MARINA DEL REY HARBOR TOXIC POLLUTANTS TMDL

PRESENTATION

1. TMDL Background and Water Quality Improvement Actions
2. State Implementation Policy Justification Report
3. Site Specific Objective Study/New Efforts

TMDLS IN MARINA DEL REY

1. Toxics/Copper
2. Bacteria (Basins D, E & F)
3. Trash

TOXICS/COPPER TMDL

- TMDL – Total Maximum Daily Load
- Toxic Pollutants TMDL – First became effective in 2006 and was revised by the Regional and State Boards in 2014, approved by EPA in 2015

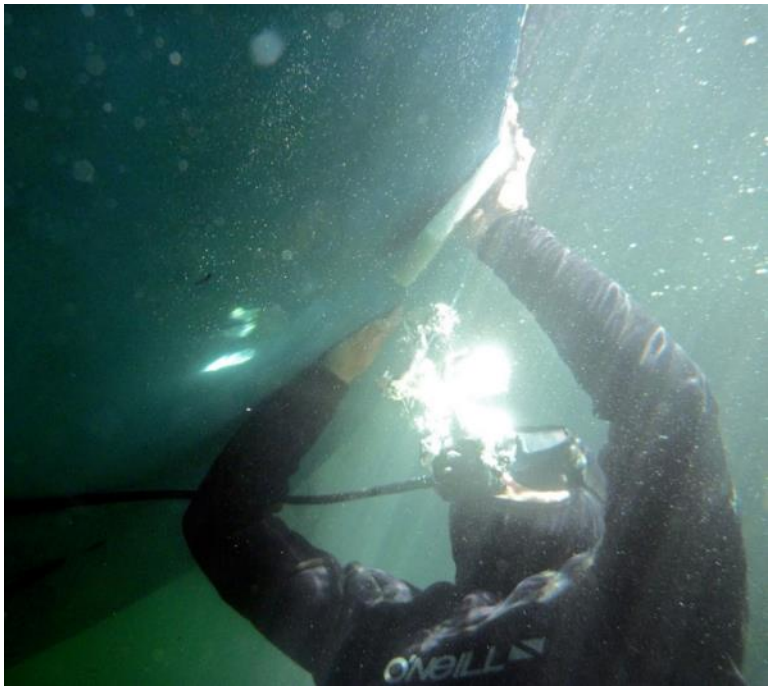
TOXICS/COPPER TMDL

- Revisions included a finding of copper impairment and a set Load Allocation for copper in the water column
- To meet the TMDL targets, there must be an 85% reduction of copper leaching from boat hull paints by 2024.

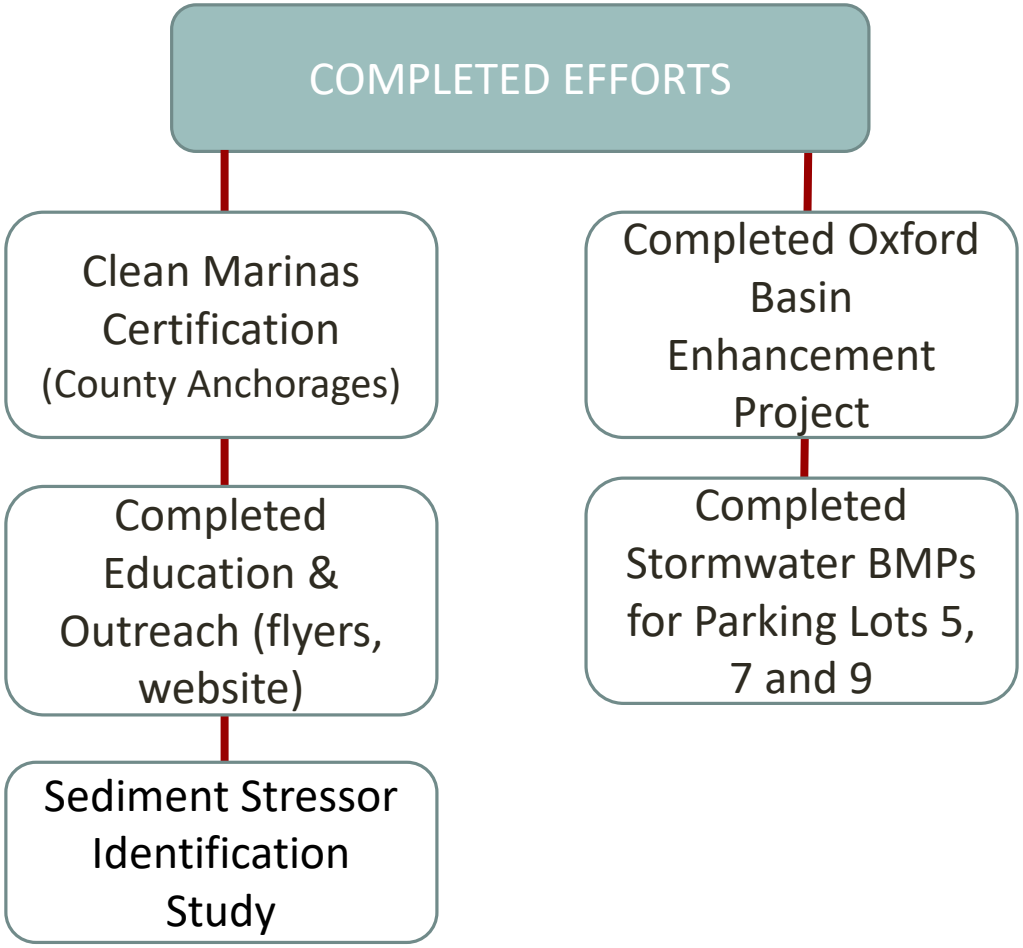
KEY SOURCES OF DISSOLVED COPPER IN THE MARINA

Passive Leaching of Hull Paint

Hull Cleaning



EFFORTS TO ADDRESS TOXICS/COPPER TMDL



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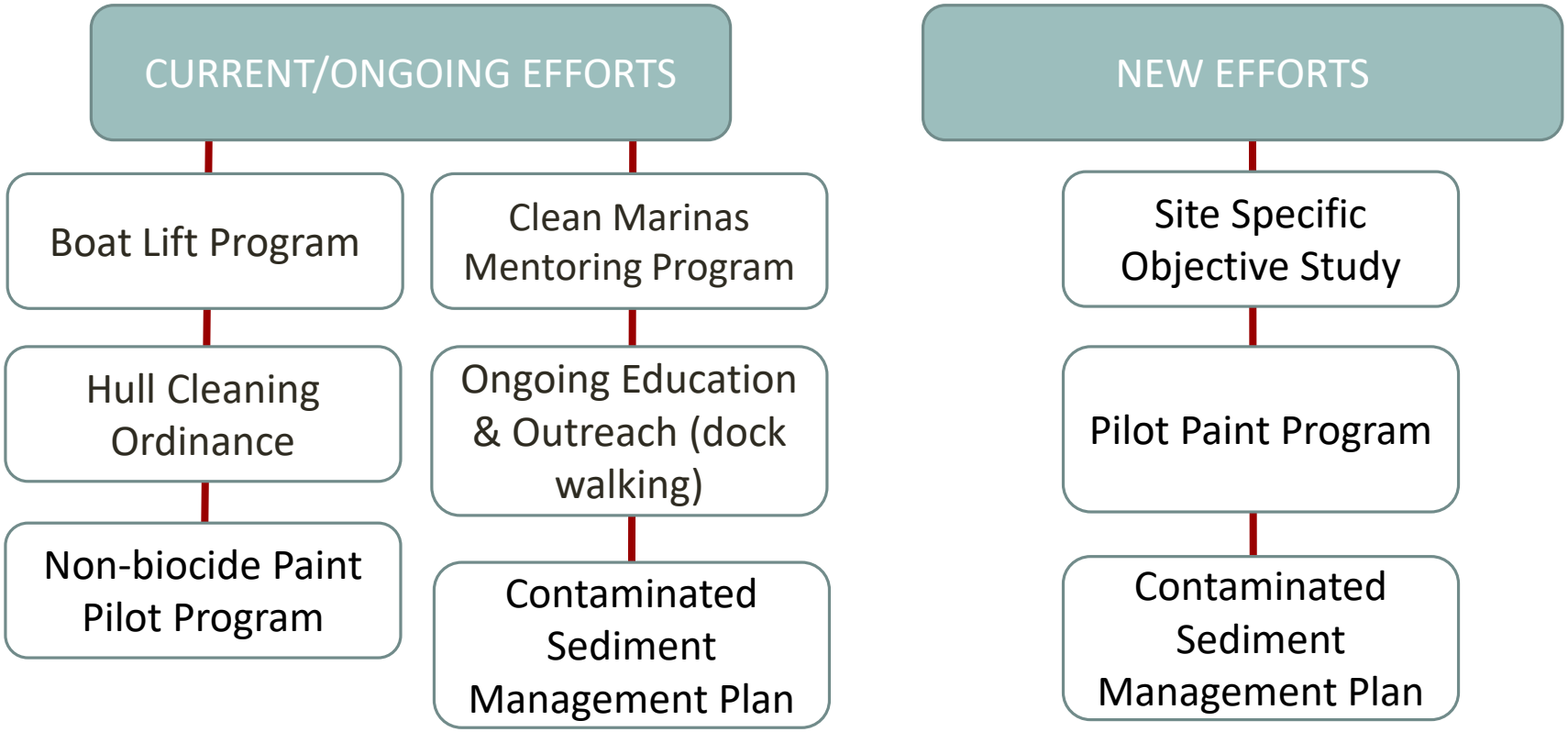
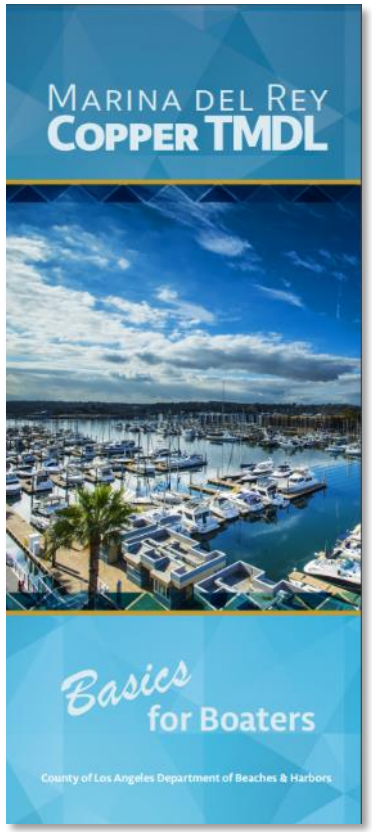
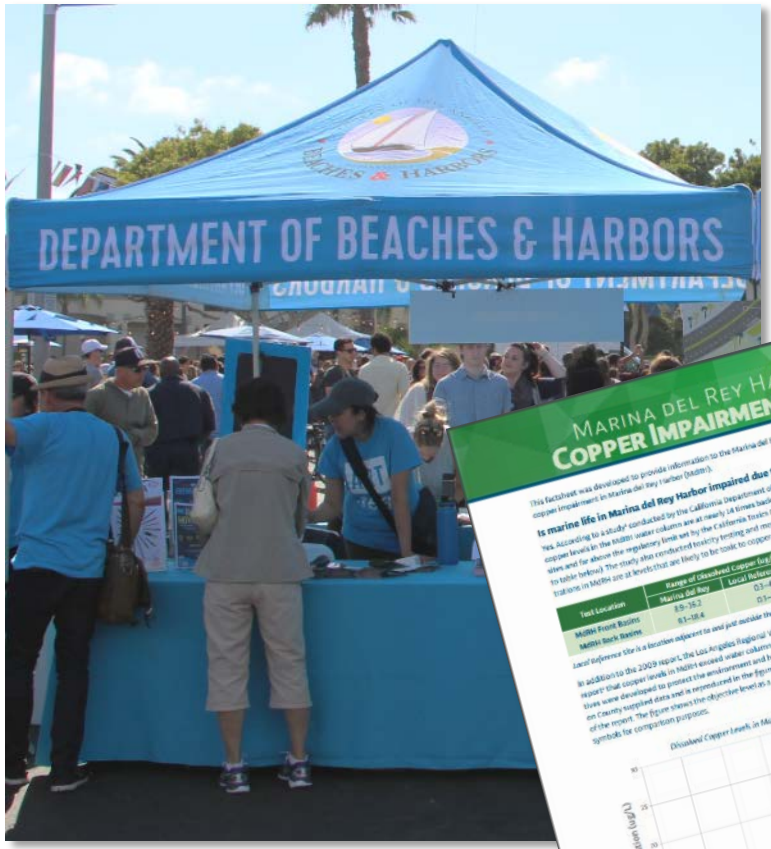


TOXICS/COPPER TMDL: EDUCATION & OUTREACH





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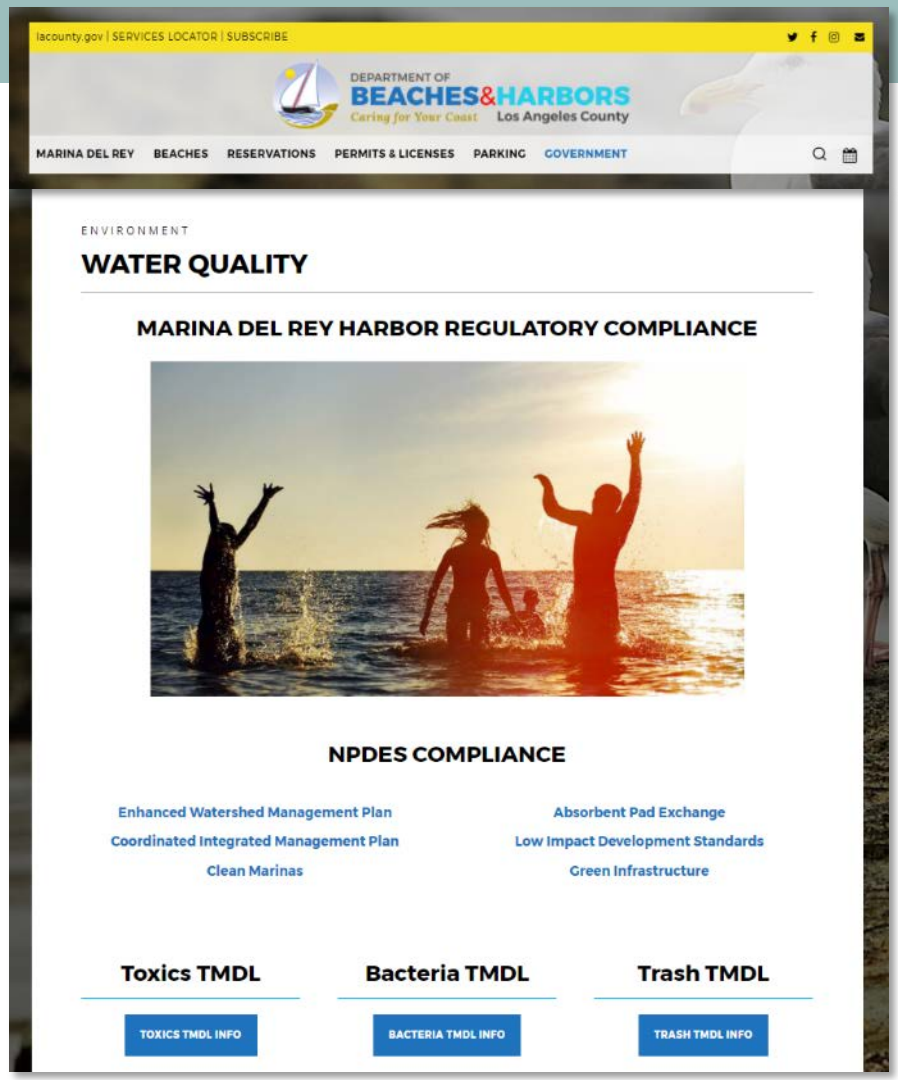
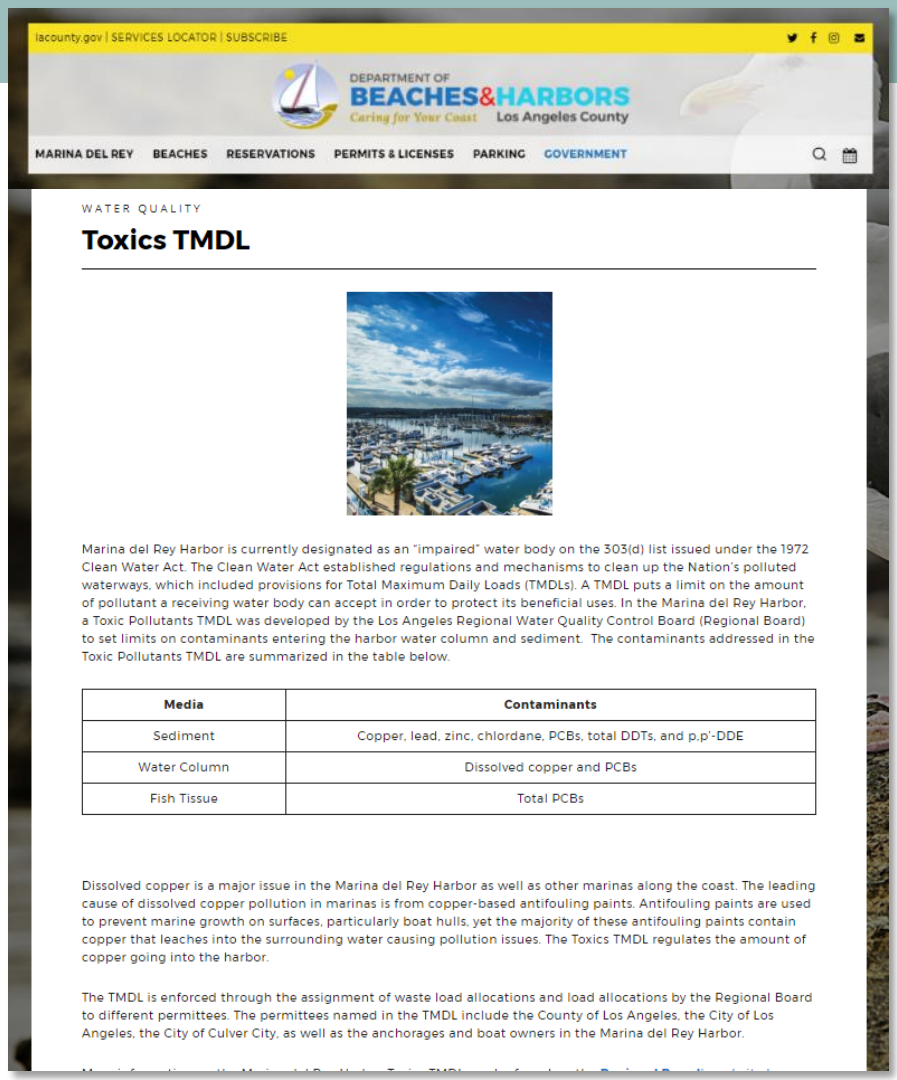




TOXICS/COPPER TMDL: UPCOMING BMPS

Hull Cleaning Ordinance
(Going to the Board of Supervisors in October)

Boat Lift Program
(Started this Summer!)

SEDIMENT STRESSOR IDENTIFICATION STUDY

- Completed and submitted to the Regional Board in December 2016

Oxford Basin Project

- Water Quality Components constructed 12/31/15
- Additional Features constructed 5/26/16

Marina del Rey - Parking Lot 9

- Water Quality Components constructed 12/31/16
- Additional Features constructed 3/15/17

MARINA DEL REY TOXICS TMDL

- State Implementation Policy Justification Report

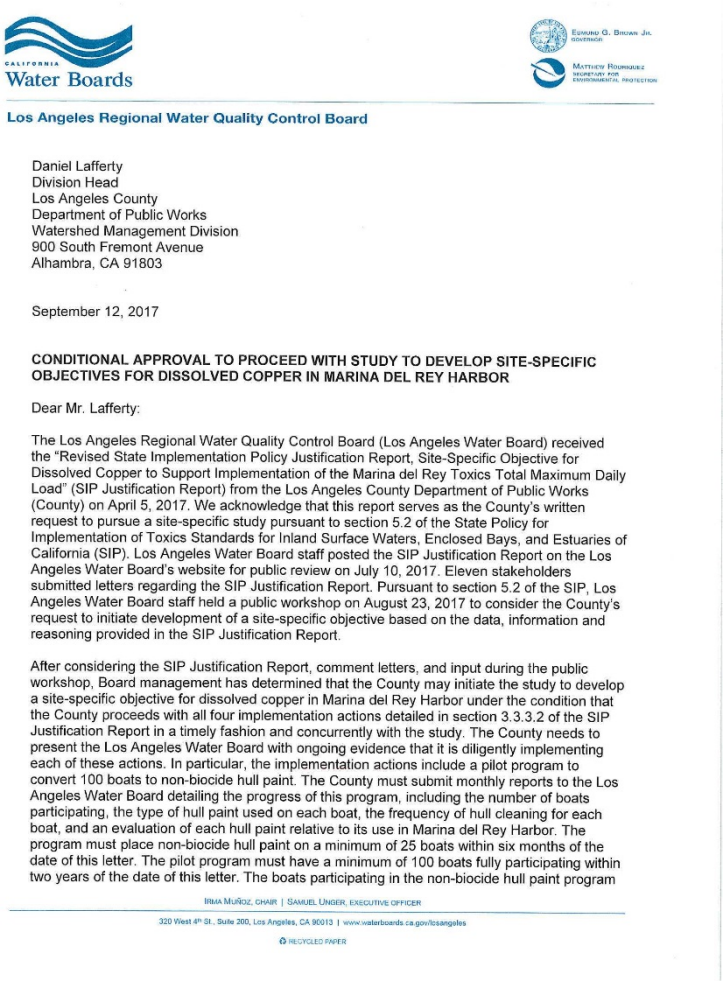
COUNTY OF LOS ANGELES
DEPARTMENT OF
BEACHES
& HARBORS
Caring for Your Coast

State implementation policy Justification Requirement	Response	
Section 5.2(1): A written request for a SSO study	Letter and draft SIP Justification submitted	√
Section 5.2(2): Demonstration of exceedance to an existing WQ objective	Section 2: Monitoring data compared to the CTR numeric target for dissolved copper	√
Section 5.2(3)(a): Analysis of Compliance and Consistency with All Relevant Federal and State Plans, Policies, Laws, and Regulations	Section 3.1 • Sate & federal regulation review • Antidegradation review • Anti-backsliding review	√
SIP Section 5.2(3)(b): Review of Historical Limits and Compliance with Those Limits	Section 3.2	√
SIP Section 5.2(3)(c): Review of Current Technology and Technology-based Limits	Section 3.3 • Antifouling paints • Mitigation measures • Feasibility to achieve TMDL compliance schedule	√
SIP Section 5.2(3)(d): An Economic Analysis of Compliance	Section 3.4	√

SIP JUSTIFICATION REPORT

- First Submitted to Regional Board on August 20, 2015
- Received Comments from the Regional Board on September 21, 2015
- Resubmitted Report on January 28, 2016
- Received Additional Comments on December 19, 2016
- Public Meeting on SIP August 23, 2017

SIP APPROVED SEPTEMBER 12, 2017!



California Water Boards

Edmund G. Brown Jr., Governor

Matthew Rodriquez, Secretary for Environmental Protection

Los Angeles Regional Water Quality Control Board

Daniel Lafferty
Division Head
Los Angeles County
Department of Public Works
Watershed Management Division
900 South Fremont Avenue
Alhambra, CA 91803

September 12, 2017

CONDITIONAL APPROVAL TO PROCEED WITH STUDY TO DEVELOP SITE-SPECIFIC OBJECTIVES FOR DISSOLVED COPPER IN MARINA DEL REY HARBOR

Dear Mr. Lafferty:

The Los Angeles Regional Water Quality Control Board (Los Angeles Water Board) received the "Revised State Implementation Policy Justification Report, Site-Specific Objective for Dissolved Copper to Support Implementation of the Marina del Rey Toxics Total Maximum Daily Load" (SIP Justification Report) from the Los Angeles County Department of Public Works (County) on April 5, 2017. We acknowledge that this report serves as the County's written request to pursue a site-specific study pursuant to section 5.2 of the State Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP). Los Angeles Water Board staff posted the SIP Justification Report on the Los Angeles Water Board's website for public review on July 10, 2017. Eleven stakeholders submitted letters regarding the SIP Justification Report. Pursuant to section 5.2 of the SIP, Los Angeles Water Board staff held a public workshop on August 23, 2017 to consider the County's request to initiate development of a site-specific objective based on the data, information and reasoning provided in the SIP Justification Report.

After considering the SIP Justification Report, comment letters, and input during the public workshop, Board management has determined that the County may initiate the study to develop a site-specific objective for dissolved copper in Marina del Rey Harbor under the condition that the County proceeds with all four implementation actions detailed in section 3.3.3.2 of the SIP Justification Report in a timely fashion and concurrently with the study. The County needs to present the Los Angeles Water Board with ongoing evidence that it is diligently implementing each of these actions. In particular, the implementation actions include a pilot program to convert 100 boats to non-biocide hull paint. The County must submit monthly reports to the Los Angeles Water Board detailing the progress of this program, including the number of boats participating, the type of hull paint used on each boat, the frequency of hull cleaning for each boat, and an evaluation of each hull paint relative to its use in Marina del Rey Harbor. The program must place non-biocide hull paint on a minimum of 25 boats within six months of the date of this letter. The pilot program must have a minimum of 100 boats fully participating within two years of the date of this letter. The boats participating in the non-biocide hull paint program

NEW EFFORTS TO IMPLEMENT TMDL

- Site Specific Objective Study
- Pilot Paint Program
- Contaminated Sediment Management Plan

COUNTY OF LOS ANGELES
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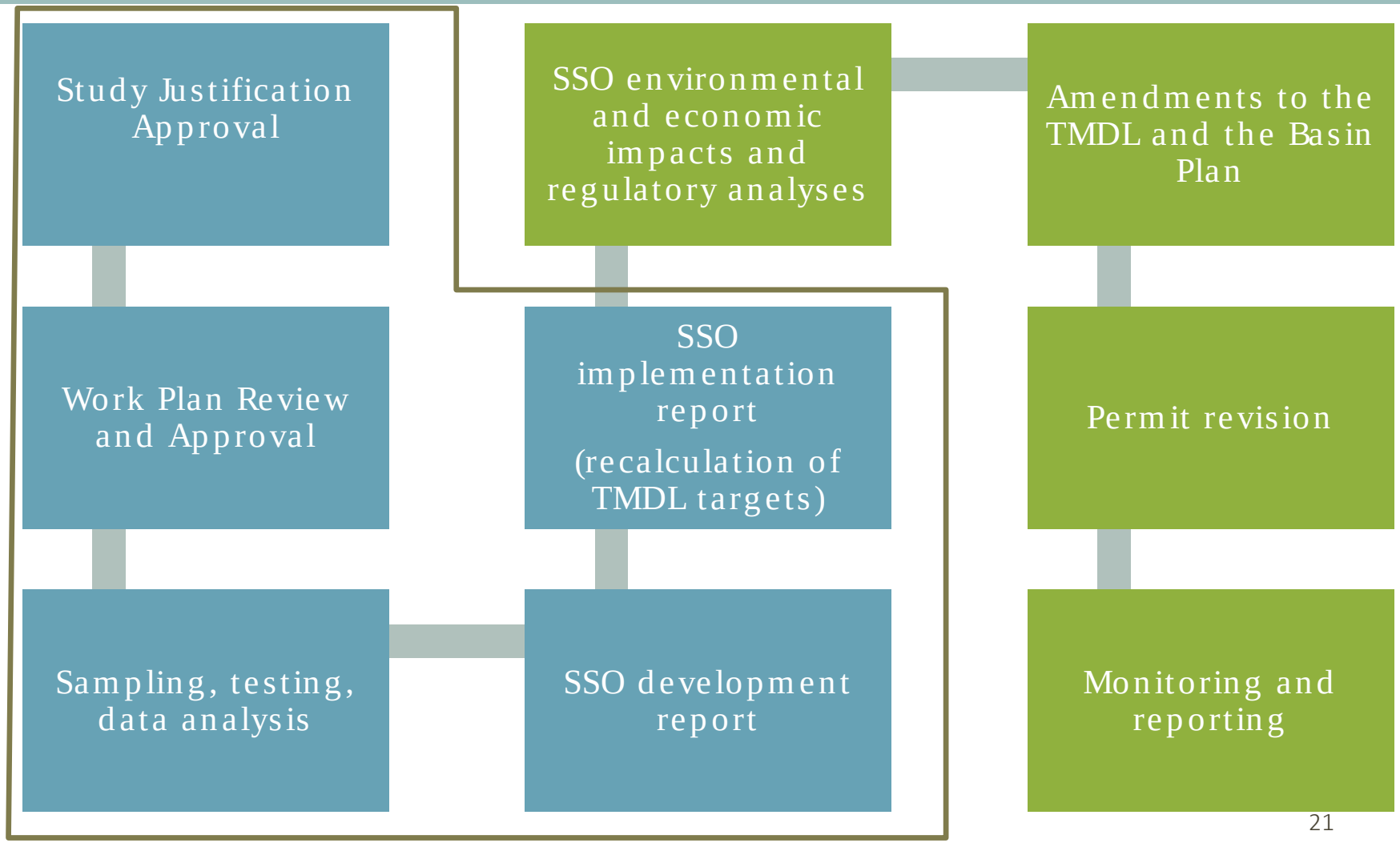
GOALS OF THE SSO STUDY

- Determine the copper threshold that is protective of marine life in MdRH in a scientifically sound manner
- Communicate study findings to regulators and stakeholders
- Develop implementation details needed to support consideration of SSO adoption into TMDL and Basin Plan

SSO DEVELOPMENT AND IMPLEMENTATION

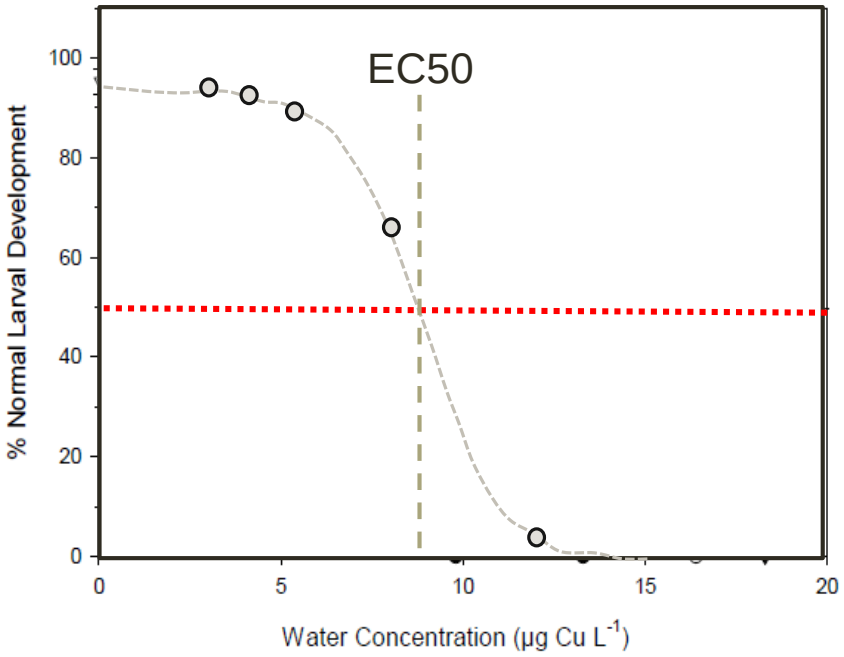


WATER EFFECT RATIO (WER)

- Scientific method to evaluate water quality objective accuracy
  - Compares toxicity of contaminant in site water to lab water

EC50 = Toxicant concentration causing 50% effect

$$WER = \frac{\text{Site Water EC50}}{\text{Lab Water EC50}}$$



WER INTERPRETATION

- WER = 1
  - Water quality objective accurate with respect to site conditions
- WER > 1
  - Site conditions reduce toxic potency
- WER < 1
  - Site conditions increase toxic potency
- Magnitude and consistency of WER used as part of basis to determine need for SSO
  - Adjustment factor to restore level of aquatic life protection to that intended by EPA

PREVIOUS CU SSO STUDIES

- Site water quality shown to affect copper toxicity in multiple studies
  - Los Angeles River and tributaries
  - Calleguas Creek and Malibu Lagoon
  - San Francisco Bay
  - San Diego Bay
- TMDLs and Basin Plans modified in several cases
  - Public process with external scientific review

MDRH STUDY OBJECTIVES

- Measure toxicity and water chemistry throughout harbor
  - Identify conditions when toxic potential of Cu is greatest
  - Use same toxicity test methods selected by EPA for calculating original water quality objective
- Calculate WER at multiple locations and times
- Document the effects of season, tide, and location
- Analyze the results to determine whether there is a scientific basis for a SSO
  - Statistical analysis of potential SSO values
  - Technical Advisory Committee review

TECHNICAL ADVISORY COMMITTEE

Name	Affiliation	Expertise
Peter Campbell	University of Quebec, INRS, Quebec, Canada	Trace metal analysis, speciation, toxicology, bioaccumulation
Gary Cherr	Bodega Marine Laboratory, University of California, Davis, CA	Reproductive physiology, developmental biology, environmental toxicology
Samuel Luoma	John Muir Institute of the Environment, University of California, Davis, CA	Metals bioavailability and ecological effects in aquatic environments
Robert Santore	Windward Environmental, Syracuse, NY	Metals bioavailability, site-specific criteria, chemical modeling, ecological risk assessment

COMMUNICATION AND REVIEW

- Draft work plan review
  - Public, Water Board, TAC
- Agency consultation meetings
  - Quarterly meetings with study partners
- TAC meetings
  - Scientific review and guidance at key phases of study
- Public workshops (2)
  - Explain study details and findings
  - Respond to stakeholder concerns

REPORTS

- Technical Report
  - Sampling and testing activities
  - Toxicity and chemistry data
  - Statistical evaluation WER results
  - Comparison to other studies
- Implementation Report
  - Environmental and economic impacts
  - Anti-degradation & anti-backsliding

PILOT PAINT PROGRAM

- SIP requires 25 boats to be painted with non-biocide paint within six months and 100 boats to be painted within two years

PILOT PAINT PROGRAM

- Phase 1 will be focused on the one anchorage controlled by the County (242 slips)
- Phase 2 will involve the privately-leased anchorages
- Will offer financial incentives to boaters who are willing to switch to non-biocide paints
- Will involve different types of boats that are used differently (leisure sailors, racers, fishing boats, liveaboards, work vessels)
- Will include water sampling

CONTAMINATED SEDIMENT MANAGEMENT PLAN

- Currently Developing Strategies to Meet Target Date
- Due to the Regional Board December 31, 2019

MARINA DEL REY TOXIC POLLUTANTS TMDL

Questions?

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