

**SUPPLEMENTAL STAFF REPORT  
BASIN PLAN AMENDMENTS FOR  
COPPER TMDLS  
AND  
NON-TMDL METALS ACTION PLANS FOR  
ZINC, MERCURY, ARSENIC AND CHROMIUM  
IN NEWPORT BAY, CALIFORNIA**

**California Regional Water Quality Control Board**

**Santa Ana Region**

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**Prepared by L.M. Candelaria, PhD, CPSS**

**Environmental Scientist**

## **SUPPLEMENTAL STAFF REPORT FOR COPPER (Cu) TMDLS AND NON-TMDL ACTION PLANS (ACTION PLANS) FOR ZINC (Zn), MERCURY (Hg), ARSENIC (As) AND CHROMIUM (Cr)**

This report supplements the Staff Report<sup>1</sup> prepared by Regional Board staff to document recommendations for the adoption of Basin Plan amendments to incorporate revised Copper (Cu) TMDLs and Non-TMDL Action Plans for Zinc (Zn), Mercury (Hg), Arsenic (As) and Chromium in Newport Bay. This supplemental report includes the following:

- I. SUMMARY OF KEY POINTS REGARDING METALS TMDLS AND ACTION PLANS FOR NEWPORT BAY**
- II. SUMMARY OF KEY COMMENTS ON PROPOSED TMDLS AND ACTION PLANS AND BOARD STAFF RESPONSES**
- III. RECOMMENDED REVISIONS TO THE PROPOSED TMDLS AND ACTION PLANS BASED ON COMMENTS RECEIVED**

### **I. SUMMARY OF KEY POINTS REGARDING METALS TMDLS AND ACTION PLANS FOR NEWPORT BAY**

The following is intended as a brief refresher of key points regarding metals TMDLs for Newport Bay. For a more detailed discussion see the August 2016 Staff Report (reference 1).

1) Copper (Cu) TMDLs for Upper and Lower Newport Bay are already in place as they were promulgated by USEPA in 2002 as part of the Toxics TMDLs. USEPA found that Cu antifouling paints (AFPs) on boats are the largest source of Cu discharges to the Bay. In addition, USEPA also promulgated Metals TMDLs for zinc (Zn) and lead (Pb) in Lower Newport Bay, and cadmium (Cd), zinc (Zn) and lead (Pb) in Upper Newport Bay.

2) USEPA's Cu TMDLs do not include an implementation plan or compliance schedule; therefore, **if Board staff's proposed Cu TMDLs are not adopted by the Regional Board and approved by the requisite agencies (State Water Resources Control Board, Office of Administrative Law and USEPA), the Regional Board must take appropriate action to implement USEPA's Cu TMDLs (as well as USEPA's Zn, Pb and Cd TMDLs). Required Cu reductions from boats are higher in USEPA's Cu TMDLs than the proposed Cu TMDLs (92% vs 60%).**

3) Regional Board staff conducted their own Impairment Assessment (reference 1) completed after USEPA's Metals TMDLs were promulgated in 2002<sup>2</sup>. Based on this assessment, using data more recent than those evaluated by USEPA, impairment was found for Cu in both the Upper and Lower Bay; therefore, Board staff developed and are recommending revised Cu TMDLs<sup>3</sup> for Upper and Lower Newport Bay. Data and guidelines used by Board staff for their Impairment Assessment to support the proposed TMDLs and Action Plans are valid under the State Listing Policy<sup>4</sup>. Note that Cu antifouling paints (AFPs) on boats continue to be the largest source of Cu to the Bay (references 1, 2).

<sup>1</sup> STAFF REPORT – BASIN PLAN AMENDMENTS FOR COPPER TMDLS AND NON-TMDL METALS ACTION PLANS FOR ZINC, MERCURY, ARSENIC AND CHROMIUM IN NEWPORT BAY, CALIFORNIA. August 2016. L.M.Candelaria, PhD, California Regional Water Quality Control Board – Santa Ana Region (August 2016 Staff Report).

<sup>2</sup> USEPA's Cu TMDLs (USEPA 2002. Total Maximum Daily Loads for Toxic Pollutants, San Diego Creek and Newport Bay, California. U.S. Environmental Protection Agency, Region 9).

<sup>3</sup> Board staff's proposed Copper (Cu) TMDLs are based on USEPA's Cu TMDLs (reference 2).

<sup>4</sup> WATER QUALITY CONTROL POLICY FOR DEVELOPING CALIFORNIA'S CLEAN WATER ACT SECTION 303(d) LIST. Adopted Sept. 2004, amended Feb. 2015. State Water Resources Control Board (SWRCB) (State Listing Policy, or SLP).

4) Based on Board staff's Impairment Assessment, Board staff are recommending Action Plans for Zn, Hg, As and Cr, rather than TMDLs, since numeric allocations for these metals cannot be established at this time for the following reasons: 1) additional monitoring is needed to determine sediment compliance with the sediment targets in areas that exceeded the sediment Zn and Hg ERM (Effects Range Median) guidelines in previous studies; 2) additional monitoring is needed to determine whether Zn continues to exceed fish/mussel tissue guidelines (if fish/mussel tissue is impaired for Zn, an investigation may be needed to determine the source(s) of Zn in fish tissue - one source could be sediment Zn which exceeds sediment guidelines in marina areas); and 3) additional monitoring is needed to evaluate As and Cr in fish/mussel tissue and to determine the sources of As and Cr. Data and guidelines used by Board staff for their Impairment Assessment to support the proposed TMDLs and Action Plans are based on the State Listing Policy.

### **Copper (Cu) TMDLs**

5) Cu TMDLs are still required for both Upper and Lower Newport Bay based on ALL data sets, including Board staff's Impairment Assessment and Anchor QEA's study for the City of Newport Beach (the City) (June 2015 and February 2016). (See #3 above.)

6) Board staff's proposed Cu TMDLs include requirements for Cu discharges from Cu antifouling paints (AFPs) on boats, tributary runoff and stormwater runoff; and sediment monitoring. Again, the data show that Cu AFPs on boats are the largest source of Cu discharges to the Bay, and Cu discharges from Cu AFPs must be reduced to achieve the Cu TMDLs. The data also indicate that the TMDL allocations for tributary runoff and stormwater runoff are being met, and the proposed implementation plan calls for ongoing monitoring to ensure that the allocations continue to be met.

Continued monitoring of water and sediments is needed to determine compliance with 1) the saltwater CTR criterion for dissolved Cu (3.1 µg/L), and 2) the sediment quality objectives (SQOs)<sup>5</sup> in areas that previously exceeded the sediment Cu ERM guidelines and in areas with no or limited SQO or sediment Cu data. (Sediment Cu data must also be evaluated against the ERM and ERL (Effects Range Low) guidelines<sup>6</sup> for antidegradation purposes.) If impairment is demonstrated based on the data collected, then further investigation and/or remediation will be necessary.

7) The proposed Cu TMDLs primarily require a reduction in Cu discharges from Cu AFPs; recommended strategies include, but are not limited to, the following strategies:

- 7.1 Conversion of a percentage of boats using Cu AFPs<sup>7</sup> to nontoxic AFPs or lower leach rate Cu AFPs (leach rates at or below California Department of Pesticide Regulation (DPR's) maximum allowable leach rate of 9.5 ug/cm<sup>2</sup>/d). Non-Cu AFPs (other biocides) may also be considered, provided it is demonstrated that the use of these paints would not have a significant adverse environmental impact. Non-Cu AFPs that contain other biocides should not be applied to new boats.
- 7.2 Use of BMPs by all divers during hull-cleaning such as soft cloths or a container/filter method, and diver certification.
- 7.3 Implementation of new BMPs such as bagging newly painted boats for an initial period to contain Cu discharges from Cu AFPs.
- 7.4 Dry docking of boats.
- 7.5 Other strategies proposed by dischargers.

<sup>5</sup> *Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1 Sediment Quality, SWRCB 2009 (EBE Plan-Part 1).*

<sup>6</sup> *National Oceanic and Atmospheric Administration (NOAA) SQUIRTS 1999.*

<sup>7</sup> *DETERMINATION OF MAXIMUM ALLOWABLE LEACH RATE AND MITIGATION RECOMMENDATIONS FOR COPPER ANTIFOULING PAINTS PER AB 425 (DPR memo from David Duncan to Brian Leahy, January 30, 2014).*

Note that a number of the tasks listed above are included in the mitigation strategies required for the implementation of DPR's leach rate (reference 7).

8) Pursuant to Board staff's Implementation Plan for the Cu TMDLs, the City and the County, as the primary dischargers, will be required to develop their own implementation plan(s) and strategies to meet the Cu TMDLs. Note that the recommended tasks identified in Board staff's proposed Implementation Plan must be considered in the development of the strategies in the implementation plans by the responsible parties. These plans may also include additional tasks identified by the City and County. Justification for not including the recommended tasks must also be given. The implementation plan proposed by the City and County would be implemented upon Regional Board approval of the dischargers' plan (or Executive Officer approval of the plan if no significant public comments are received).

9) Board staff's recommended compliance schedule for the proposed Cu TMDLs will allow for:

9.1) The development, implementation, evaluation and adaptive management of appropriate and effective strategies to achieve Cu reductions;

9.2) the collection and analysis of additional data by responsible parties to confirm or reject their assertions regarding metals impairment in Newport Bay (as described in the comments received - see Section III below) ; and

9.3) Water Effects Ratio investigations by responsible parties, or other models approved by USEPA, to formulate recommendations for adjustment of the California Toxics Rule (CTR) criterion for Cu. (If approved, such adjustments may necessitate revisions to the Cu TMDLs.)

9.4) The recommended Cu TMDLs' compliance schedule is intended to allow time for boats to be repainted with nontoxic or lower leach rate Cu AFPs during normal hull maintenance/repainting schedules (should the responsible dischargers elect to pursue this strategy for TMDL compliance). The recommended compliance schedule is expected to be adequate for this purpose.

#### **Action Plans for Other Metals**

10) The proposed Action Plans for zinc (Zn), mercury (Hg), arsenic (As) and chromium (Cr) do not establish enforceable allocations or TMDLs.

Pursuant to Board staff's Implementation Plan for the Action Plans, the City and the County, as the primary responsible parties, will be required to develop their own implementation plan(s) and strategies to meet the Action Plans for Zn, Hg, As and Cr. The focus of these Action Plans is on monitoring and evaluation. The results will be used to determine whether additional follow-up (such as source identification) is necessary. The implementation plan proposed by the City and County would be implemented upon Regional Board approval of the dischargers' plan (or Executive Officer approval of the plan if no significant public comments are received).

The Action Plan for Zn and Hg requires continued monitoring and evaluation of sediments (and Zn in fish/mussel tissue) in Lower Newport Bay including monitoring in marina areas. If sediments are found to be impacted, or stressor identification studies will be required, per the EBE Plan – Part 1 (reference 5). If Zn impairment is found in fish/mussel tissue, source identification studies and strategies to address those sources will be required.

The Action Plan for As and Cr requires continued monitoring and assessment of fish/mussel tissue and sediments in both Upper and Lower Newport Bay. If impairment is found in fish/mussel tissue, source identification studies and strategies to address those sources will be required. If sediments are found to be impacted, stressor identification studies will be required.

(Impacted sediments are addressed in the Enclosed Bays and Estuaries Plan (EBE Plan) –reference 5.)

### **Other Cu TMDLs in southern California**

Note that other Cu TMDLs in southern California have already been adopted, including the Shelter Island Yacht Basin (SIYB) Cu TMDL (San Diego Regional Board) and the Marina del Rey (Mdr) Cu TMDL (Los Angeles Regional Board)), and implementation of these TMDLs is moving forward.

The Port of San Diego (the Port) is responsible for the implementation of the Shelter Island Cu TMDL and is currently meeting the Cu reduction schedule by the use of diver certification and boat conversions to nontoxic paints. See the Cu Reduction Program at:

<https://www.portofsandiego.org/environment/copper-reduction-program.html>

The County of Los Angeles (LA County) is responsible for the implementation of the Marina del Rey (Mdr) Cu TMDL. During the last 2 years, LA County has been working with the LA Regional Water Quality Control Board (R4) to construct an approvable justification to conduct a site specific study. The Los Angeles (LA) Regional Board's Executive Officer gave conditional approval for this study based on LA County's justification report and the following proposed work:

LA County 1) received a boat lift grant, 2) will conduct a pilot study to convert 100 boats to nonbiocide paints, and 3) will develop a hull cleaning ordinance. The LA Regional Board is currently considering the appropriate regulatory action(s) to take to implement the Mdr Cu TMDL.

[http://www.waterboards.ca.gov/losangeles/board\\_decisions/basin\\_plan\\_amendments/technical\\_documents/96\\_New/Revised\\_SIPJustificationReport\\_041817\\_final\\_RB.PDF](http://www.waterboards.ca.gov/losangeles/board_decisions/basin_plan_amendments/technical_documents/96_New/Revised_SIPJustificationReport_041817_final_RB.PDF)

## II. SUMMARY OF KEY COMMENTS ON PROPOSED TMDLS AND ACTION PLANS AND BOARD STAFF RESPONSES

*Board staff's detailed responses to the comments received on the Cu TMDLs and Action Plans for Zn, Hg, As and Cr, and the comments themselves, are presented in the Response to Comments document (reference 7).*

*The following summary presents the key comments received and Board staff's summarized responses.*

### **Key Comments**

1. The Copper TMDL unlawfully attempts to force local agencies to solve a conflict caused by the Regional Board's failure to convince the Legislature or its sister state agencies to ban copper AFP.
2. The Copper TMDL is unlawful because alternatives to copper AFP are not effective or available.
3. The data are outdated and are not representative of current conditions.
4. The Bay is not impaired with respect to copper, and a Cu TMDL is not needed.
5. The sediments are not currently impaired.
6. The fish tissue [data]... support [the] lack of tissue impairment related to in-bay sources for metals; and the tissue data are too old and not reflective of current condition.
7. Cu load calculation issues
  - 7.1 The margin of safety (MOS) is too large and unsupported.
  - 7.2 The Staff Report assumes 10,000 vessels in the Bay; the number should be reduced to more accurately reflect the number of boats using Cu AFPs.
8. The phased implementation schedule is unreasonable, unsupported and would force substantial early investments that may be unnecessary.
9. There is no peer review.
10. The Copper TMDL imposes unfunded state mandates.
11. Regional Board outreach was not sufficient. The TMDL was a surprise to most named responsible parties.
12. The Substitute Environmental Document (SED) fails to comply with the California Environmental Quality Act ("CEQA" \_ and CEQA's implementing guidelines.

Key Comment 1. One of the biggest issues of these Copper (Cu) TMDLs is the City of Newport Beach's belief that 1) The Copper TMDL unlawfully attempts to force local agencies to solve a conflict caused by the Regional Board's failure to convince the Legislature or its sister state agencies to ban copper AFP, and that the Regional Board's authority is in conflict with the Department of Pesticide Regulation's (DPR) authority; and 2) the Cu TMDLs are attempting to circumvent the regulatory authority of the Department of Pesticide Regulation (DPR) since the TMDLs require the City and others to restrict or ban the use of *legally-available* copper-based antifouling paints (Cu AFPs) via the Cu TMDLs. (*City's comments 1, 2 and 5.1– City Letter, and 6.44 – Attachment 6*).

### *Response*

*1) As described in the City's comments, the City's arguments rely, in part, on a false presumption of the requirements of the proposed TMDLs. The proposed Cu TMDLs do not require or recommend that the City or County ban the use of Cu antifouling paints. (The proposed Implementation Plan does recommend providing incentives to boaters to convert from Cu AFPs to nontoxic AFPs.)*

*In addition, there is no conflict between the authority of the Regional Board and that of the Department of Pesticide Regulation (DPR). While DPR has the authority over the sale and use of Cu antifouling paints (AFP), the Regional Board has the authority over the discharge of pollutants, including the discharge of Cu from Cu AFPs; therefore, while Cu AFPs are legal to buy and use, dissolved Cu concentrations in Newport Bay continue to exceed the California Toxics Rule (CTR) criterion, and Cu TMDLs are required for*

both Upper and Lower Newport Bay. Cu discharges from Cu AFPs are the largest source of Cu to the Bay, and these discharges must be reduced.

In February 2014, DPR issued a determination for a maximum allowable leach rate of 9.5  $\mu\text{g}/\text{cm}^2/\text{d}$  for Cu AFPs that inherently includes the use of BMPs. There is no conflict between DPR's determination of a maximum allowable leach rate for Cu AFPs and the Board's authority to regulate Cu discharges from Cu AFPs. Board staff have had discussions with DPR regarding the legal issues surrounding the regulation of Cu AFPs. In fact, the implementation strategies of the Cu TMDLs include strategies outlined in DPR's letter of determination which states that BMPs must be used when using Cu AFPs with leach rates of 9.5  $\mu\text{g}/\text{cm}^2/\text{d}$  to achieve compliance with the dissolved Cu CTR criterion<sup>8</sup>.

In addition, DPR stated that some conversion to non-Cu paints/coatings will be necessary for marinas with greater than 1270 boats to reach compliance with the CTR chronic criterion (3.1  $\mu\text{g}/\text{L}$ ). DPR added that it "will continue to work with stakeholders groups to facilitate greater adoption of AFP alternatives, including biocide-free products that are a growing presence in the marketplace". These Cu TMDLs support the implementation of DPR's maximum leach rate determination by recommending the use of BMPs for hull cleaning and the conversion of some boats to nontoxic and lower leach rate Cu paints.

2) The proposed Cu TMDLs do not require the City or any other party to ban the use of Cu antifouling paints (AFPs). The proposed Cu TMDLs require that the City and other responsible parties take actions to reduce discharges of Cu into Newport Bay from Cu AFPs. Board staff's proposed Implementation Plan identifies a number of recommended tasks whereby such reductions could be achieved, including providing incentives to boat owners to convert from Cu AFPs to nontoxic or lower leach rate Cu AFPs. Board staff's Implementation Plan cannot, and does not, dictate the method or manner of compliance, but does require the City, the County and other responsible parties to develop their own proposed implementation plan with strategies to achieve these Cu TMDLs. The implementation plan proposed by the City and County would be implemented upon Regional Board approval of the dischargers' plan (or Executive Officer approval of the plan if no significant public comments are received). (It is Board staff's expectation that the City and County will take a lead role in developing their own implementation plan with strategies to meet the Cu TMDLs, and implementing those approved strategies on behalf of marina owner/operators, boat owners and other responsible parties.)

Key Comment 2. The Copper TMDL is unlawful because alternatives to copper AFP are not effective or available. (City's comments 5.2 – City's Letter, 6.51 – Attachment 6.)

#### Response

This statement is not correct. First, some nontoxic alternatives to Cu AFPs are available and effective. Lower leach rate Cu AFPs and non-Cu AFPs are also available. In addition, nontoxic paints are the preferred option over non-Cu paints, since non-Cu AFPs include other biocides, such as Zn or organics, that may result in aquatic toxicity.

Note that the Port of San Diego conducted a study on alternative paints (nontoxic and non-Cu paints), followed by a Cu Paint Conversion project in Shelter Island Yacht Basin (SIYB) as part of their Cu

<sup>8</sup> Department of Pesticide Regulation (DPR) letter from George Farnsworth, dated November 16, 2017, to Hope Smythe, Santa Ana Regional Water Quality Control Board (SARWQCB), response to SARWQCB's letter dated November 8, 2017.

Reduction Program. Intersleek 900 was the paint of choice for boat conversions and appears to be a viable paint, so there is at least one nontoxic paint that is available and viable. (Note that since the Port's study, Intersleek 900 has been reformulated to Intersleek 1100, which is also a nontoxic paint.) The State of Washington also conducted a study on alternative paints. In addition, LA County will be converting 100 boats using Cu AFPs to nontoxic paints in 2 years.

See the Port of San Diego study on alternative paints at:

<https://www.portofsandiego.org/environment/copper-reduction-program.html>,

and the State of Washington study on alternative paints at:

<https://www.northwestgreenchemistry.org/event/fourth-stakeholders-call-wa-state-antifouling-boat-paint-aa>

Second, the conversion of boats from Cu AFPs to nontoxic AFPs is one of the recommended tasks in Board staff's Implementation Plan for the Cu TMDLs; compliance with the Cu TMDLs may be achieved, at least partially, by strategies other than, or in addition to, the conversion to alternative AFPs. (Note that this strategy is consistent with the City's own Resolution, passed in June 2010, to promote the use of Cu-free boat paints (Cu-free AFPs) (Resolution No.2010-53).) Other strategies include the use of BMPs for hull cleaning and diver certification programs, dry docking and/or incentives for conversions to nontoxic paints. Note again that the Cu TMDLs require the dischargers to develop their own proposed implementation plan and to consider the recommended tasks identified in the proposed Cu TMDLs Implementation Plan, but does not require responsible parties to begin with, or even include the conversion of Cu to nontoxic paints (Note though that DPR's determination states that in larger marinas (greater than 1270 boats), conversions to non-Cu paints will likely be necessary). The conversion of some boats to nontoxic paints may, therefore, be necessary since approximately 5,000 boats occupy slips or moorings mostly in Lower Newport Bay. Once again, the Regional Board cannot dictate the method or manner of compliance.

Note also that implementation of two other Cu TMDLs in southern California is moving forward. The Port of San Diego is responsible for the Shelter Island Yacht Basin (SIYB) Cu TMDL, and is currently meeting their compliance schedule through the use of diver certification for BMPs for hull cleaning and boat conversions from Cu AFPs to nontoxic AFPs/coatings. LA County is responsible for the Marina del Rey Cu TMDL, and has developed a plan to implement this Cu TMDL. The work includes building a boat lift for dry docking, the conversion of 100 boats from Cu AFPs to nontoxic paints/coatings in 2 years, rebates for nontoxic AFP use, and the use of BMPs for hull cleaning.

Key Comment 3. The data [used by Regional Board staff to determine impairment] are outdated and are not representative of current conditions. (City's comments 3.1 – City's Letter, and 3.1– Attachment 3.)

#### Response

The August 2016 Staff Report (reference 8) evaluated data from 2002-14, including the County's monitoring data from 2006-11 for metals in the water column, sediments and fish/mussel tissue. It is likely that there are some current data that were not evaluated since it was necessary to set a cutoff date for the evaluation of data; however, these data will be evaluated in future refinements to the proposed TMDLs, if adopted.

Note that the highest Cu concentrations, in water and sediments, were found in the marinas, which are not typically monitored by the County or City, along with the Turning Basin and S. Lido Channel areas. (The County has two routine monitoring sites in Lower Newport Bay -Turning Basin and Harbor Island Reach, but no marina sites. A site in the Rhine Channel is a third Lower Bay site but the Rhine Channel is

not part of these Cu TMDLs.) Note also that much of the data submitted by the City, although newer than Board staff's Impairment Assessment data, do not include marina data (most exceedances of sediment metal guidelines occurred in marinas).

In addition, the data evaluated for Board staff's Impairment Assessment are more extensive and more current than the data used by USEPA to evaluate metals for their Toxics TMDLs (2002), and USEPA's Metals TMDLs, including Cu TMDLs, are still in place.

Note also that the State Listing Policy (SLP) has no time limitations with respect to data used for impairment assessment or listing purposes. (To date, the SLP does not restrict data to less than 5 years; in fact, there is no limitation in the SLP on the age of data used for impairment assessment/listing purposes, and the data evaluated are left to the judgment of Regional Board staff).

See #4, 5 and 6 in this section.

Key Comment 4. The Bay is not impaired with respect to copper, and a Cu TMDL is not needed. (City's comments 6.27 through 6.40 - Attachment 6.)

Response

The data do show widespread Cu impairment in the Upper and Lower Bay based on Board staff's evaluation per the SLP, and the Upper and Lower Bay are currently designated as impaired water bodies for Cu on USEPA's 303(d) list. The data evaluated per the SLP show that dissolved Cu continues to exceed the CTR criterion, the appropriate regulatory endpoint; therefore, Cu TMDLs continue to be necessary and appropriate. In fact, the City's own data (Anchor's study – City Attachments 4 & 5 (Response to Comments-reference 8)) support the finding of impairment in water due to Cu. Sediments in marinas, Turning Basin and S. Lido channel areas should be 'watch listed' and monitored for sediment metals and toxicity.

Note again that Cu TMDLs are already in place for both Upper and Lower Newport Bay, and were promulgated by USEPA in 2002 as part of the Toxics TMDLs. If the proposed Cu TMDLs are not adopted, the Regional Board is required to implement USEPA's Cu TMDLs. Note again that USEPA's Cu TMDLs require higher reductions in Cu discharges from boats than the revised Cu TMDLs proposed by Board staff. Ongoing strategies to reduce Cu discharges should be included in the implementation plan proposed by responsible parties to achieve the proposed Cu TMDLs.

Key Comment 5. The sediments are not currently impaired.

Sediments that were dredged should not be included in the data evaluation.

(City's comments 3.1 -Attachment 3; 6.32, 6.34, 6.36, 6.38-6.39, 6.46, 6.53 – Attachment 6.)

Response

**1) Board staff have revised the sediment findings and requirements to include continued monitoring and evaluation of sediments for compliance with the sediment targets (rather than remediation of sediments based on Board staff's initial finding of impairment), in areas of Lower Newport Bay that previously exceeded the sediment Cu, Zn and Hg ERM guidelines (marinas, Turning Basin and South Lido channel areas), and in areas with no or limited SQO or sediment Cu, Zn and Hg data (in particular marinas).** The significant number of exceedances of the sediment ERMs in areas sampled demonstrate a need to continue to monitor and evaluate sediments in these areas (marinas, Turning Basin, and South Lido Channel), to remediate those areas if necessary, and to evaluate other marina areas that were not dredged.

**Board staff have also revised the numeric targets in the Cu TMDLs and Zn, Hg, As, Cr Action Plans.** Based on consideration of the State Board's EBE Plan –Part I (policy and guidance regarding sediment quality assessments -reference 5), Board staff agree that it is premature to make a finding of sediment impairment at this time. The numeric targets now include sediment quality objectives (SQOs), which were added to implement the EBE Plan-Part 1 (reference 5). In addition, sediment Cu concentrations should be monitored and evaluated against the Cu ERM (Effects Range Median) and ERL (Effects Range Low) to ensure that concentrations do not increase over time consistent with antidegradation principles.

Board staff agree that sediment metals data collected in areas that were subsequently dredged should not be used for impairment assessment purposes, and Board staff's Impairment Assessment is based on data from areas not dredged and post-dredged areas. Note that only one sample site was affected by Lower Bay dredging; this was the Harbor Island Reach site used for the County's routine monitoring. Data collected at this site prior to dredging were removed from the data set used to evaluate sediments. Note that data from some studies used in the Impairment Assessment are not sufficient to determine compliance with the sediment quality objectives (SQOs). The main studies used to evaluate sediments in the Bay were the Cu-Metals Marina study (OC Coastkeeper and Candelaria 2007), the County's monitoring data from 2006-11, and the Metals Sediment study in Lower Newport Bay (OC Coastkeeper and Candelaria 2014). In the Cu-Metals Marina Study, sediments were collected from marinas and channel areas that were not dredged in 2012 when open bay areas of the Lower Bay were dredged; therefore these sediment data are valid for impairment assessment purposes. In the Metals Sediment Study, some marina sediments were retested, in addition to new surface sediments in post-dredged areas.

It is likely that there are some current data that were not evaluated for this Impairment Assessment, since it was necessary to set a cutoff date for the evaluation of data; however, these data will be reviewed in future evaluations for the proposed TMDLs, if adopted. Note that the highest Cu concentrations, in water and sediments, were found in the marinas, which are not typically monitored by the County or City, along with the Turning Basin and S. Lido Channel areas. Much of the data submitted by the City, although newer than Board staff's Impairment Assessment data, do not include marina data –where most exceedances of sediment metal guidelines occurred.

See #5 - Section III below.

Key Comment 6. A review of available fish tissue [data]... support [the] lack of tissue impairment related to in-bay sources for metals and supports removal of all the recommended actions within the non-TMDL action plans. The tissue data presented in the Staff Report are too old and not reflective of current condition. (City's comments 3.2.4 – Attachment 3 (6.11-6.13, 6.20, 6.30 -guidelines) & 6.23 – 6.26, 6.37-6.38 - Attachment 6, and Irvine Co. comment.)

#### Response

Board staff's Impairment Assessment showed fish/mussel tissue impairment for As and Cr in the Upper and Lower Bay, and Zn impairment in the Lower Bay. Board staff are recommending Action Plans rather than TMDLs to address these metals in fish/mussel tissue since sources are unknown and allocations cannot be determined. The proposed Action Plans require continued monitoring to evaluate As, Cr and Zn in fish/mussel tissue, and recommend source evaluation studies of these metals, if they continue to exceed the fish/mussel tissue guidelines. Where necessary, corrective actions may be required to address these sources.

*With respect to Cu, Board staff found no impairment in fish/mussel tissue due to Cu; therefore, Cu in fish/mussel tissue is not addressed in the Cu TMDLs.*

*See response to #5 - Section III below.*

Key Comment 7. Comments on Cu load calculation issues

7.1 The Margin of Safety (MOS) is too large and unsupported.

*(City's comments 5.3 – City Letter, 1.5 – Attachment 1, 6.49 – Attachment 6.)*

*Response*

*Board staff have reduced the margin of safety (MOS) from 20 to 10 percent (%). The 20% margin of safety (MOS) was used in Cu TMDLs promulgated by USEPA and it is reasonable; however, based on comments received the MOS was reduced to 10%. With the reduction of the MOS to 10%, the Cu allocation for MOS decreased from 2,329 to 1165 lbs/yr. See #3 - Section II above .*

*Note that the dissolved Cu CTR chronic criterion of 3.1 µg/L is the primary target for Cu in water. Board staff have revised the language in the proposed Cu TMDLs to state that compliance with the numeric target for dissolved Cu will be considered to be achieved if the dissolved Cu CTR criterion of 3.1 µg/L is consistently achieved, pursuant to the State Listing Policy (reference 8), and no further reduction in Cu discharges will be required even if the Cu allocation for boats, required in the Cu TMDLs, is not achieved. If, however, the Cu allocation for boats is met, but the CTR criterion is not consistently achieved, further reduction in Cu discharges will be required.*

7.2 The Staff Report assumes 10,000 vessels in the Bay; the number should be reduced to more accurately reflect the number of boats using Cu AFPs. *(City's comment 1.3 – Attachment 1.)*

*Response*

*The estimate of 10,000 boats/slips was the same number used in USEPA's promulgated Cu TMDLs to calculate the Cu load from boats, and included all boats, empty slips and moorings. It was noted in the comments that the City estimated the boat count to be 4,470, but this number does not include empty slips or smaller boats. (Coastkeeper estimates were somewhat higher than 5,000 boats/slips.) Based, on these two counts, Board staff have revised the estimated number of boats/slips from 10,000 to 5,000. The number of boats/slips is used to calculate the Cu load estimate from boats. The reduction of the number of boats/slips from 10,000 to 5,000, reduces the estimated Cu load from boats from 36,000 to 18,000 lbs/yr. Note that even with the reduction of the number of boats/slips to 5,000, Cu discharges from boats are still the largest source of Cu to the Bay. See #2, Section III below.*

*Further, the reduction of the MOS to 10% (Cu allocation of 1165 lbs/yr) combined with the reduction of the number of boats/slips to 5,000 increases the Cu allocation for boats to 7224 lbs/yr and reduces the required percent reduction of the Cu load from boats to approximately 60% in the proposed Cu TMDLs. Note again that even with the reductions in the number of boats/slips and the margin of safety, Cu AFPs are still the largest source of Cu to the Bay, and implementation actions must be taken to reduce Cu discharges from boats. These actions may include the use of BMPs by all divers and diver hull cleaner certification, the use of new hull cleaning methodologies (such as the container/filter method), and the conversion of some boats using Cu AFPs to nontoxic and non-Cu paints. Boats may also be dry-docked and/or incentives used to convert boats from Cu to nontoxic paints.*

Key Comment 8. The phased implementation schedule is unreasonable, unsupported and would force substantial early investments that may be unnecessary. *(City's comment 1 - City Letter.)*

*Response*

*No substantive basis for these assertions has been provided. Board staff believe that the comments reflect a lack of understanding of the nature of the proposed Implementation Plan, which requires the responsible parties to develop their own proposed implementation plan that includes strategies for the implementation of the Cu TMDLs and Action Plans. (The responsible parties' implementation plan must be consistent with the proposed final compliance date for the Cu TMDLs.) The implementation plan proposed by the City and County would be implemented upon Regional Board approval of the dischargers' plan (or Executive Officer approval of the plan if no significant public comments are received).*

*The implementation schedule is therefore reasonable, and is in line with the compliance schedules of other Cu TMDLs in southern California (i.e. Marina del Rey (Los Angeles) and Shelter Island Yacht Basin (San Diego)).*

Key Comment 9. There is no peer review.  
(City's comment 6.56 – Attachment 6.)

*Response*

*Peer review is not required if a new application of an adequately peer-reviewed product does not depart significantly from its scientific approach. The recommended Cu TMDLs used the same scientific approach and peer-reviewed models used by USEPA in their Toxics TMDLs (2002), that include Cu and other Metals TMDLs. Peer-reviewed models used by USEPA were also used to calculate load allocations for Cu. Peer-reviewed data for Cu loads from two paint types determined by the US Navy and loading equations from USEPA's TMDLs were used to calculate the estimated Cu load from boats. Therefore, additional scientific peer review of the proposed Cu TMDLs is neither necessary nor required.*

Key Comment 10. The Copper TMDL imposes unfunded state mandates.  
(City's comment 5.5 - City Letter, and VI - Attachment 7.)

*Response*

*This comment is appropriately raised with the Commission on State Mandates, and not the Regional Board. If the commenter believes that the Cu TMDLs, when implemented, constitute unfunded mandates, the proper course of action would be to file a test claim with the Commission on State Mandates.*

*Moreover, the Cu TMDLs are not unfunded state mandates that would be subject to subvention. The Cu TMDLs are not a new program or a higher level of service, the TMDLs are required by federal law, the TMDLs are applicable to all dischargers and not unique to municipalities, and municipalities may be able to levy fees or charges sufficient to cover costs associated with the implementation of the TMDLs. TMDLs are not self-implementing, and do not specify or require the City to take specific actions in order to meet the TMDLs. Further, the adoption of these Cu TMDLs is required by section 303(d) of the Clean Water Act to address the impairment for dissolved Cu in both Upper and Lower Newport Bay. Federal law requires the Regional Board to adopt TMDLs for Cu for Upper and Lower Newport Bay in order to correct Newport Bay's impaired status for Cu. The TMDL is adopted solely pursuant to federal law and, therefore, does not represent a "true choice" to regulate above federal law requirements.*

*The City's argument does not address either the nature of or need for the Cu TMDLs for the Upper and Lower Bay. Whether or not the adoption and implementation of the proposed Regional Board Cu TMDLs would impose an unfunded state mandate (and, as stated above, these activities do not) is a separate question not yet germane.*

Key Comment 11. Regional Board outreach was not sufficient. The TMDL was a surprise to most named responsible parties. (City's comment 6.52 – Attachment 6.)

#### *Response*

*This statement is simply not true. First, both the City and County participated in and commented upon the Toxics TMDLs (including Cu TMDLs) that were promulgated for the Bay by USEPA in 2002. USEPA conducted an informational workshop on their proposed TMDLs at the City of Newport Beach City Council Chambers; therefore, the City was clearly aware of TMDL regulatory efforts for the Bay.*

*Board staff conducted two noticed CEQA scoping meetings on July 23, 2015, and a Regional Board informational presentation on July 24, 2015, and all stakeholders, including the City, were informed via email and posting on the Regional Board website. City staff attended one CEQA meeting and the Regional Board meeting. Following these meetings, in the fall of 2015, Board staff supplied the City (and County) with working draft copies the proposed Impairment Assessment and proposed draft Cu TMDLs, including an Implementation Plan, and conducted a conference call with the City to discuss these actions. Clearly, the development of revised Cu TMDLs by Board staff was known to the key responsible parties.*

*A Regional Board hearing to adopt the proposed Cu TMDLs (and Action Plans for other metals) was then set for October 28, 2016, and on August 25, 2016, Board staff published a Notice of Public Hearing/Notice of Filing, Draft Basin Plan Amendments, Draft Metals Staff Report, and Draft Substitute Environmental Document. Due to the extensive and comprehensive comments received by Board staff, the Cu TMDLs and Metals Action Plans were presented as informational items to the Regional Board on October 28, 2016, and many stakeholders, including the City, presented their concerns. In short, Board staff have conducted significant public outreach for these Cu TMDLs and Action Plans.*

*There were also a number of studies and actions initiated by Board staff to address Cu and other metals in the Bay, and the City was always informed of studies and actually partnered with Board staff and Coastkeeper in at least 3 of these studies.*

*These include:*

- *Evaluation of data and methodology of USEPA's Metals TMDLs (including Cu)*
- *Copper-Metals Marina Study (2007) –the City was informed of this marina study in the Lower Bay*
- *Newport Bay Stormdrain Metals Study (2010) –the City was informed of this study and City permission was required by Coastkeeper to sample stormwater runoff from some manholes in City streets*
- *Copper Reduction in Lower Newport Bay Study (2013) –the City was a partner in this study to convert boats from Cu to nontoxic paints  
--this study was conducted in a City owned marina which required permission from the City  
--the City also passed Resolution No.2010-53 to encourage boaters to convert from Cu to non-Cu hull paints*
- *Metals Sediment Study in Lower Newport Bay (post-dredging) (2014)  
–the City was informed of this study as Board staff and Coastkeeper required maps of proposed and completed dredge area to determine sampling sites*

- *Evaluation of metals data and development of Metals Impairment Assessment*  
--the Impairment Assessment was shared with the City following the July 2015 Regional Board meeting at which the proposed revised Cu TMDLs were presented.

Key Comment 12. Comments on the Substitute Environmental Document (SED)

The substitute environmental document [SED] fails to comply with the California Environmental Quality Act ("CEQA") and CEQA's implementing guidelines.

12.1 ...It is legal error to determine significance of impacts in comparison with a non-existent hypothetically "permitted" condition. The Regional Board's SED violates this principle throughout the document, repeatedly concluding that the proposed project will have "no" or less than significant impacts in comparison to a baseline that assumes implementation of the US EPA TMDL. (see, e.g., SED at pps. 44, 45, 49, 56, 57.) Since the US EPA's TMDL is not currently being implemented, the SED must be revised to determine impact significance in comparison to a baseline that does not assume the US EPA's TMDL is (or will be) enforced.

More particularly, the SED's impact analysis is flawed because it fails to properly account for or analyze the foreseeable significant impacts of a key part of its recommended compliance program: the conversion of boats from Copper Anti-Fouling Paint to allegedly "non-toxic" alternative paints. The SED does not identify any such "non-toxic" non-Cu AFPs. Staff report references Port of SD alternative paint study AND Port of SD Cu reduction project (that converted boats from Cu to nontoxic paints) for the SD Cu TMDL. (City's comment 5.7 – City Letter, and Section VIII – Attachment 7.)

*Response*

1) *The discussion of the regulatory background for the proposed Cu TMDLs, that is included in the Section 3.0 of the SED, properly recognizes that USEPA promulgated Toxics TMDLs, including TMDLs for Cu, in 2002, and that absent the approval of the proposed Regional Board's Cu TMDLs, the Regional Board is required to implement USEPA's TMDLs. It is correct that the Regional Board has taken no formal regulatory action(s) to implement the requirements of USEPA's Cu TMDLs with respect to Cu discharges from boats; however, USEPA's Toxics TMDLs have been implemented in relevant NPDES permits, including the Orange County MS4 permit. TMDL-related permit requirements include monitoring and evaluation, a key implementation task in Board staff's proposed TMDLs and Action Plans. The draft SED has been revised as appropriate to address this concern. (See #9, Section III).*

*As a matter of information, while no formal regulatory action(s) have yet been taken to implement USEPA's Cu TMDLs requirements for Cu discharges from boats, Board staff have been working with the City of Newport Beach and other responsible parties on a voluntary basis to evaluate Cu (and other metal) concentrations in marina and channel areas, and to implement the conversion of boats from Cu to nontoxic AFPs. Board staff and Coastkeeper conducted a Cu-Metals Marina Study to identify metal exceedances in water and sediments in a subset of marinas and the Turning Basin/South Lido channel areas, and a boat conversion project in a target marina in Lower Newport Bay. See Board Staff's Impairment Assessment in August 2016 Staff Report.*

2) *The second concern is that the SED did not identify nontoxic AFPs or properly evaluate the environmental impacts of conversions to nontoxic AFPs.*

*This response addresses the environmental impacts issue first. The draft SED has been revised to provide a more comprehensive review of the environmental impacts of conversions to alternative AFPs based on the recommended strategies outlined in the Implementation Plan for the proposed Cu TMDLs. These strategies include conversions from Cu AFPs to nontoxic or lower leach rate Cu AFPs. It must be emphasized, however, that the Regional Board may not dictate the strategies by which the TMDLs are implemented, nor recommend particular products to use for TMDL implementation.*

*The approach employed in the Implementation Plan for the proposed Cu TMDLs is to require responsible parties to develop and propose their own implementation plan(s) that include strategies and schedules to achieve the TMDLs. Board staff's recommended Implementation Plan identifies recommended strategies, including conversions to nontoxic or lower leach rate Cu AFPs, that must be considered in the development of the responsible parties' proposed implementation plan. The dischargers must submit an implementation plan and are not required to include any of the recommended strategies. The implementation plans would be implemented upon Regional Board approval of the dischargers' plan (or Executive Officer approval of the plan if no significant public comments are received). The responsible parties will be responsible for project-specific environmental analysis of the strategies that they will implement.*

*Secondly, the SED does identify specific nontoxic AFPs. The Port of San Diego Study, referenced in the draft SED, does contain a number of recommendations for nontoxic and/or non-Cu AFPs that may be considered by the responsible parties in developing their proposed implementation plans. As previously noted, the Regional Board cannot dictate the specific method of compliance nor endorse specific products. It is up to the responsible parties to identify the implementation strategies, which may include the use of nontoxic AFPs, by which they propose to comply with the TMDLs.*

12.2 Since the SED does not actually describe any "action" alternative to the proposed project, it also fails to disclose the potential environmental impacts and benefits of such an alternative. (City's comments 5.7 – City letter, & 7.9 – Attachment 7.)

#### *Response*

*The SED analyzed a reasonable range of alternatives. The CEQA Guidelines require the Regional Board to consider a "range of reasonable alternatives" which would "feasibly attain most of the objectives of the project" using a "rule of reason." See Tit. 14 Cal. Code Regs. §15126.6(a). In this case, the Regional Board is obligated to—and the objective of the project is to—prepare the TMDLs to address impairment due to copper. The feasible alternatives are those that would meet this objective. The Regional Board reasonably chose the proposed Copper TMDLs and Copper TMDLs prepared by USEPA because those are the only legal alternatives. Commenter's suggested alternative ("an alternative under which reduction in copper loading would be achieved on a statewide basis" by DPR regulation) does not meet the objective of the project; the suggested alternative to the proposed Cu TMDLs is not a reasonable alternative and was not considered in the revised SED. The CEQA Guidelines also require consideration of a "no project" alternative. For projects that are a revision of an existing policy, the project would be the continuation of the existing policy. Tit. 14 Cal. Code Regs. §15126.6(c). Consistent with this regulation, the proposed Copper TMDLs discussed the USEPA Metals TMDLs as the existing conditions and what would be expected to happen if the proposed TMDLs were not implemented. In a case implementing the National Environmental Policy Act (NEPA), the Ninth Circuit Court of Appeals noted that the "NEPA*

*alternatives requirement must be interpreted less stringently when the proposed agency action had a primary and central purpose to conserve and protect the natural environment, rather than to harm it.” Kootenai Tribe of Idaho v. Veneman (9th Cir. 2002) 313 F.3d 1094, 1120 (abrogated on other grounds by Wilderness Soc. v. U.S. Forest Service (9th Cir. 2011) 630 F.3d 1173)*

*The fundamental nature of the Action Plans for Zn, Hg, As and Cr recommended at this time is monitoring and evaluation. The results of monitoring and evaluation efforts will be used to determine whether additional actions, subject to consideration of alternatives, are needed.*

*The “action” alternative to the proposed TMDLs and Action Plans that is identified in the initial draft SED is Alternative 3. Alternative 3 considers the development of modified Cu TMDLs and Zn, Hg, As and Cr Non-TMDL Action Plans (Action Plans) that incorporate different decisions regarding the numeric targets, margin of safety and other key elements that apply and that may affect the extent to which the reduction of Cu discharges, especially from boats, and/or other elements of the proposed Implementation Plans, is required.*

*In fact, as described in Section III of this Supplemental Staff Report, the proposed TMDLs and Action Plans have now been revised by Board staff to implement a number of these different options including the following:*

- the incorporation of language stating that “Compliance with the Cu TMDLs will be considered to be achieved if the dissolved Cu CTR criterion of 3.1 µg/L is consistently achieved (i.e. no impairment is demonstrated per the assessment methodology in the SLP), and no further reduction in Cu discharges will be required, even if the Cu load allocation for boats is not yet achieved.” ;*
- the use of updated numeric targets for sediment, and the revision of sediment-related implementation tasks to include continued monitoring and evaluation of sediments, rather than remediation (remediation was initially recommended based on a finding of sediment impairment that was based on an older interpretation of State Listing Policy guidelines); a revision to the required percent reduction of Cu discharges from boats ( based on a revised number of boats and margin of safety); and*
- a reduced TMDL compliance schedule (based on the decreased percent reduction required for Cu discharges from boats).*

*In particular, Board staff have determined that it is inappropriate to make a finding of sediment impairment due to metals (Cu, Zn or Hg) at this time; therefore, the proposed Implementation Plans have been revised to require additional monitoring and evaluation of the sediments (by SQOs and ERM guidelines), rather than to require the development and implementation of sediment remediation projects. Whether or not such remediation projects may become necessary in the future is highly speculative, given the newer guidance in State Board’s SLP (reference 4) and the EBE Plan – Part 1 (reference 5).*

*The result of the modifications to the sediment tasks is that the proposed Implementation Plans no longer require sediment remediation (via dredging). The result is that the potential environmental impacts of the revised proposed TMDLs/Action Plans are reduced to less than significant levels. Under*

*these circumstances, no identification or evaluation of an alternative to address significant or potentially significant environmental impacts of the proposed project is required.*

12.3 The SED also fails to comply with CEQA because it does not include an economic factors analysis. *(City's comment 7.9 – Attachment 7.)*

*Response*

*Economics were considered in developing these proposed Cu TMDLs. Economics were discussed in Section 8.3 Economics – Cost Considerations of the Staff Report (reference 1); and in the SED in each of the tasks in Sections 4.1.1 and 4.1.2. Note, however, that the SED has been revised to include a more robust economics analysis.*

DRAFT

### III. RECOMMENDED REVISIONS TO THE PROPOSED COPPER (Cu) TMDLs AND ACTION PLANS FOR ZINC (Zn), MERCURY (Hg), ARSENIC (As) AND CHROMIUM (Cr)

Based on consideration of additional data/information and the comments received, Board staff are recommending revisions to the proposed Basin Plan Amendments for the Cu TMDLs and Action Plans for Zn, Hg, As and Cr, and are recommending adoption of these TMDLs and Action Plans. These revisions are described below and shown in the Basin Plan Amendment (Attachments 1 and 2 - BPA underlined version, and BPA clean version, respectively) to Resolution No. R8-2018-0071.

#### Copper (Cu) TMDLs

The proposed Cu TMDLs include requirements for

- 1--Cu discharges from Cu antifouling paints (AFPs) on boats (Task 1 –BPA)
- 2--Sediment monitoring and evaluation rather than remediation (Task 2 – BPA)
- 3--Cu discharges from tributary and storm drain runoff (Task 3 –BPA)
- 4--Effects of Cu discharges from large storm drains (Task 4 –BPA)

Monitoring and evaluation are required for each task

#### Reduce Cu Loads from Cu Antifouling Paints (AFPs) - (Task 1 of proposed Implementation Plan)

The goal of the proposed Cu TMDLs for Upper and Lower Newport Bay is to ensure that water quality standards are achieved (i.e., that beneficial uses are not adversely affected by Cu, and applicable narrative and numeric water quality objectives for Cu are achieved). The legally applicable numeric water quality objective for dissolved Cu is 3.1 µg/L (specified in the California Toxics Rule (CTR)).

\*The main task of proposed Cu TMDLs is the reduction of Cu discharges from boats (Cu AFPs)

**1) Board staff have revised the language in the proposed Cu TMDLs to state that** *“Compliance with the Cu TMDLs will be considered to be achieved if the dissolved Cu CTR criterion of 3.1 µg/L is consistently achieved,(i.e. no impairment is demonstrated per the assessment methodology in the State Listing Policy (SLP)) and no further reduction in Cu discharges will be required, even if the Cu load allocation for boats is not yet achieved. If, however, the Cu allocation for boats is achieved, but the CTR criterion is not consistently achieved, further reduction in Cu discharges from Cu antifouling paints (AFPs) will be required.”*

(This language would also apply to an approved adjusted Cu CTR criterion developed through a Water Effects Ratio (WER) determination.) This provision makes moot the concerns expressed by stakeholders regarding the accuracy of estimates of the number of boats in the Bay, the estimated Cu loading from those boats, and the extent of the use of BMPs; however, revisions were made based on stakeholder comments/data.

#### 2) Cu Loading Calculations – Number of Boats/Slips

**Board staff have revised the number of boats/slips used to calculate the Cu load from boats.**

While the addition of the language described in #1 above makes moot the issue of the actual number of boats/slips in the Bay (See Section II, Comment 7), Board staff have reduced the estimated number of boats/slips from 10,000 to 5,000. This change is consistent with boat counts from the City of Newport Beach and Orange County Coastkeeper. (The number of boats/slips is used to calculate the estimated Cu load from boats.) The reduction of the number of boats/slips from 10,000 to 5,000 reduces the estimated Cu load from boats from 36,000 lbs/yr to 18,000 lbs/yr. **Note that even with the reduction of the number of boats/slips to 5,000, Cu discharges from boats are still the largest source of Cu to the Bay.** (See key comment #7.2.)

#### 3) Cu Loading Calculations – Margin of Safety

**Board staff have revised the margin of safety (MOS).**

Board staff have reduced the margin of safety (MOS) from 20 to 10 percent (%). (The reduction of the MOS to 10%, decreases the Cu allocation for the MOS from 2,329 to 1165 lbs/yr). (See key comment #7.1.)

The reduction of the MOS to 10% (1165 lbs/yr) along with the reduction of the number of boats/slips to 5,000 increases the Cu allocation for boats to 7224 lbs/yr and **reduces the required percent reduction of the Cu discharges from boats to approximately 60% in the proposed Cu TMDLs.**

#### **4) Compliance Schedule**

**Board staff have revised the compliance schedule for Cu discharges from boats.**

The proposed compliance schedule is reduced to 12 years (from 15 years), since the required percent reduction of Cu discharges from boats is now 60% (compared to 83% in the draft proposed Cu TMDLs). The new compliance schedule is reasonable, as it requires a 60% reduction in 12 years, while the originally proposed schedule required a 70% reduction in 11 years (and 83% reduction in 15 years). (Note that the initially proposed schedule was based on the estimate of 10,000 boats/slips and a 20% margin of safety (MOS), which resulted in a required 83% reduction of Cu discharges from boats in 15 years.) The revised proposed compliance schedule allows time for boats with Cu AFPs to be repainted w/nontoxic or lower leach rate Cu AFPs during routine maintenance, and the implementation of BMP practices. (See key comment #8.)

#### **Sediment Copper (Cu)**

**Sediments are no longer considered to be impaired based on State Board's current interpretation of the State Listing Policy, and the sediment requirements no longer include remediation**

**5) Board staff have revised the sediment requirement** in the proposed Implementation Plan to require continued monitoring and evaluation of sediments for compliance with the sediment targets (rather than remediation of sediments based on Board staff's initial finding of impairment), in areas of Lower Newport Bay that previously exceeded the sediment Cu ERM guideline (marinas, Turning Basin and South Lido channel areas), and in areas with no or limited SQO or sediment Cu data (in particular marinas). The significant number of exceedances of the Cu ERM sediment guideline in areas sampled demonstrate a need to continue to monitor and evaluate sediments in these areas (marinas, Turning Basin, and South Lido Channel), to remediate those areas if necessary, and to evaluate other marina areas that were not sampled. (See key comment #5.)

Note that Board staff's finding of sediment impairment in their Impairment Assessment was based on earlier direction from State Board staff that water bodies could be listed for sediment metals based only on exceedances of the ERM (per the SLP requirements). State Board staff's current interpretation of the SLP is that sediments must be evaluated for compliance with the SQOs, using multiple lines of evidence including chemistry, toxicity and benthic community structure (references 4, 5). Where the data are insufficient to determine SQO compliance, sediment chemistry must be paired with sediment toxicity data to determine impairment. Such paired data were not available in the data sets used in Board staff's Impairment Assessment; therefore, the finding of impairment is not appropriate at this time. It should be noted that if monitoring demonstrates that the sediments are impaired or impacted (based on the State Listing Policy and the SQO assessment), a plan(s) to remediate sediments in areas that are impaired, or conduct stressor identification studies in accordance with the EBE Plan-Part 1 will be required.

**Board staff have also revised the numeric targets in the Cu TMDLs**, to include sediment quality objectives (SQOs). The SQOs were added to implement the EBE Plan-Part 1 (reference 5). In addition, sediment Cu concentrations should be monitored and evaluated against the Cu ERM (Effects Range Median) and ERL (Effects Range Low) for trend analysis, and to ensure that

concentrations do not increase over time consistent with antidegradation principles.

**6) Board staff have removed Task 1.1 (Restrict the sale and use of Cu AFPs (work with DPR and USEPA to restrict sale and use of Cu AFPs)), and Task 1.2.2.5 (Coordinate with Regional Board staff on work with DPR and USEPA on Cu AFP restrictions) from the initially proposed Cu TMDLs Implementation Plan.**

While the intent of these Tasks was to encourage the responsible parties to work with the Regional Board, USEPA and DPR to develop appropriate sale and use requirements to ensure that the Cu TMDLs are met, some responsible parties felt that these tasks required stakeholders to become involved with perceived conflicts between state agencies; therefore, these tasks have been removed from the proposed Implementation Plan. The responsible parties may wish to include these tasks in their own proposed implementation plan(s).

#### **Tributary and storm drain runoff**

**7) Board staff have combined the monitoring requirements for tributary runoff (Task 3) and storm drain runoff (Task 4) into Task 3 (Meet Copper (Cu) allocations for tributary and storm drain runoff - continue to monitor and evaluate Cu concentrations in runoff)** since the allocations for tributary and storm drain runoff are combined.

**8) Board staff have revised the storm drain requirement (Task 4 Evaluate Copper (Cu) discharges from larger storm drains for local impacts)** to include monitoring and evaluation of in-Bay sediments near storm drain outlets for compliance with the sediment targets (SQOs), rather than remediation of sediments (based on Board staff's initial finding of impairment). This revision is consistent with the revisions in #5 above.

**No changes are proposed for Tasks 5 through 7 of the Cu Implementation Plan.**

#### **Action Plans for Zinc (Zn), Mercury (Hg), Arsenic (As) and Chromium (Cr)**

**9) Some changes are proposed for the Action Plans including the monitoring and evaluation of Zn, Hg, As and Cr in sediments for compliance with the SQOs, rather than sediment remediation (based on Board staff's initial finding of impairment). The Action Plans also require the continued monitoring and evaluation of Zn in fish/mussel tissue, and As and Cr in fish/mussel tissue.**

**Zn and Hg Action Plan – Board staff have revised the sediment requirement** so that the Action Plan now requires continued monitoring and evaluation of sediments for compliance with the sediment targets (SQOs), rather than remediation of sediments (based on Board staff's initial finding of impairment), in areas of Lower Newport Bay that previously exceeded the sediment Zn and Hg ERM guidelines (marinas, Turning Basin and South Lido channel areas), and in areas with no or limited SQO or sediment Zn and Hg data (in particular marinas). The Action Plan also requires monitoring and evaluation of Zn in fish/mussel tissue. In addition, the monitoring and evaluation of Zn and Hg in tributary runoff, and determination of Zn and Hg loads in tributary runoff are required.

**Board staff have also revised the numeric targets in the Zn and Hg Action Plan** to include sediment quality objectives (SQOs). The SQOs were added to implement the EBE Plan-Part 1 (reference 5). In addition, sediment Zn and Hg concentrations should be monitored and evaluated against the Zn and Hg ERMs (Effects Range Median) and ERLs (Effects Range Low) for trend analysis, and to ensure that concentrations do not increase over time consistent with antidegradation principles.

**As and Cr Action Plans – Board staff have revised the sediment requirement** so that the Action Plan now requires continued monitoring and evaluation of sediments for compliance with the

sediment targets, rather than remediation of sediments (based on Board staff's initial finding of impairment) in Upper and Lower Newport Bay. The Action Plan continues to require monitoring and evaluation of As and Cr in fish/mussel tissue. In addition, the monitoring and evaluation of As and Cr in tributary runoff, and determination of As and Cr loads in tributary runoff are required.

**Board staff have also revised the numeric targets in the As and Cr Action Plan** to include sediment quality objectives (SQOs). The SQOs were added to implement the EBE Plan-Part 1 (reference 5). In addition, sediment As and Cr concentrations should be monitored and evaluated against the As and Cr ERMs (Effects Range Median) and ERLs (Effects Range Low) for trend analysis, and to ensure that concentrations do not increase over time to be consistent with antidegradation principles.

#### **Substitute Environmental Document (SED)**

**9) Board staff have revised the SED based on consideration of the potential environmental impacts of the revisions to the proposed TMDLs and Action Plans described above, and the comments received.**

#### **Environmental Checklist and Mandatory Findings of Significance**

In the initial draft SED, Board staff made the preliminary determination that the adoption and implementation of the proposed BPA for the TMDLs and Action Plans would have a less than significant impact on the environment, with mitigation incorporated to address the potential adverse impacts of the BPA on plant/animal resources. Board staff identified potential adverse environmental impacts to these biological resources on the basis of the potential effects of anticipated sediment remediation projects, including dredging, required by the Implementation Plan initially proposed.

As described in this Supplemental Staff Report, Board staff have revised the sediment-related requirements of the proposed Implementation Plans, based on State Board's newest policy (the SQOs and related implementation measures in the EBE Plan- Part 1, reference 5) and State Board staff guidance with respect to impairment assessments for sediment (SLP, reference 4). The proposed Implementation Plans now require additional monitoring and further study(ies) (e.g., stressor identification studies), and the development and implementation of remediation projects, where warranted, rather than requiring remediation of sediments based on Board staff's initial finding of impairment. In light of the revised policy/guidance employed to assess sediment quality, the need for (and nature of) future remediation projects is highly speculative, therefore, environmental impacts for future studies/actions cannot be determined at this time.

**Board staff have reviewed and revised, as appropriate, the environmental checklist and analysis** in the initial draft SED on the basis of this and other changes to the proposed BPA, as described above. Notably, the result of these revisions to the BPA is the reduction of potential environmental impacts of the proposed TMDLs and Action Plans to less than significant levels.

**The assumption that the baseline condition is the implementation of USEPA's TMDLs**  
**Board staff have revised the appropriate parts of the SED, in particular the environmental checklist and discussion that relate to the assumption that the baseline condition is the implementation of USEPA's TMDLs.** Board staff understand that it was perceived that the baseline environmental condition assumed the implementation of USEPA's TMDLs in the SED. The SED has been revised to address this concern with respect to Cu discharges from boats. Board staff acknowledge that no formal regulatory action(s) have been taken, to date, to implement the requirements of USEPA's Cu TMDLs with respect to Cu discharges from boats. (The SED properly notes, as a factual matter, that both USEPAs' TMDLs and those proposed by Board

staff identify Cu discharges from boats as the most significant source of Cu inputs to the Bay, and both USEPA's TMDLs and Board staff's proposed TMDLs require reduction of this source.) However, as described in the initial draft SED, the Board has implemented the USEPA TMDLs in NPDES permits, including those issued to the County of Orange and co-permittees to address urban stormwater runoff discharges to Newport Bay<sup>9</sup>. The permit requirements include monitoring and evaluation of data to assess compliance with relevant wasteload allocations.

**The impacts and the nonidentification of nontoxic paints**

**Board staff have revised the SED to provide a more detailed programmatic analysis of the reasonably foreseeable environmental impacts of conversions to alternative AFPs.** The Regional Board may not dictate how TMDLs are implemented, nor recommend particular products to implement the TMDLs. The strategy employed in the proposed TMDLs Implementation Plan is to require that responsible parties develop proposed implementation plans whereby they expect to achieve the TMDLs. The proposed TMDLs Implementation Plan identifies tasks that must be considered by the responsible parties in the development of their strategies. These strategies may include the conversion from Cu AFPs to nontoxic AFPs. The implementation plan proposed by the City and County would be implemented upon Regional Board approval of the dischargers' plan (or Executive Officer approval of the plan if no significant public comments are received). The responsible parties will be responsible for project-specific environmental analysis of their implementation strategies. As a matter of information, the Port of San Diego Study was referenced as it contains a number of recommendations for nontoxic and/or non-Cu AFPs.

**The SED did not contain an economic analysis as required.**

Economics were considered in developing these revised Cu TMDLs. Economics are discussed in Section 8.3 Economics – Cost Considerations of the Staff Report; and in the SED in each of the tasks in Sections 4.1.1 and 4.1.2. Nevertheless, the SED has been revised to include a more robust economics analysis.

<sup>9</sup> *Waste Discharge Requirements for the County of Orange, Orange County Flood Control District and the Incorporated Cities of Orange County within the Santa Ana Region - Area-wide Urban Storm Water Runoff - Orange County, Order No. R8-2009-0030 as amended by R8-2010-0062.*