Marinas Interagency Coordinating Committee (MIACC) & **Anti-Fouling Strategies Workgroup (AFSWG)**

Notes from June 22, 2021 Online Meeting

Hosted by the State Water Resources Control Board and California Coastal Commission

Please Note: The following meeting notes are paraphrased. The opinions expressed by Committee members, presenters, or any other participant who speaks or otherwise expresses an opinion at a meeting do not necessarily reflect the official policy or position of the State Water Resources Control Board, California Coastal Commission, or Marinas Interagency Coordinating Committee and Anti-Fouling Strategies Workgroup. Meetings of this Committee and Workgroup provide an open forum where all participants are invited to share their input and opinions with mutual respect for other participants.

1. Introductions and Announcements

Coordinators:

- Michael Hanks 1 Nonpoint Source Program, State Water Resources Control Board
- Vanessa Metz² Coastal Water Quality Program, California Coastal Commission
- Christopher Marquis³ Coastal Water Quality Program, California Coastal Commission

Participants and Affiliations:

- Colin Anderson- American Chemet Corporation
- Stephanie Bauer- Port of San Diego
- Neal Blossom- American Chemet Corporation
- Bryce Corlett- Moffatt & Nichol
- Jonathan Dolan- State Water Board
- Emily Duncan- Los Angeles Regional Water Board
- Michael Hanks- State Water Board
- o Kimbrie Gobbi- Wood Environment & Infrastructure Solutions, Inc.
- Jim Haussener- California Marine Affairs and Navigation Conference
- Raymond Hiemstra- Orange County Coastkeeper
- Karen Holman- Port of San Diego
- Sandy Lea- Kop-Coat
- Holland MacLaurie- Santa Cruz Harbor
- Christopher Marguis- California Coastal Commission
- Jeanie Mascia- State Water Board
- Vivian Matuk- California State Parks & California Coastal Commission
- Vanessa Metz- California Coastal Commission
- Raya Nedelcheva- California State Lands Commission
- o Ashley Parks- Southern California Coastal Water Research Project (SCCWRP)
- Katie Pavne Enthalpy
- Brenda Ponton- Woodard & Curran
- Michael Quill- Los Angeles Waterkeeper

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- Shana Rapoport- Colorado River Board of California
- Rolf Schottle- Amec Foster Wheeler
- o Chris Scianni- California State Lands Commission
- o Chris Stransky- Amec Foster Wheeler
- Marisa Swiderski- Wood PLC
- Barry Snyder- Amec Earth & Environmental
- o Kelly Tait- Port of San Diego
- Maral Tashjian- Los Angeles County Department of Beaches and Harbors
- o Michael Tripp- Los Angeles County Department of Beaches and Harbors
- o Georgia Tunioli- Santa Monica Bay Foundation
- Peter Von Langen- Central Coast Regional Water Board
- Frank Winkelman- Kop-Coat Marine Group, Pettit Paint
- o Jun Zhu- Los Angeles Regional Water Board

Action Items:

Notes, presentations, and materials from this meeting will be posted on the Coastal Commission's Marinas and Recreational Boating webpage⁴, under the heading 'Archive of Meeting Notes & Presentations' – 2021, June.

2. Marina del Rey In-Water Dry Docking System

Speaker:

- Maral Tashjian⁵ Los Angeles County Department of Beaches and Harbors
- Brenda Ponton⁶ Woodard & Curran

Purpose:

Provide an update on the County's pilot study and other in-water dry docking opportunities.

Background:

An in-water dry docking system is a device that separates the hull of the boat from the water without lifting the boat out of the water. In-water dry docks provide an alternative mechanism to reduce marine growth on the hull without using antifouling hull paints. Los Angeles County Department of Beaches and Harbors (LACDBH) began an in-water dry dock pilot study in June 2018, testing a FAB Dock in-water dry dock at one slip in Marina del Rey. Following the study in 2019, LACDBH purchased two in-water dry docks for slips at their County-managed anchorage in Marina del Rey Harbor. This presentation will summarize the findings and lessons learned from the pilot study, and discuss future in-water dry dock challenges and opportunities.

Materials:

Presentation materials will be available after the meeting.

Notes on Presentation:

At a past MIACC meeting, the County of Los Angeles Department of Beaches and Harbors presented on a non-biocide boat hull paint study that studied the effects of copper biocide paints in

⁴ https://www.coastal.ca.gov/water-quality/marina-boating/

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Marina del Rey. During that presentation, the in-water dry docking system was mentioned, and as a follow-up the MIACC coordinators asked for a presentation on the in-water dry docking system in Marina del Rey.

An in-water dry docking system keeps the boats at the water line, not lifted out of water like the boat lift alternative. Within the in-water dry docking system there is a pump that drains the water from the liner and the boat hull. This prevents fouling and copper leaching, and has an automatic feature that turns on when it rains. There are several benefits to in-water dry docking systems: they prevent fouling and help water quality, prevent copper leaching, minimize hull cleaning, the liner can capture oil or spills, increase boat speeds, and reduce electrolysis.

There are two different in-water dry docking systems we have encountered; both companies are based out of Australia. The FAB Dock system is inflatable around the edges, typically designed for a specific size and type of boat, and the system is powered by the boat battery. This is typically the lower cost docking system, and ranges from \$8k to \$24k. The second model, the SeaPen, is more expensive but also more versatile, fitting many types of boats. This system ranges from \$15k to \$85k, and the system uses power from the dock. Both devices keep the boat dry and provide antifouling benefits. FAB Dock was used in a trial in 2018; generally, the FAB Dock system received positive feedback. At the end of the trial, the dock was returned to FAB Dock.

Following the trial, it seemed like this system could be a potential option for Marina del Rey. Since 2019, the County purchased 2 in-water dry dock systems to show to boat owners and people from other marinas and harbors. The manufacturer from Australia was there to show how these devices worked. It takes about 3 to 5 minutes to inflate and deflate so the boat can go in and out of the dock. The pumping when the boat is returned to the docking system takes about 45 minutes, but you don't have to be present for the pumping.

It's important to note that marine growth will develop on the bottom of the liner, but should not impact the device. There is a reduction in hull maintenance and cleaning when using an in-water dry docking system, and a cost savings from the reduction in hull cleaning. Since the devices are typically boat specific, it's better to have the individual boat owners purchase the docks instead of the Marinas. Both companies are looking to expand in California and other areas, but Southern California doesn't have the service technicians to service the dock systems. For additional Information please reference the County's Toxics TMDL webpage⁷.

Discussion:

- These products are in much larger demand in Australia. At the present time, it's not certain how
 many in-water dry docking systems there are in marinas in California. The FAB-Dock company
 has 12 in-water dry docks in one area.
- One of the differences between the two companies. FAB Dock doesn't have representatives in the U.S. SeaPen has one representative in Florida; they have some business on the east coast and are interested in expanding to California.
- As the Marina del Rey 319(h) grant that proposed inflatable boat lifts was not able to move forward, it's great to see new alternatives that provide similar benefits and could potentially provide additional capacity for California boaters.
- It takes 3 to 5 minutes to inflate and deflate the docking system, and the companies are developing technology to start the inflation process from your phone. Boat owners like to

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⁷ https://beaches.lacounty.gov/toxics-tmdl/

entertain friends on their boat; this system keeps the boat at water-level, and it is safe to be on the boat while docked. The pump has a sensor that determines if there's rain or residual water left in the system.

- There is concern that there may be an additional cost at the marina for the extension of the boat length due to the docking system. Currently, there is no information available regarding possible additional costs.
- Both companies have been asked about the life expectancy of the systems; FAB Dock says 10 to 15 years, and SeaPen says 15+ years. As for a warranty on the system and pump, we will have to get back to the MIACC members with the answers.

3. LA Water Board Update on the 5-Year Nonpoint Source Plan

Speakers:

• Jun Zhu⁸ – Los Angeles Regional Water Quality Control Board

Purpose:

Provide a presentation on the LA Regional Water Board's Nonpoint Source Program 5-year Plan.

Background:

The California 2020-2025 Nonpoint Source (NPS) Program Implementation Plan (5-year plan) was prepared by the State Water Resources Control Board, the nine Regional Water Quality Control Boards and the California Coastal Commission, collectively referred to as the co-lead agencies. The goal of the 5-year plan is to present the general goals and objectives of the co-lead agencies for addressing NPS pollution from July 2020 to June 2025. This 5-year plan was also prepared to meet the requirements of Clean Water Act section 319. This presentation will give an overview of the program areas covered in Los Angeles Region Board's 5-year plan, and staff will answer any questions that may arise.

Materials:

Presentation materials will be available after the meeting.

Notes on Presentation:

At the last MIACC meeting in December 2020, there was a request for an update on the LA Regional Water Board's 5-year 2020-2025 NPS plan. The 5-year NPS plan was developed by the three co-lead agencies: The State Water Board, the 9 Regional Water Quality Control Boards and the California Coastal Commission. The program areas of the NPS program have evolved over time, and more areas have been expanded. Trash and contaminated sediment were added in 2015-2020, and harmful algal blooms and climate change resiliency were added in 2020-2025. The LA Regional Water Board has jurisdiction from Rincon Point (the northern boundary of Ventura and Santa Barbara counties) to the Southern boundary of Los Angeles County.

The LA Regional Water Board has the most densely populated region in the state, and the land uses are quite diverse. Aquatic life and wildlife habitat are threatened by elevated levels of toxic pollutants, contaminated sediment, trash, and increased nutrient loading and eutrophication. Since the late 1990, our board has focused on TMDL adoption, and has adopted over 50 TMDLs for the

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region. The region is dedicated to reducing pollution loading from NPS activities. The LA Region's NPS Program between 2014-2020 focused on irrigated agriculture, intensive horse and livestock grazing, sediment contaminate remediation, and trash. With the 2020-2025 5-year plan, the region has added coastal NPS control in marinas, and the implementation of the Malibu Creek and Lagoon sediment and nutrient TMDL.

Program Area 1: Irrigated Agriculture. This program area has two sub-areas: the irrigated lands waiver of waste discharge requirements, and the Ventura River watershed groundwater-surface water hydrology, nutrient, and transport modeling tool. The intent of the agricultural waiver is to attain and maintain water quality benchmarks by regulating the discharges from irrigated agricultural lands. The waiver makes dischargers enroll in the program, perform water quality monitoring, and implement a water quality management plan. In 2012, the LA Regional Water Board adopted a TMDL for the Ventura River Watershed for algae, eutrophic conditions, and nutrients. At the time of TMDL development, a source assessment for the agricultural discharge of nutrients to surface water via groundwater flow was not achievable. In 2014, Ventura River was identified as a priority river for the LA Region. The LA Regional Water Board has been working with the State Water Board to produce hydrologic models for nutrients and flow criteria to refine the data for TMDLs. Nutrient modeling helps the regional board with load allocations in the TMDL.

Program Area 2: Grazing and Horse Intensive Livestock. Grazing was identified as a NPS for the LA Region in the Ventura River Watershed Algae TMDL. The TMDL requires a 10% reduction of baseline nutrient loading from grazing by June 2023. There are approximately 650 horse and intensive livestock facilities in the Ventura River Watershed; these facilities generate manure and other waste that have nutrients such as nitrogen and phosphorous that can degrade water quality and impair beneficial uses if these are not properly managed. The LA Regional Water Board has been working with the Horse and Livestock Watershed Alliance a 3rd party group to help facilities comply with the imposed load allocations.

Program Area 3: Contaminated Sediment Remediation. The McGrath Lake PCBs, Pesticides, and Sediment Toxicity TMDL became effective in 2011. Legacy lake sediments were assessed to be the main source of impairments to the lake, and the TMDL developed voluntary load allocations for TMDL implementation. A Memorandum of Agreement (MOA) that included a provision to remediate the lake sediment was developed, and the load allocation should be achieved by June 2025. The revision of the Marina del Rey Harbor Toxicity TMDL became effective in 2015. The LA Regional Water Board and County of Los Angeles entered a MOA for the Marina del Rey Harbor, requiring a contaminated sediment management plan, and set interim milestones for in-harbor sediment. The Santa Clara River Lakes Nutrient TMDLs became effective in June 2017. Internal loading from the lakes' sediment was identified as the main source of nutrients in the lakes. Loading of Total Nitrogen and Total Phosphorus allocation will be attained by either a MOA or a Cleanup and Abatement Order by June 2032.

Program Area 4: Coastal NPS Pollution Control in Marinas. The revised Marina del Rey toxicity TMDL was established to address dissolved copper concentrations in the marina. The discharge of dissolved copper from boat hulls was identified as one of the main sources of copper in the harbor. The load allocation for dissolved copper requires an 85% reduction of dissolved copper in the water column. The numeric target for implementation includes 100% of the boats in the marina using hull paint that discharges 85% less dissolved copper than the baseline load, or 85% of the boats in the harbor using copper-free hull paints. The compliance deadline for the TMDL is March 2024. Other marinas in the region, such as the Los Angeles and Long Beach Harbors, Los Alamitos Harbor, Channel Islands Harbor, King Harbor, and Ventura Harbor, and Ventura Keys will be regulated in the same manner as Marina del Rey to maintain consistency with

the regions' requirements. In accordance with the NPS Implementation Policy, discharges of biocides are regulated by waste discharge requirements or waivers of waste discharge requirements.

Program Area 5: Implementation of Malibu Creek TMDLs. Source assessments identified NPS pollution as the main sources of impairments for the watershed. In 2003, U.S, EPA adopted the sediment and nutrient TMDL for Malibu Creek, Lagoon, and tributaries. In 2013, the Malibu Creek and Lagoon Sedimentation and Nutrient TMDL was established to address benthic community impairments for Malibu Creek and Las Virgenes Creek. The implementation plan for these two TMDLs became effective in 2017. Livestock and golf course are identified as the main sources, which can be regulated by waste discharge requirements and conditional waivers of waste discharge requirements by the LA Regional Water Board.

Discussion:

- The LA Regional Water Board will be working closely with the County again to identify viable
 paints. They are developing a waiver, and there are certain provisions, requirements, and water
 quality monitoring needed to achieve the allocations. At this time, paint conversion is voluntary.
- The TMDL is a planning tool, and becomes a regulatory mechanism when it is incorporated into waste discharge requirements and waivers of waste discharge requirements. The 303(d) program and the TMDL program are separate programs. You can have a water body 303(d)-listed and it wouldn't affect the TMDL or the implementation schedule. If in the future water quality has improved, there are certain thresholds for "clean samples" that could lead to a delisting of the water body.
- The TMDL is specific for dissolved copper, and identified the source of dissolved copper as boat hulls in the harbor. Complex copper was not addressed in the TMDL, and for sediment there is a different load allocation.
- There has been talk of aerating the back harbor to get water circulating, to help with the dissolved oxygen. The circulation resulting from the aeration would perhaps help with the concentration of copper in the marina.
- The 85% reduction calculation for the load allocation was established by ~4,700 boats in the Marina. The program will regulate other marinas like Marina del Rey to make regulations consistent. Staff will use their best judgement for load allocations and establishing an implementation schedule. Sometimes, specific studies are taken to understand certain pollutants, other times there are state-wide objectives, such as trash for example.

4. Marina del Rey Harbor Water Effects Ratio Study

Speaker:

• Ashley Parks 9 – Southern California Coastal Water Research Project (SCCWRP)

Purpose:

Present the results of the copper water-effect ratio (WER) study in Marina del Rey Harbor.

Background:

Copper is a contaminant of concern in Marina del Rey Harbor, and was included in the

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Reconsideration of the Total Maximum Daily Load for Toxic Pollutants in Marina del Rey Harbor (Toxics TMDL). Los Angeles County Department of Public Works and Department of Beaches and Harbors were granted approval to conduct a site-specific objective (SSO) study for the Harbor to evaluate the potential impacts of site-specific conditions on the bioavailability of copper and develop a scientifically defensible copper SSO for Marina del Rey Harbor that remains protective of aquatic life and the beneficial uses. This SCCWRP study used the U.S. Environmental Protection Agency (USEPA)-approved Water-Effect Ratio (WER) method to create the scientific foundation for the SSO. Dr. Parks will present a summary of the WER results from this study.

Materials:

Presentation materials will be available after the meeting.

Notes on Presentation:

Methods. SCCWRP is completing the WER study that has been going on for a few years. The current copper criterion in the TMDL is 3.1 micrograms per liter, and this study investigates if this criterion is appropriate for the Marina del Rey Harbor. The site-specific objective study was approved by and worked in coordination with a Technical Advisory Committee (TAC), which also invited stakeholders to the data review process.

Overall, the study partners wanted to get a representative sample of the waters in the harbor, by characterizing the variability of key water quality parameters. The study looked at Dissolved Copper and Dissolved Organic Carbon (DOC) levels in the marina. These parameters can vary by basin location (i.e., back basin, front basin, and main channel), winter vs. summer, dry vs. wet weather, as well as spring and neap tidal cycles.

The study used data collected from 6 sampling locations under different water quality conditions. During wet weather sampling, each location was sampled once. For dry weather sampling events, each location was sampled at flood and ebb tides, and then composited to one sample per location. Samples from each location underwent toxicity testing and chemistry analysis. Data collection in the field included the following analytes: pH, temperature, salinity, and dissolved oxygen. Laboratory testing included: pH, temperature, salinity, dissolved oxygen, dissolved organic carbon, total and dissolved copper, total and dissolved zinc, and toxicity.

The U.S. EPA-recommended WER method to develop site-specific aquatic life criteria compares the toxicity of a metal in a sample to a reference water sample in the laboratory. Using the percent larval development and the water concentration of dissolved copper, the WER method compares the toxicant concentration causing 50% effect for samples taken from the harbor to the concentration causing 50% effect for the reference water. The ratio results can be used to develop a site-specific objective for the Marina del Rey Harbor, by multiplying the criterion (3.1 micrograms per liter) by the WER.

Results. Results indicate that dissolved copper concentrations frequently exceed the 3.1 micrograms per liter criterion; this is generally the case for all locations other than the main channel in the harbor. Dissolved organic carbon concentrations were lowest in winter dry weather with spring tide. The WER was typically greater than 1.0, indicating there is less copper bioavailability in the harbor relative to the reference water samples, but the exact ratio depends on season and weather. As for dissolved copper, the lowest concentrations were observed in the main channel and in the basin stations. Dry weather WERs ranged from 0.925 to 1.44, and wet weather WERs ranged from 1.54 to 2.04. For all events, the geometric mean of the WERs is 1.40, indicating that Marina del Rey water is more protective than the other waters sampled. The TAC was divided on

how to calculate the final WER. Some members thought it would be appropriate to weigh the geometric mean by weather, but due to dry weather in Los Angeles there was not sufficient wet weather days to weigh the geometric mean by weather. The results of the Final WER indicate that the Marina del Rey site conditions reduce the toxic potency of copper.

Discussion:

- The TAC was comprised of all academic researchers, including Peter Campbell, Rich Ambrose, and Gerry Chair. They have different specialties, which helps not just with data review but with review of the report as well.
- The study always sampled within 24 hours of the end of a rain event, and it had to be at least a ½" storm event. We also measured the water quality parameters at the surface and 1 meter below the surface, so we were able to see freshwater inputs from the rain events.
- Before the WER study began, SCCWRP did water quality sampling in each of the basins. There were no significant differences found between the two basins that were observed.
- Bacteria should not affect the dissolved copper of the WERs. Monitoring for fecal bacteria should be part of the CIMP (Coordinated Integrated Monitoring Program), and is available on CEDEN (California Environmental Data Exchange Network).
- The final report of the WER will be submitted to the county later this month, but it will go
 through internal review before it is made public. It will eventually be submitted to the State
 Water Board and will be distributed by the Lyris list. There will be another public meeting for the
 Marina del Rey WER study later this summer, to be announced by the Regional Water Boards.

5. LA Water Board Dredged Materials Management Overview

Speaker:

• Emily Duncan¹⁰ – LA Regional Water Quality Control Board, Regional Programs Section

Purpose:

Provide a presentation regarding dredged materials management in the Los Angeles Region.

Background:

Dredged material and contaminated sediments (primarily ocean related) are managed through an interagency process in the Los Angeles Region. Two entities, one called the Contaminated Sediments Task Force (CSTF) and another called the Southern California Dredged Material Management Team (SC-DMMT) work towards assessing and permitting (WDR/401 Water Quality Certifications) sediment dredging projects in Southern California. In recent history, the SC-DMMT has served as the primary interagency group that reviews sediment management projects and determines suitability for placement locations of the dredged material. This presentation will provide an overview of our Region's process and the current locations that are approved for disposal of dredged materials.

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Materials:

Presentation materials will be available after the meeting.

Notes on Presentation:

This presentation will give an overview how the Los Angeles Regional Water Board manages contaminated sediment in both LA and Ventura counties. There is a lot of the activity with contaminated sediment in the LA region, specifically at the Port of Los Angeles and the Port of Long Beach. The California Coastal Commission and the LA Regional Water Board established a task force called the LA Regional Contaminated Sediments Task Force (CSTF), and the participants include the U.S. Environmental Protection Agency, U.S. Army Corps of Engineers, LA Regional Water Board, California Coastal Commission, Port of Los Angles, County of Los Angles and the California Department of Fish and Wildlife. Heal the Bay is also included in the task force, and is listed as a non-governmental stakeholder in the MOU.

The LA Regional Water Board, Coastal Commission, U.S. EPA, and U.S. Army Corps of Engineers also developed the Southern California Dredged Materials Management Team (SCDMMT) to review dredging projects in southern California. The SCDMMT incorporates other counties not included in the jurisdiction of the LA Regional Water Board, so it is not intended to replace the CSTF (which is just for LA and Ventura counties). The permitting process for dredged sediment is complicated, requiring a Sampling and Analysis Plan for review by the CSTF and SCDMMT. After sampling analysis results are presented to the task force, the Port proposes a placement location for the dredged sediment that would then be approved or denied by the permitting authorities.

In Ventura County, a lot of clean coarse materials are dredged and put back on the beach. However, in the ports in Los Angeles County, much of the dredged material is contaminated, so it must be evaluated for proper disposal. The evaluation of dredged sediment includes physical analysis of the soil particle size, chemical analysis to compare the low and median effects ranges, and biological analysis of the solid phase and suspended particle phase toxicity testing and bioaccumulation analysis. Biological testing is typically required at an ocean disposal site, a temporary aquatic disposal site, or an aquatic disposal site. However, biological testing is not necessary if it is determined that upland disposal is necessary.

LA-2 is a clean sediment ocean-dredged material disposal site located 5.9 miles offshore from the Port of Los Angeles. The site was established in 1977 by the U.S. EPA, and since then there have been no significant impacts to marine life. U.S. EPA Region 9 does monitoring at the disposal site, along with 5 other disposal sites off the California coast, 5 disposal sites off the Hawaiian Islands, and one west of Guam. The Port of Los Angeles' Confined Disposal Facility isolates materials from adjacent waters and lands for containment. In conjunction with the U.S. Army Corps of Engineers, there have been design improvements to maximize service life of the disposal facility, which was designated for containment in the 2009 Port Master Plan Amendment. To conclude, dredge materials management is a collaborative effort and has a lot of interagency stakeholders.

Discussion:

- Space is limited in the Los Angeles Confined Disposal Facility, and it can be difficult to find new
 places to dispose of these types of contaminated sediments. The Port of Long Beach is looking
 to get approval for an additional facility for sediment placement, and is going through the public
 process to be approved. This would also apply to contaminated dredged facilities.
- The Port of Long Beach just finished a middle harbor infill project, so they were looking for infill, which was ideal for dredged sediment placement. This is going to be an issue of growing

concern, and it will only become more challenging to find appropriate places for disposal.

• Newport is working on Confined Aquatic Disposal; they just approved the Environmental Impact Report, so there is still a long process before it's approved.

6. Meeting Wrap-Up

Coordinator:

Michael Hanks – Nonpoint Source Program, State Water Resources Control Board

Purpose:

- Any additional announcements.
- Summarizing action items discussed during the meeting.
- Soliciting ideas for future topics and meeting locations for the spring 2021 MIACC meeting.

Discussion:

There was a suggestion for a future presentation on the Newport Confined Disposal Site. If you have ideas for additional topics, please feel free to email Mike Hanks at the State Water Board, or Coastal Commission Staff Vanessa Metz and Chris Marquis.

~ End ~

Funding for this project has been provided in part by the U.S. Environmental Protection Agency (U.S. EPA) pursuant to Assistance Agreement Nos. C9-79757514; C9-79757515; C9-79757517, and any amendments thereto which have been awarded to the Water Board for the implementation of California's NPS Program. The content of this document does not necessarily reflect the views and policies of the U.S. EPA or the State and Regional Water Boards, nor does mention of trade names or commercial products constitute endorsement or recommendation.