINC (Zn), MERCURY (Hg), ARSENIC (As), CHROMIUM (Cr) and Section 8.0 CEQA ANALYSIS, ANTIDEGRADATION AND ECONOMICS

The Department does not believe that the sediment in Newport Bay should be remediated until after all copper load and waste-load allocations for copper antifouling paints and tributary runoff have been met as exemplified in the excerpts below. The Department recommends that all sources of recontamination be eliminated before any sediment remediation occurs.

The Clean Water Act (CWA) and Sediment Remediation: Using the Data Quality Objectives Process (DQOs) to Help Assure that Remediated Sediment Sites are not Re-Contaminated Association of State and Territorial Solid Waste Management Officials (ASTSWMO) Sediments Focus Group April 2016

> "Significant resources are expended remediating contaminated sediment, and common sense, prudent environmental management and fiscal responsibility dictate that strategies to prevent or minimize the recontamination of remediated sediments, be considered. Yet, there is sometimes a disjunction between the CWA activities (permitting) and sediment remediation. Clean-up plans do not always consider variables beyond the immediate sediment project. Often CWA regulators do not consider possible adverse effects to sediment in general, or, in particular, to remediated sediment sites within the watershed. Too often the identification of CWA discharges and other upstream sources are not addressed at contaminated sediment sites; surface water discharges with storm water components can be challenging to control and regulate under the CWA, and their potential to re-contaminate sediment may complicate sediment cleanups, especially in urban waterways. (CWA/CSO primer, OSWER Dir. 92001.1-1-116-FS) CWA regulators also emphasize a smaller universe of contaminants. USEPA recognizes this problem, but CWA authority is generally delegated to the States. This disjunction can be alleviated by the water and remediation programs actively collaborating to advance efforts toward source control, cleanup and meeting water quality standards. Coordination between the programs regarding single outfalls, storm water, combined sewer outfalls, and watershed management issues that impact a contaminated sediment site will yield more efficient, effective and sustainable remedies."

Sections 5.6.1.1 Authority to Regulate the Sale and Use of Copper Antifouling Paints (Cu AFPs) (DPR, USEPA)

For clarity, it should be noted that the California Department of Pesticide Regulation (DPR) established two maximum leach rates depending on the allowed cleaning practices on the painted boats:

- 9.5 ug/cm2/day if cleaning is allowed no more frequently than once per month and the in-water hull cleaners follow California Professional Divers Best Management Practices method using soft-pile carpet.

- 13.4 ug/cm2/day for products which claim to not require in-water cleaning.

Section 5.6.1.3.1.5 Conversion of Boats from Cu AFPs to Nontoxic Coatings

The Department does not agree that adequate nontoxic coatings are available at this time, is skeptical that the paints will become available in the future and recommends that acknowledgement in the staff report text according to the information below:

To further clarify the findings from the primary three studies reported in the staff report additional detail has been added to the summaries below:

- In the USEPA (2011) study (referred to as the Port of San Diego study in the staff report), two paints were found to be effective in replacing copper based paints: Intersleek 900 and Hempasil X3. Since the study was completed, the manufacturer of Intersleek 900, International Paint Company, LLC, has changed formulations, and the exact Intersleek 900 that was tested during the study is no longer available in the U.S. market. The new Intersleek 900 consists of different Intersleek products and is currently available.

- In the CalEPA (2011) study (referred to as the Katy Wolf, PhD, IRTA study in the staff report), the researchers found that XP-A101, Hempasil XA 278, BottomSpeed, and Sher Release performed the best. However, XP A101 and Hempasil XA278 have since been removed from the market and only BottomSpeed and Sher Release are available potential alternatives to copper-based paint.

In addition to the studies cited in the report, there is a more recent study that looks at nontoxic paints from a different perspective.

- In the Ecology (2014) study, three non-biocidal paints, Intersleek 900, BottomSpeed TC Base Coat/Top Coat Clear, and Surface Coat Part A – Black, showed somewhat positive results. However, a hazard assessment conducted as a part of the study indicated that all formulations tested contained hazardous chemicals that could pose human health and/or environmental risks as a result of use. Further, the study indicated that the hazard assessment was limited and incomplete due to undisclosed chemicals in the primers and the paints. Thus, the study concluded that the safety of the test paints was uncertain, and none of the test non-biocidal paints were ideal (hazardous risk free) alternatives to copper based paint.

Section 5.6.1.4 Regional Board Authority to Compel Action to Identify and Correct Sediment Impairment from Copper (Cu)

The Department does not believe that dredging is the only solution to sediment contamination and believes that significant thought and investigation into alternative solutions such as monitored natural recovery (MNR), enhanced monitored natural recovery (EMNR) or capping should be ruled out first. It is recommended that referral to dredging be taken out of the staff report or all types of remediation be included. Dredging should be looked at as a last resort as exemplified from the excerpts below.

US Army Corps of Engineers, Dredging Operations and Environmental Research Program, The Four Rs of Environmental Dredging: Resuspension, Release, Residual, and Risk (January 2008)

> "Perhaps the most significant issue associated with dredging's potential effectiveness is the extent of residual contamination following dredging. No dredging operation can remove every particle of contaminated sediment, and field results to date for completed environmental dredging projects suggest that post-dredging residual levels, expressed as contaminant concentration in surface sediments, have often been greater than the cleanup levels. This experience suggests that in many situations achieving low risk-based cleanup levels may pose significant engineering and cost challenges."

> "Perhaps the clearest example of this occurred at Manistique Harbor, where post-dredging average surficial concentrations (approximately 17 ppm of PCBs) were virtually identical to pre-dredging surficial concentrations (15 ppm), yet, four years later, the average surficial concentrations dropped to 0.74 ppm due to an undefined mixture of enhanced and natural recovery processes."

Sediment Dredging at Superfund Megasites: Assessing the Effectiveness Committee on Sediment Dredging at Superfund Megasites, National Research Council (2007).

> "However, the committee was able to draw several conclusions and derive recommendations on the basis of monitoring data from a range of dredging projects and by evaluating factors that affected their success. The analysis indicates that dredging can be effective for removal of mass, but that mass removal alone does not necessarily achieve risk-based goals. Monitoring data demonstrate that dredging can have short-term adverse effects, including increased contaminant concentrations in the water, increased contaminant

concentrations in the tissues of caged fish adjacent to the dredging activity, and short-term increases in tissue contaminant concentrations in other resident biota. However, monitoring for those effects was not conducted at many sites."

"The committee's analysis of predredging and post-dredging surface sediment concentrations indicates a wide range of outcomes: some sites showed increases, some no change, and some decreases in contaminant concentrations. Residual contamination after dredging can result from the incomplete removal of targeted sediments or the deposition of sediment resuspended during dredging. Residual contaminated sediments hamper the ability to achieve desired cleanup levels and are exacerbated by site conditions like obstructions in the dredging area and impenetrable or uneven formations underlying the contaminated sediments. Overall, the committee found that dredging alone achieved the desired contaminant-specific cleanup levels at only a few of the 26 dredging projects, and that capping after dredging was often necessary to achieve cleanup levels."

US Environmental Protection Agency, Contaminated Sediment Remediation Guidance for Hazardous Waste Sites (December 2005).

"In addition, Chapter 4 discusses the potential advantages and limitations of MNR. In most cases, the two key advantages of MNR are its relatively low implementation cost and its non-invasive nature. While costs associated with site characterization and modeling can be extensive, the costs associated with implementing MNR are primarily associated with monitoring. Because no construction or infrastructure is needed, it is generally much less disruptive to human communities and the ecosystem than active remedies."

"The principal limitations of sediment removal are that it is usually more complex and costly than in-situ management, and that the level of uncertainty associated with estimating residual contamination can be high at some sites. The need for transport, storage, treatment (where applicable), and disposal facilities may lead to increased impacts on communities. In some parts of the country, disposal capacity may be limited in existing municipal or hazardous waste landfills and it may be difficult to site new local disposal facilities. Another limitation may include the potential for contaminant losses during dredging through resuspension, and to a generally lesser extent, through other processes such as volatilization during excavation, transport, treatment, or disposal. Finally, similar to in-situ capping, dredging or excavation typically includes at least a temporary destruction of the aquatic community and habitat within the remediation area."

"EPA's policy has been and continues to be that there is no presumptive remedy for any contaminated sediment site, regardless of the contaminant or level of risk.

At many sites, but especially at large sites, a combination of sediment cleanup methods may be the most effective way to manage the risk. The remedy selection process for sediment sites should include a clear analysis of the uncertainties involved, including uncertainties concerning the predicted effectiveness of various alternatives and the time frames for achieving cleanup levels and, if possible, remedial action objectives. The uncertainty of factors very important to the remedy decision should be quantified, so far as this is possible. Where it is not possible to quantify uncertainty, sensitivity analysis may be helpful to determine which apparent differences between alternatives are most likely to be significant."

"Identifying and controlling contaminant sources typically is critical to the effectiveness of any Superfund sediment cleanup. Source control generally is defined for the purposes of this guidance as those efforts are taken to eliminate or reduce, to the extent practicable, the release of contaminants from direct and indirect continuing sources to the water body under investigation. At some sediment sites, the original sources of the contamination have already been controlled, but subsequent sources such as contaminated floodplain soils, storm water discharges, and seeps of ground water or non-aqueous phase liquids (NAPLs) may continue to introduce contamination to a site. At sites with significant sediment mobility, areas of higher contaminant concentration may act as continuing sources for less-contaminated areas."

"The identification of continuing sources and an evaluation of their potential to re-contaminate site sediment are often essential parts of site characterization and the development of an accurate conceptual site model, regardless of source areas within the site. When there are multiple sources, it is often important to prioritize sources to determine the relative significance of continuing sources versus on-site sediment in terms of site risks to determine where to focus resources. Generally, a source control strategy should include plans for identifying, characterizing, prioritizing, and tracking source control actions, and for evaluating the effectiveness of those actions. It is also useful to establish milestones for source control that can be linked with sediment remedial design and cleanup actions. If sources can be substantially controlled, it is normally very important to reevaluate risk pathways to see if sediment actions are still needed."

Section 5.6.3.1.1 Restrict the sale and use of Cu AFPs (Task 1.1, Table 5-8) and Appendix 6.1.3

The leach rates calculated for Newport Bay, Shelter Island and Marina del Rey Harbor do not take into account salinity gradients, tidal flushing, and other types of flushing (wind driven, groundwater, dry and wet weather flows). Therefore, the estimates are overly conservative and should not be used to set leach rate levels. The Department recommends that the staff report qualify the estimates as overly conservative and/or conduct site specific hydrodynamic fate and transport modeling of each harbor.

Section 5.6.3.1.2.2 Implementation Tasks to reduce Cu discharges from Cu AFPs

The Department believes that an additional mitigation alternative should include the encouragement of using boatlifts. The Department recommends that a discussion of boatlifts be included as a mitigation alternative that would include facts such as:

- Boatlifts do not require antifouling paint on the boat or on the boatlift
- Boatlifts costs can be offset by decreasing hull cleaning from 1 to 2 times per month to annually or never.