



***Public Workshop
for
Newport Bay Copper TMDLs
and Action Plans for
Zinc, Mercury,
Arsenic and Chromium
(May 9&10, 2019)***

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Recommendations

1. Revised Copper (Cu) TMDLs for Upper and Lower Newport Bay

- include allocations, and an implementation plan with a compliance schedule

2. Non-TMDL Action Plans (Action Plans) for Zinc (Zn), Mercury (Hg), Arsenic (As) and Chromium (Cr)



Definitions

TMDL = total maximum daily load

Total amount of a pollutant that can be discharged to a waterbody and still achieve water quality standards

Goal of TMDL is to achieve water quality objectives and protect beneficial uses

Non-TMDL Action Plan (Action Plan)

Similar to a TMDL but does not include allocations

Basin Plan is the Water Quality Control Plan for a Region (Santa Ana River Basin – Region 8)

- forms the basis for regulatory actions by the Regional Board
- specifies water quality objectives (include the CTR criteria)



California Toxics Rule (CTR) Criteria

Criteria for priority toxics were established for California by USEPA (2000)

- include aquatic life criteria for priority toxics*
- CTR criteria are legally applicable water quality objectives*
- saltwater CTR criterion for dissolved Cu is 3.1µg/L*
(applicable to Newport Bay)



Cu Antifouling Paints (AFPs)

*Cu AFPs designed to leach Cu to prevent fouling on hulls
BUT leached Cu can have harmful effects on non-target
organisms in the water and sediment*

- when Cu concentrations exceed the CTR criterion

Effects can be lethal at high concentrations

*or nonlethal – adverse effects on olfactory system (esp. in
salmonids), gills – lose ability to regulate salt transport*



USEPA's Toxics TMDLs for Newport Bay established in 2002

Include TMDLs for copper (Cu), zinc (Zn), lead (Pb) and cadmium (Cd)

- TMDLs include allocations for these metals

*TMDLs were established due to exceedances of the CTR
criteria (water) and sediment guidelines*



USEPA's Cu TMDLs for Newport Bay (2002)

**Cu TMDLs for Upper and Lower Newport Bay*

**Cu antifouling paints (AFPs) are the largest source of Cu to the Bay*

**require a 92% reduction of Cu discharges from Cu AFPs to achieve the TMDLs*

Regional Board staff's Proposed Cu TMDLs

**CTR criterion for Cu ($3.1\mu\text{g/L}$) continues to be exceeded in Newport Bay → Cu TMDLs are required for the Bay*

**TMDLs based on newer data*

**Cu AFPs continue to be the largest source of Cu to the Bay*

**require 60% reduction of Cu discharges from Cu AFPs to achieve the TMDLs*

- if CTR criterion is achieved → no further reduction is required



Regional Board staff's Proposed Cu TMDLs

Tributary runoff – 2nd largest source of Cu

- no reduction required (also Brake Pad legislation)

Cu discharges from Cu AFPs must be reduced to meet the Cu TMDLs

Proposed TMDLs include allocations, and an implementation plan with a compliance schedule



Implementation Plan for Proposed Cu TMDLs

Dischargers - City of Newport Beach, County of Orange, marina owners/operators, boatyard operators, individual boat owners

Dischargers are required to submit proposed implementation plan(s) to achieve the reduction of Cu discharges from boats

- expect that the City of Newport Beach and County of Orange will take lead in developing/implementing their plans on behalf of other dischargers



Implementation Plan for Proposed Cu TMDLs

Dischargers' Plan(s) must include:

**Monitoring and evaluation of water, sediments and tissue*

- assessment over time

- assessment of control measures implemented

Implementation Plan for Proposed Cu TMDLs

Dischargers must consider and possibly include these recommended strategies in their plan:

- The use of BMPs for hull cleaning (i.e. soft cloths, reduced hull cleaning frequency, slip liners, dry dock cleaning, container/filter method of hull cleaning)

(NOTE: DPR has issued a regulation for lower leach rate Cu AFPs, and BMPs must be used with DPR's lower leach rate Cu AFPs to achieve compliance with the CTR criterion)

- Boater/boatyard staff education program

- Diver certification/education program



Implementation Plan for Proposed Cu TMDLs

Dischargers must consider and possibly include these recommended strategies in their plan:

- Incentives to convert boat hulls to alternative AFPs

NOTE: Proposed Cu TMDLs Implementation Plan recommends but DOES NOT REQUIRE conversions to non-Cu AFPs

- Other strategies identified by dischargers



Compliance Schedule for Proposed Cu TMDLs

*Final compliance with the Cu TMDLs as soon as possible, but no later than **12 years** from the date of USEPA approval of the Regional Board's Cu TMDLs*

Phased schedule to achieve 60% reduction of Cu discharges from boats

- 20% reduction in no later than 4 years from USEPA approval
- 40% in no later than 8 years from USEPA approval
- 60% in no later than 12 years from USEPA approval



Compliance Schedule for Proposed Cu TMDLs

Schedule allows time for development/implementation of dischargers' plan(s) to achieve reduction in Cu discharges from boats

- for implementation of DPR's leach rate for Cu AFPs AND implementation of BMPs for hull cleaning*
- to convert boats IF part of dischargers' plan(s)*
- to develop alternative water quality objectives*



Proposed Action Plans for Zinc, Mercury, Arsenic, Chromium

- need more data, source analyses*
 - do not include allocations*
 - require monitoring and evaluation*
-
- Monitoring and evaluation may indicate the need for TMDLs or other requirements*



Proposed Cu TMDLs and Action Plans

If Cu TMDLs and Action Plans for Zn, Hg, As, Cr (including implementation plans) are adopted and implemented

- future revisions may be considered through a public participation process



Summary of USEPA's TMDLs

USEPA's TMDLs are in place for Cu, Zn, Pb and Cd (2002)

- require a 92% reduction in Cu discharges from Cu AFPs*
- TMDLs include allocations for Cu, Zn, Pb and Cd*



Summary of Regional Board staff's Proposed TMDLs and Action Plans

Proposed Cu TMDLs

- *require a 60% reduction in Cu discharges from Cu AFPs*
- *if CTR criterion is achieved -> no further reduction is required*

NOTE: Proposed Cu TMDLs recommend but DO NOT REQUIRE conversions to non-Cu AFPs

- *TMDLs include allocations, and an implementation plan with compliance schedule*

Proposed Action Plans for Zn, Hg, As and Cr

- *have no allocations*
- *there are no Action Plans for Pb and Cd*



Other Cu TMDLs in California

Marina del Rey Toxics TMDLs, Los Angeles, CA (2006, 2014)

County of LA – pilot paint project, BMP ordinance for hull cleaning, SSO draft workplan

https://www.waterboards.ca.gov/losangeles/board_decisions/basin_plan_amendments/technical_documents/bpa_96_R14-004_td.html

Shelter Island Yacht Basin Cu TMDL, San Diego, CA (2005)

Port of San Diego - hull cleaning ordinance, permits for hull cleaning, monitoring and data Assessment, Hull Paint Conversion project, Alternative Hull Paint Testing and Research

https://www.waterboards.ca.gov/sandiego/water_issues/programs/watershed/souwatershed.html#siybtmdl



NOTE: Proposed Cu TMDLs recommend but DO NOT REQUIRE conversions to non-Cu AFPs

DPR will talk about their regulation for lower leach rate Cu AFPs (9.5 μ g/cm²/d)

-includes the use of BMPs with the use of lower leach rate Cu AFPs

-mitigation recommendations

Regional Board counsel will talk about legal issues



Next Steps

Finalize Proposed Cu TMDLs and Action Plans (i.e. Basin Plan Amendment (BPA) documents)

Complete Response to Comments (August 2018) document

Expect to post all documents by late May 2019

Regional Board adoption hearing (August 2, 2019-tentative)

Approval process:

- approval by Regional Board, State Board, Office of Administrative Law (OAL), USEPA*
- entire process likely to take one year*



Contact Info

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For questions or comments, send an email:

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Join email list:

[http://www.waterboards.ca.gov/resources/email_subscriptions/
reg8_subscribe.shtml](http://www.waterboards.ca.gov/resources/email_subscriptions/reg8_subscribe.shtml)

- Web link:

[http://www.waterboards.ca.gov/santaana/water_issues/progra
ms/tmdl/tmdl_metals.shtml](http://www.waterboards.ca.gov/santaana/water_issues/programs/tmdl/tmdl_metals.shtml)

Or call 951-782-4991



*Upper Newport Bay –Ecological Reserve, Nature Preserve,
Marine Protected Area (Photo Robert Ellis)*