

TMDL Program Update

January 21, 2016



Caring for Your Coast

Toxic Pollutants TMDL Overview

- In Response to Clean Water Act
- Developed and Mandated by Los Angeles Regional Water Quality Control Board
- In Partnership with US Environmental Protection Agency
- Identifies Pollutants that Exceed Objectives for Beneficial Uses
- Responsible Parties (Permittees) are the County of LA, City of LA, and Culver City
- All Anchorages and Boat Owners also Named as Permittees

Numeric Targets for Sediment

Situation

Numeric Targets for Metals in Sediment (mg/kg)			
Copper	Lead	Zinc	
34	46.7	150	
Numeric Targets for Organic Compounds in Sediment (µg/kg)			
Chlordane	Total PCBs	Total DDTs	p,p'-DDE
0.5	3.2	1.58	2.2

- Multiple lines of evidence show “clearly impacted” for 9 and “likely impacted” for 4 of the 16 total sample locations evaluated

Source

- Stormwater

Compliance (March 22, 2029)

- Implement source and structural controls
- Dredge and/or capping program

Numeric Targets for Water Column and Fish Tissue PCBs

Situation

- Water column 0.00017 ug/L (below detection limit)
- Fish tissue 3.6 ug/Kg (no data)

Source

- Stormwater

Compliance (March 22, 2029)

- Implement source and structural controls

Numeric Targets for Water Column (Copper)

Situation

- Copper 3.1 ug/L (CTR)
- Marina del Rey Harbor has exceeded 4X for some samples

Source

- Copper leaching paints 94% of loading*
- Boat hull cleaning 6% of loading*

Compliance (March 22, 2024)

- Convert 85% of boats to non-copper* (4,500 boats)
- Convert 100% of boats to 85% reduced copper leaching paints*

*Per RWQCB Staff Report

TMDL Summary

- Mandated by the Regional Water Quality Control Board
- Sets numeric limits on contaminants of concern
- Provides a timeline for implementation and compliance

DPR Assembly Bill 425

- Maximum allowable copper leach rate of 9.5 $\mu\text{g}/\text{cm}^2/\text{day}$ under the condition in-water hull cleaning cannot be performed more frequently than once per month
- Maximum allowable copper leach rate of 13.4 $\mu\text{g}/\text{cm}^2/\text{day}$ under the condition that in-water hull cleaning of any type is prohibited.
- Modeling suggests that the allowable leach rates designated by DPR are not expected to be able to meet compliance with the TMDL

Major Programs (completed)

TMDL

- Clean Marinas Certification Program

NPDES

- Anchorage 47 Absorbent Pad Exchange
 - Low Impact Development Standards Manual
 - Green Infrastructure Guidelines
-
- Enhanced Watershed Management Program
 - Coordinated Integrated Monitoring Program

EWMP (Sources)

- NPDES MS4 Permit
- Source control (street sweeping)
- Structural BMP (bio-retention)
- Compliance 2021
- \$343,000,000 Design and Construction
- O&M addition 1 million per year



CIMP

- 22 Outfall and Receiving Water Stations
- Different Frequencies for Different Constituents
- Wet and Dry Weather Flows
- \$1,000,000/year



Major Programs (envisioned)

Water Column Copper

- Site Specific Objective study
- Hydrodynamic fate and transport study (modeling the harbor)
- Hard fouling study
- Boat lifts program

Sediment

- Sediment Stressor ID study
- Contaminated Sediment Management Plan

Site Specific Objective

- Intended to raise the objective from 3.1 ug/L to something site specific
- Dependent on the dissolved organic concentration in the harbor
- Includes lab testing and modeling using the BLM

Fate and Transport

- Two dimensional hydrodynamic modeling of the harbor to determine the effectiveness of different mitigation strategies through forecast modeling
- Boatlift program, low leach-rate copper paints, hull cleaning ordinance

Sediment Stressor ID and Sediment Management Plan

Intended to:

- Determine the toxic responsible for the benthic community stress
- Identify sources
- Develop mitigation strategies (dredge, cap)
- Cost of implementation may be prohibitive

Message to Other Harbors

- TMDL may be mandated in the future
- Special studies will be required at significant costs
- Stormwater runoff sources will need to be cut off at greater costs
- Sediment remediation may be required at far greater costs

Thank you--Questions

Paul Glenn

Department of Beaches and Harbors

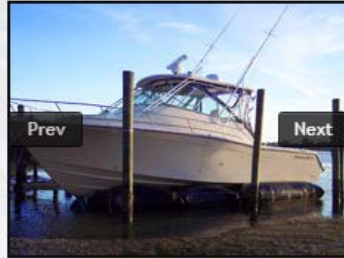
Office: (310) 301-8218

Email: pglenn@bh.lacounty.gov

Backup Slides

Water Column Mitigation Strategy

- Boat lifts
- Low leach rate copper paints
- In-water hull cleaning ordinance
- SSO study



V-Hull & Tri-Hull Boats



Catamaran Boats



Inboard & V-Drive Boats

[Read more...](#)



Performance Boats



Pontoon & Tritoon Boats



Sailboats

Hard Fouling

- Boat painted with different paints and left in the water to determine when hard fouling occurs
- Verify the CPDA recommendation for monthly cleaning during winter and twice a month in summer

Boat Lifts

- Applied for a grant from the State Water Quality Control Board for \$500,000 to fund a boat lift program
- Program limited to 3 marinas
- Includes a monitoring plan to show effectiveness

Public Outreach

- Flyers and Factsheets
- Diver Certification Program
- Memos to Board
 - Boater Surveys Memo
 - Sheriff's Boat Maintenance Memo
 - Voluntary Program Memo
- Web Page
- Public Presentations
- Marina Bulletin Boards
- County Organized Dockwalker Program

Paint Challenges

- Non-copper antifouling paints only last 12 to 18 months as opposed to 2 to 3 years
- Non-toxic paints require cleaning every two weeks instead of once a month
- Copper paints are currently legal

Flyers and Factsheets

NON-BIOCIDAL HULL PAINTS FAQ's



What is the difference between biocide hull paint and non-biocide hull paint?

A biocide hull paint releases a chemical that can slow or stop the growth of marine life living on the bottom of the boat. Biocides act similarly to pesticides on your lawn that prevent infestations of insects or weeds. The build-up of too much biocide in the water can potentially end up harming the surrounding marine life. The most common hull paint biocide is copper.

Non-biocide hull paints do not release chemicals and are typically made of silicone, ceramic or epoxy materials. As a result, they are more environmentally friendly and some of them last significantly longer than copper hull paints. These paints work by either creating a surface that prevents marine life from getting a strong attachment or by being made of a durable material that is resistant to more aggressive cleaning.

Why choose non-biocide over copper hull paint?

- **Environmental reasons:** Non-biocide hull paints do not release any chemicals into the environment that may potentially harm the organisms living there.
- **Longer lasting paint:** According to paint manufacturers many of the non-biocides, when cleaned properly, will last from five to 10 years depending on the product. This means fewer haul outs, less repainting and potential cost savings.
- **Decreased drag:** For power boats the soft non-biocides create an extremely slick surface that has been shown to reduce the drag in the water, increasing fuel efficiency and decreasing fuel consumption. This saves the boater money in the long run. For racing boats the decreased drag also means an increase in speed.

Hear from your fellow boaters! Several local San Diego Bay boaters and hull cleaners have provided testimonials on their experiences with non-biocide hull paints. To watch the video and hear more, go to the Hull Paint Conversion section of sandiegobaycopperreduction.org.

Are there different types of non-biocide hull paints? How do they work?

Non-biocide hull paints are categorized as either hard or soft paints. Hard non-biocide hull paints are composed of extremely durable materials such as epoxy or ceramic. The paints function as a protective layer on your hull. While they will not prevent attachment of fouling organisms they can withstand more aggressive cleaning and resist scratching from cleaning. Paint manufacturers state these paints can last up to 10 years before needing to be reapplied.

The soft non-biocides are commonly formulated with silicon compounds. They create an extremely slick surface that prevents fouling from firmly attaching to the hull. As a result, they can be relatively easy to clean at a frequency similar to copper hull paints. According to manufacturers, the soft non-biocides are designed to last up to 5-10 years before needing to be reapplied.

Is the application process for non-biocides different from copper hull paints?

Yes. Most of the non-biocide hull paints require the existing copper paint be removed in order for the non-biocide paint to be applied. Also, many non-biocide paints require a spray-on application which may increase application costs. However, once a non-biocide hull paint has been applied to a hull subsequent applications may be applied over the existing non-biocide hull paint.

Recently, several companies have developed primers that allow non-biocide hull paints to be applied without having to remove the old copper paint from the hull. These primers will help reduce the upfront costs when applying a non-biocide hull paint for the first time. There are non-biocide hull paints that can also be rolled-on just like copper hull paint. Please refer to the paint manufacturers recommendations for specific application guidelines or speak to your local boatyard.

What are TMDLs?

A Total Maximum Daily Load (TMDL) is the amount of a specific pollutant – such as trash, bacteria or pesticides – that is allowed in specific bodies of water such as rivers, creeks or the ocean. State and federal laws require the City of Los Angeles to comply with various TMDLs to protect our region's water resources.

What are Water Quality Standards?

Water quality standards include three basic elements:

- Protection of beneficial uses such as boating and swimming, fishing (sport and commercial) and aquatic life in specific bodies of water such as rivers, creeks and oceans
- Water quality objectives (goals) necessary to protect beneficial uses
- Measures to prevent degradation of existing water quality

The Los Angeles Regional Water Quality Control Board (Regional Board) is responsible for establishing water quality standards in the Los Angeles area. These standards are described in the Los Angeles Water Quality Control Plan (Basin Plan) and other Regional Board documents. The Regional Board places all bodies of water that do not meet water quality standards on a list of "impaired" waters. The list is re-evaluated every two years.

How are TMDLs Developed?

Once a body of water is declared impaired, the Regional Board determines the priority and schedule for the development of TMDLs, which includes the following key steps:

- Examine pollutant-specific water quality issues
- Identify the sources of pollution
- Define how much of a pollutant a body of water can receive and still meet the water quality standards
- Allocate pollutant loads ("total maximum daily loads") to each identified pollutant source
- Develop implementation plans to achieve TMDL targets
- Monitor and evaluate water quality to determine success

CREST

The City of Los Angeles Department of Public Works, Bureau of Sanitation is leading a stakeholder group called "Cleaner Rivers Through Effective Stakeholder TMDLs" or CREST. CREST is committed to working with the Regional Board and USEPA in developing TMDLs for Ballona Creek and the Los Angeles River.

Measure O

In November 2004, nearly 76% of City of Los Angeles voters supported Measure O. Measure O is a general bond measure that authorizes \$500 million in bonds to build improvements designed to address the regulatory requirements of the federal Clean Water Act and improve water quality, protect public health and the environment. Measure O will help provide funds for TMDLs and other projects to remove trash, bacteria and other stormwater pollution from our rivers, lakes, beaches and the ocean.

History of TMDLs:

1987 Amendments to the federal Clean Water Act resulting in a National Pollutant Discharge Elimination System (NPDES) permit for stormwater similar to that for wastewater treatment plants

1990 Regional Board issued first NPDES municipal stormwater permit to Los Angeles County and 84 incorporated cities (including the City of Los Angeles)

1996 Porter-Cologne Water Quality Act mandates water quality standards for surface and groundwaters in California, requiring states to establish a priority ranking for impaired waters and to develop and implement TMDLs

1999 Consent Decree requiring all TMDLs in the Los Angeles region be adopted within 13 years

2001 Regional Board adopted current Los Angeles municipal stormwater NPDES Permit, including TMDL implementation requirements

2002 U.S. EPA approval of Trash TMDL for Los Angeles River and Ballona Creek

2003 U.S. EPA approval of Santa Monica Bay Beaches Wet Weather and Dry Weather Bacterial TMDLs

2004 U.S. EPA approval of Bacteria (Dry/Wet Weather) at Marina del Rey Harbor, Mothers' Beach and Back Basins; Nitrogen Compounds in Los Angeles River

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For additional information, please contact:

1 (800) 974-9794 and/or
www.LAstormwater.org



CITY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

Flyers and Factsheets

- Is marine life in Marina del Rey Harbor (MdRH) impaired due to copper?
- Hull Paint Alternatives Fact Sheet
- Marina del Rey Copper TMDL - Basics for Boaters
- Boat Lift Fact Sheet
- Hull Cleaning Fact Sheet
- Others?

Flyers and Factsheets (Distribution)

- Beaches and Harbors offices
- Anchorage Invoices
- In-person
- Costs

Divers Certification

- Notification letter
- Sheriff's Department Permits (flyers)
- Public Opinion Meetings (2)
- Training Classes (2 one day training)

CALIFORNIA PROFESSIONAL
DIVERS ASSOCIATION...BMP COMMITTEE



DIVERS HULL CLEANING
BEST MANAGEMENT PRACTICES
CERTIFICATION MANUAL

THE CLEAN WATER ACT

Divers Certification (Details)

- 2-year Certification (Recertification after Two Years)
- Two Classes per Year
- Maximum Class Size 30—Minimum 15
- Costs (\$9,000 per year--\$150 per person)

Memos to Board

- Boater Survey
- Sheriff's Boat Maintenance Program
- Boat Hull Cleaning Study
- Voluntary Program
- Others?

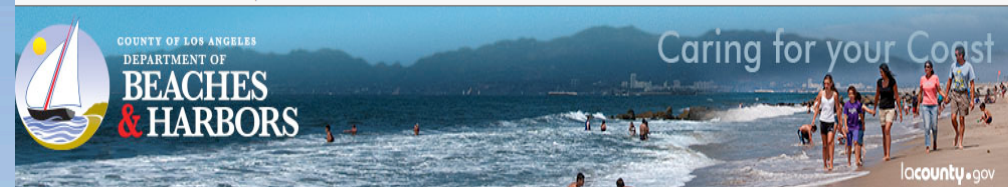
Web Page

TMDL

- Copper Reduction Program
- Clean Marinas Certification Program
- In-water Hull Cleaning Certification Program

NPDES

- Anchorage 47 Absorbent Pad Exchange
- Enhanced Watershed Management Plan
- Coordinated Integrated Monitoring Program
- Low Impact Development Standards Manual
- Green Infrastructure Guidelines



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Anchorage 47 Absorbent Pad Exchange Program



The County entered into a partnership with The Bay Foundation and obtained grant funding from CalRecycle for the implementation of an absorbent pad exchange program located at Anchorage 47 Department of Beaches and Harbors Boating Section Office. Details of the program include:

- Distribution of oil absorbent pads to boaters in exchange for a completed survey (one per survey)
- Maintain an available waste receptacle and dispose of used pads as necessary
- Development of a database for tracking boater comments and suggestions
- Quarterly distribution of outreach materials for the program

Boating Section contact information and hours of operation are presented below:

13575 Mindanao Way
Marina del Rey, CA 90292
Phone: (310) 301-9152
Fax: (310) 821-1621
E-mail: mblenk@bh.lacounty.gov
Hours: 7 days a week, 8:00 am - 5:00 pm

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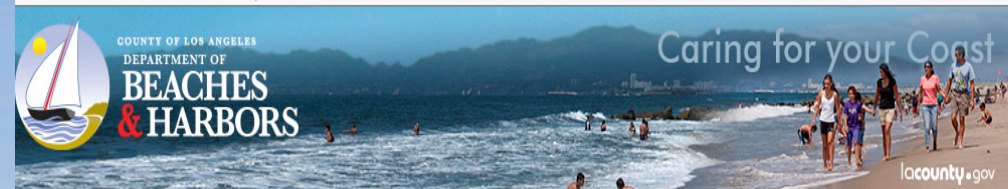
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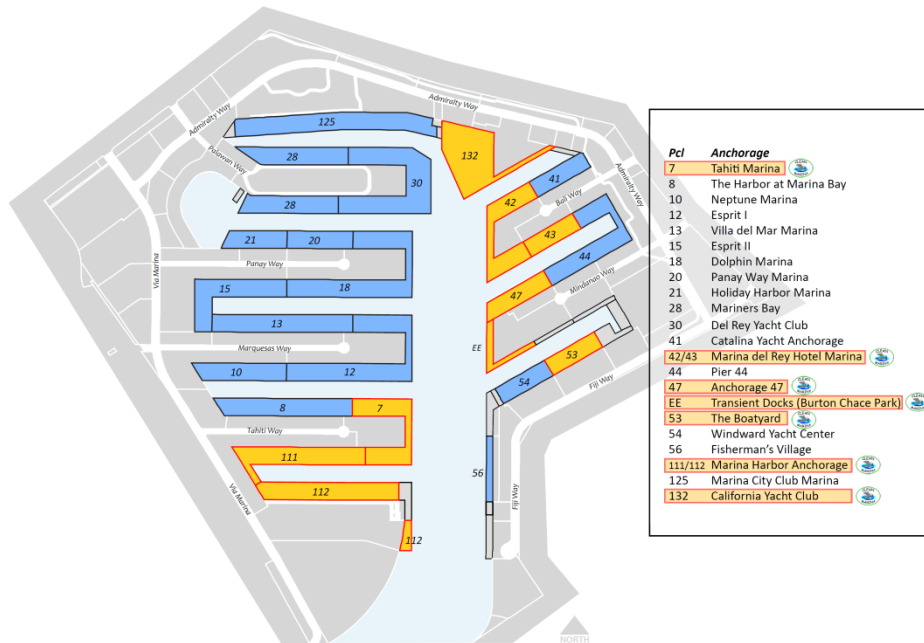
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Clean Marinas Certification Program



The County is proud to announce that it has obtained Clean Marinas Certification under the Clean Marinas program for Anchorage 47 and the Transient Docks. The certification includes requirements for an assortment of water quality related plans, personnel training, public outreach, operation and maintenance procedures, and the implementation of source control and structural Best Management Practices. In addition to the County's certification, 6 private anchorages have also obtained Clean Marinas Certification. It is the County's goal to have every anchorage in Marina del Rey obtain the certification. For more information on the program please visit <http://www.cleanmarina.org/>.

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Beaches Documents

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Presentations and Booths

- Marina Managers Meetings
- Lessees Association Meetings
- Boating Events (opportunistic)
- Others?

Marina Bulletin Boards



Dockwalker Program

- County Staff
- Additional Factsheets and Flyers
- Once a Week on Random Day and Time?
- Thoughts?

DOCKWALKER