



## The Future of Hull Fouling Management in California

Contributing Authors:  
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Copper has been used to successfully control fouling on boat hulls for centuries. Recently, paint containing copper has been the product of choice to deter growth through the continuous release of copper ions. Joint research by the U.S. Navy, paint manufacturers, University of California, and California Department of Pesticide Regulation (DPR) has also shown that in-water hull cleaning activities with abrasive tools and techniques can cause a spike in copper leaching and release paint particles into the surrounding water. Today, copper is a widely recognized marina pollutant and its levels in some of the larger recreational boat marinas in California have the potential to effect sensitive marine life. In order to address high copper concentrations and their impact on aquatic environments, DPR set leach rate limits in 2014 for copper paints used on recreational boats.

DPR determined these rates (as directed by Assembly Bill 425, which was signed into law by Governor Brown in October 2011) by using computer models to predict the fate of copper in California marinas and considered factors such as marina size, docking period, and frequency of in-water hull cleaning. In the end, two product categories were created: (1) products with a lower leach rate that cannot be cleaned in the water more often than once a month; and (2) products with a higher leach rate that cannot be cleaned in the water at all. In the future, paint manufacturers will only be able to offer California boaters copper paints that fit in these two categories.

If you choose the low leaching copper paint option for your hull, you may need to reduce the frequency of in-water hull cleaning and rely on less abrasive practices to manage fouling. DPR scientists have estimated that if boaters in areas with heavy fouling pressures have divers clean their hulls no more frequently than once a month using soft-pile carpet (a best management practice that is being used by the California Professional Divers Association), significant reduction in copper loading can be achieved and at the same time, prolong the life of your paint. If you can get by with cleaning less often, no matter your current frequency, do so.

U.S. Navy SPAWAR and UC San Diego scientists collecting samples to measure leach rates from copper antifouling paint coated panels. In-water hull cleaning study, San Diego Bay, 2012.

Photo: Nan Singhasemanon, CDPR

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Destination Series:

## DANA POINT HARBOR

Dana Point Harbor is home to approximately 2,500 boats and yachts. To get a guest slip contact Dana Point Marina Company at (949) 496-6137 during business hours 8:00 a.m. to 5:00 p.m. Monday – Saturday. Want to stay on land? Dial, (949) 496-1203 to contact the Dana Point Marina Inn, conveniently located within the harbor.

Dana Point Harbor at sunrise.

Photo: © William Nelson

If you are looking for an extraordinary place to spend a weekend, then Dana Point Harbor is the perfect place to do just that. This romantic harbor is situated in a natural cove surrounded by beautiful bluffs about halfway between Los Angeles and San Diego. Dana Point Harbor is where whale watching originated and departing boats are less than a quarter mile from open ocean. Dana Point offers something for everyone, including fishing, diving, cruising, paddle sports, boutique shops, and more restaurants than you'll know what to do with. Enjoy panoramic views of the coast from Lantern Bay Park, explore tide pools west of the harbor, surf nearby Doheny Beach, or visit the Ocean Institute.

Dana Point Harbor prides itself on being environmentally friendly; Clean Marina certificates have been awarded to Dana West Marina, Dana Point Marina, Embarcadero Marina, OC Sailing and Event Center, and Dana Point Yacht Club; along with the first clean facilities certificates in Southern California for the Dana Point Shipyard.

There are many free resources available in this harbor that make it easy for any boater to become an environmental steward. Get a free bilge pad and properly dispose of oily soaked pads at the free bilge pad exchanges at Dana West Marina, Dana Point Marina, the fuel dock, and the launch ramp. You can also recycle used motor oil, filters, batteries, and AFT by contacting the marina offices. Properly empty your sewage holding tank at one of four sewage pumpout stations located at the Harbor Patrol dock, West Basin F dock, West Basin A dock, and West Basin guest dock located NW of A dock.

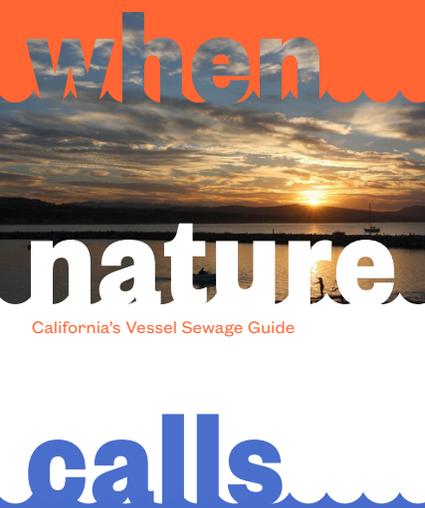
For more information about the harbor including events visit: [www.danapointharbor.com](http://www.danapointharbor.com)



## new! *When Nature Calls* publication out now!

*Scoop on Poop. Shipshape Sanitation.* Ring a bell? These are names of sewage guides produced by your friendly California State Parks Division of Boating and Waterways (DBW). However, to match new information, laws, and needs of the modern day boater, The Bay Foundation, with funding from DBW, is excited to announce a new statewide sewage management guide, *When Nature Calls – California's Vessel Sewage Guide*. This full color, 14-page "potty book" talks about environmental impacts of sewage in our waterways, the low-down on marine sanitation devices, use of chemical additives and green solutions, 8 simple steps for how to pump out, and what is required of boaters to comply with the law. Anyone can download a version from [DBW](http://DBW) and from [www.santamonicabay.org](http://www.santamonicabay.org). Printed versions will be available in 2016 Boater Kits.

Download your copy from [The Bay Foundation](http://The Bay Foundation) website, publications page!





# Southern California Chapter

## Honey Pot Day Is Back

The Honey Pot Day program is back for its seventh consecutive year, offering boaters a complimentary mobile pumpout service! Honey Pot Day is offered from April 1 – August 31, 2015 in four Southern California harbors: Marina del Rey, King Harbor (Redondo Beach), Port of Los Angeles, and Port of Long Beach.

The program launched in 2009 as a means to reduce levels of bacteria in local harbors by offering boat owners a convenient option to properly dispose of sewage. Mobile pumpout companies make your life easier; they arrive at the boat without the boat having to leave the slip or the boater having to be present. This program brings to local boating communities the tools and resources needed to improve water quality in their favorite boating playgrounds.

Since its inception, over 860 boaters have been educated about the adverse effects of discharging sewage directly into waterways, and over 25,549 gallons of sewage, from across the four harbors, were properly disposed. Through the installation of pumpout facilities and educational programs, like this one, recreational boaters become better informed, understand the importance of proper waste disposal, and directly help improve water quality.

Based on a survey of 2014 participants, two most frequent comments were that the program is “very informative and much appreciated” and “all boat owners should do this”.

To sign up for the program, boaters should visit [www.honeypotday.org](http://www.honeypotday.org). There, they will take an online quiz, watch a video on how to operate a sewage pump out station, and read three brief publications by the California State Parks Division of Boating and Waterways.

For more information, contact Victoria Gambale at [vgambale@santamonibay.org](mailto:vgambale@santamonibay.org) or (213) 620-2271.

This program is funded by California State Parks Division of Boating and Waterways’ Clean Vessel Act Program.



Boat-to-boat sewage pumpouts are a convenient way to be an environmental steward.

## First ever San Diego CCBN meeting

The Bay Foundation and Sun Harbor Marina hosted a “Meet n’ Green” [California Clean Boating Network \(CCBN\)](#) meeting in San Diego on May 12, 2015. Boating community leaders gathered together to share innovative pollution prevention strategies in their harbors. This meet-and-greet provided a wonderful networking opportunity for those of us in the boating world and even a couple of marina neighbors who have never met before.

Victoria Gambale, The Bay Foundation’s (TBF) Water Quality Programs Manager, presented on the statewide monitoring effort of stationary pumpout facilities funded by California State Parks Division of Boating and Waterways (DBW) through a Clean Vessel Act grant. Monitoring ensures that state funded pumpouts are operational, gives TBF an opportunity to assist facilities in properly maintaining equipment and signage, and tracks the general condition of pumpout stations throughout the year. Monitoring is conducted every three months and gathers information about the condition and performance of pumpout stations. Victoria also announced that annual monitoring results will be available to the public in December 2015.

Alex Bleier, Vice President of KECO Pumpout Systems, also attended the CCBN meeting; as a presenter he took attendees on a journey through time and explained the evolution of in-slip pumpout stations. Alex highlighted different pumpout technologies and the pros and cons to each. In-slip pumpouts have evolved from maintenance intensive and mechanically complicated vacuum systems to wirelessly controlled, automatically monitored centralized systems. He also gave tips on how to best retrofit docks for in-slip pumpouts to avoid potential problems.



Recessed hydrant pods gives your dock a streamline look and prevents accidental damage due to dock carts.  
*Photo: KECO Inc.*



Kathy O'Brien shows a simple adapter that lets her boaters pumpout hands free!  
*Photo: Victoria Gambale*

Kathy O'Brien, general manager for Sun Harbor Marina (LEED certified) and Treasurer and Secretary of Clean Marinas California, concluded the meeting with a tour of her facility and showcased her in-slip pumpout system. Kathy described how the system works, the method used to teach Sun Harbor tenants how to use the system, and gave practical information regarding maintenance. Kathy noted the most common problems with operation are due to user error.



*Delta Destination Series:*

## *Visit* **Spindrift Marina**

Spindrift is a Sacramento delta marina with classic character and all the amenities you need for a great day out on the water. It is located on the Delta Loop in Isleton.

The marina offers both covered and uncovered berthing, situated in a protected channel on the San Joaquin River. Both power and sail boats are welcome.

*Photos: Spindrift Marina Staff*

Spindrift Marina's dual-fingered slips feature dock box storage, water, metered electricity (15 & 30 amp), and modern card lock security in a friendly marina community. The marina hosts annual events and recreational activities.

Other amenities include guest berthing (at nightly, weekly, or monthly rates), on-dock clean restroom facilities for berthers, and dry storage.

Spindrift includes a mobile home park and pool. With these amenities you can be a part of a friendly marina community in a safe, casual environment.

There is also a general store. It carries the largest selection of items on the Delta Loop. From greeting cards, gifts, and clothing to bait, a great selection of cold beers, soft drinks, snacks, ice cream, and microwave meals.

The Spindrift Restaurant and Bar is across the street. The Spindrift has long been a popular stop in the Delta with a historic charm reflected in its nautical décor. A diverse menu features daily specials and down-home cooking that includes Italian, Mexican, American, and seafood specialties, as well as homemade soups, salads, and a great selection of desserts. They have great nightly specials and live music entertainment draws a crowd every Sunday afternoon from 4-7 pm!

For more information, please visit [www.spindriftmarina.com](http://www.spindriftmarina.com).





## The Sitka Steam Boat

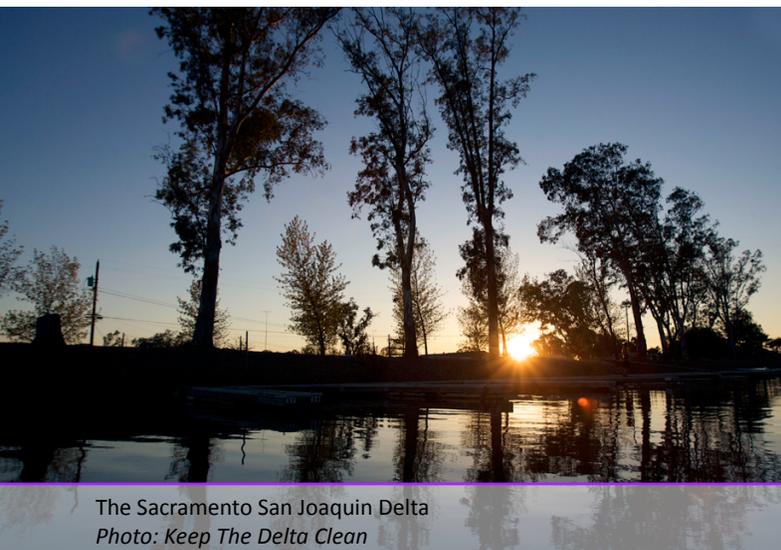
*A Great Piece of our African American History*



The Sacramento San Joaquin Delta  
Photo: Vivian Matuk, DBW/CCC



The Sacramento San Joaquin Delta  
Photo: Vivian Matuk, DBW/CCC



The Sacramento San Joaquin Delta  
Photo: Keep The Delta Clean

The story of the Sitka steam boat is a little known one that started to be told again in Sacramento by Joe Moore, past chair of the Sacramento African American Historical and Cultural Society.

William Alexander Leidesdorff was born in the Virgin Islands, but left as a youth, journeying to New Orleans, to engage in maritime trade. With time, his fortunes increased and he became a master of vessels, sailing between New Orleans and New York. However, he soon felt the lure of the West, and sold his personal effects in New Orleans and bought the 106-ton schooner, “Julia Ann,” in which he would make the now famous trading voyage to the Pacific. After long months in passage he brought his vessel into San Francisco Bay, landing at the point known as Yerba Buena Cove.

There he threw himself into the making of California history. Among the several business ventures claiming his attention, he has the distinction of launching the first steamboat to sail on San Francisco Bay.

The steamer had no name but has ever since been called the ‘Sitka.’ She was built by an American at Sitka, as a pleasure boat for the officers of the Russian Fur Company and was purchased by Leidesdorff, and brought down to San Francisco in October, 1847. She made a trial trip on November 15 and returned later to Santa Clara and then to Sonoma. Finally on the 28th of November she started on the great voyage of her career to Sacramento. She returned to Yerba Buena and was wrecked at her anchorage in a gale but was saved, hauled inland by oxen and transformed into a launch or schooner.

As the “Rainbow” she ran on the Sacramento River even after the discovery of gold. A notice of arrival from Sitka is even found in the San Francisco, California Star, October 23, 1847, also a notice of the steamer at Sonoma, November 25, when there was a celebration with toasts to the rival towns of Sonoma and San Francisco.

Joe Moore started developing and directing a project to recreate the steamboat. Unfortunately Joe passed away on April 20, 2015. The project will continue and when completed the Sitka will be docked in Old Sacramento as a teaching resource for educators, students, and visitors who will learn about African Americans in early Sacramento, the delta waterways, and the ethnic diversity of the region.

## Water Trail Connects the Dots on SF Bay



*Contributing Author: Dick Wayman,  
Project Manager State Coastal Conservancy*

The State Coastal Conservancy and the Association of Bay Area Governments manage the Water Trail program in collaboration with the Division of Boating and Waterways and the San Francisco Bay Conservation and Development Commission. In addition, an advisory committee made up of government and private members with wide-ranging interests helps guide the trail's development.

Girl in wheelchair with kayak at Schoonmaker Point, Sausalito.  
*Photo: Environmental Traveling Companions*

The Ohlone and Coast Miwok did it first, journeying onto the waters of San Francisco Bay in reed-bundled boats. Today we have fiberglass watercraft that both float and fly, but we're a little short on spots to enter the bay and knowledge of how to do that safely and without disturbing wildlife.

The San Francisco Bay Area Water Trail is making things better for boaters and birds with designated launching and landing sites for small, non-motorized boats and information about what those sites have to offer. Signs at the sites warn of local safety concerns—shipping lanes, hunting areas, strong winds, fog, and changing tides—and ask that boaters keep a proper distance from sensitive habitats and wildlife.

Water Trail sites can be publicly or privately owned. They must be open to the public and not present any unacceptable safety hazards or threats to the natural environment. Grants are available for site improvements, particularly those that can help people with disabilities get onto the water.

Water Trail sites can be found as far south as Alviso near San Jose and as far north as downtown Napa. At the end of May 2015 there were 10 sites officially designated as part of the Water Trail and more than 100 potential sites being analyzed. Locations range from urban to remote and facilities vary from beach pathways, suitable for kite boards and paddleboards, to fully equipped docks that can handle kayaks, dragon boats, and almost anything else that floats. One goal of the Water Trail is to designate sites with camping or lodging facilities so that boaters can enjoy multi-day trips around the bay.

The Water Trail began with the work of Bay Area boaters who formed Bay Access, a nonprofit organization, in 2001. Legislation that was passed in 2005 got the state government involved, followed by years of planning and the first site designations in 2013.

Information about the Water Trail can be found at [www.sfbaywatertrail.org/](http://www.sfbaywatertrail.org/) and at [www.scc.ca.gov/2010/07/30/san-francisco-bay-area-water-trail/](http://www.scc.ca.gov/2010/07/30/san-francisco-bay-area-water-trail/).

## Make a Difference and Get Involved in the 2015 Coastal Cleanup Day

Keep reading because this article will tell you how your boating facility can organize a fun and unique event and be part of the 2015 California Coastal Cleanup Day (CCD) Sat., Sept. 19, 2015 (9 a.m.–Noon). CCD is an annual beach and shoreline cleanup event organized by the California Coastal Commission (CCC) that has seen participation from more than 1.1 million volunteers who have collected more than a million pounds of debris since 1985!

Since 2011, CCC, the Division of Boating and Waterways (DBW), and the boating community have partnered in CCD. Boaters are negatively impacted by marine debris as it can entangle props or cause damage to boats, not to mention the aesthetic impact of litter in the water. In 2014, 815 volunteers from the boating community cleaned debris from the water along 48 miles of shoreline and collected 7,032 pounds of trash and recyclables. Forty-three percent of these volunteers brought their own reusable cleanup supplies, further reducing waste.

*Continued on next page.*



Volunteers during the 2014 Coastal Cleanup Day at Owl Harbor marina (Sacramento County).



# Northern California Chapter

Continued from previous page.

Does your yacht club or marina want to organize and be part of the state's largest volunteer and family-oriented event?



Photo: Owl Harbor Marina

This year CCC and DBW invite more marinas and yacht clubs all over the state to be part of this important effort. Your yacht club or marina can easily be part of this event. To get involved follow these simple steps also included at [www.coast4u.org](http://www.coast4u.org) (click Coastal Cleanup Day and Marinas and Yacht Clubs).

1. Contact the Statewide Coastal Cleanup Day Manager and Environmental Clean Boating Program Coordinator:

Vivian Matuk  
Environmental Boating Program Coordinator  
DBW/CCC  
[vmatuk@coastal.ca.gov](mailto:vmatuk@coastal.ca.gov)  
(415) 904-6905

Eben Schwartz  
Marine Debris Program Manager  
CCC  
[Eben.Schwartz@coastal.ca.gov](mailto:Eben.Schwartz@coastal.ca.gov)  
(415) 904-5210

2. Become a Site Captain for your facility, work with us and your County Coordinator on planning your event.

3. Participate in the event and be part of the solution to marine pollution!

**We hope your boating facility can be part of this great event.**

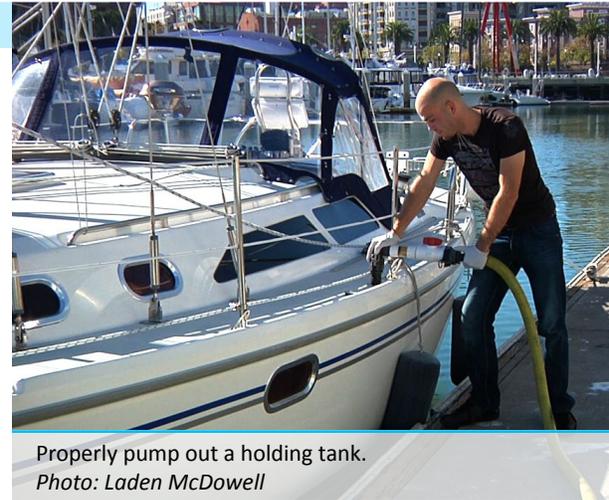
## San Francisco Estuary Partnership's (SFEP) New CVA Program: NEW RESOURCES FOR BOATERS AND MARINAS TO CURB SEWAGE DISCHARGE

Contributing Author: James Mueller, San Francisco Estuary Partnership

Sewage isn't a problem simply because it smells; a close encounter can ruin a quick dip in your favorite swimming hole. Sewage has over 100 different bacteria, viruses, and parasites that can invade your favorite swimming hole, marina, or bay you recreate in. These pathogens can get us sick, to be sure, but it can also significantly impact shellfish beds. We have a rebounding oyster population in the San Francisco Bay that filters water to feed. These pathogens can impact their growth and success and can also affect the predators that feed on them.

Another big issue with sewage is the nutrients contained within. In aquatic environments, small amounts of nutrients in the water can upset the ecological balance and lead to big booms in plant growth. Those who have used boat launch ramps slippery with algae or tried to navigate through dense rafts of water hyacinth know how frustrating and dangerous uncontrolled growth can be. In some cases, the growth outstrips the available nutrients and large quantities of plant materials die and decompose, leaving behind low oxygen "dead zones."

So that is the bad news...



Properly pump out a holding tank.  
Photo: Laden McDowell

We also have some good news for folks keeping a concerned eye on the issue. The San Francisco Estuary Partnership, working with the Division of Boating and Waterways (Clean Vessel Act Education and Outreach Grant Program) and a host of marinas, boating organizations, and boaters, is developing a variety of resources to help address this issue.

The first of our multi-pronged approach is to educate. In addition to conducting direct outreach at boat shows, boating facilities, and marine supply stores, we have resources for boaters such as the *San Francisco Bay and Delta Clean Boating Guides*. Each guide includes locations of pumpout and dump stations throughout the Bay-Delta region. In the guide section, boaters can also learn about the environmental impacts of boat sewage pollution and how to protect the environment while boating.

Our next phase will introduce a *Sewage Management Manual for Marinas* that will list available technologies and management plans that can be used to proactively address sewage discharge within a marina. Our final phase will support boaters and marinas alike with the monitoring of all pumpouts in the San Francisco Bay/Delta Region and the development of a mobile app for boaters and marinas to report non-working pumpouts. In addition, we will also be scoping out a pilot program to get public funding for mobile pumpouts throughout the Oakland Estuary with the goal of implementing successful programs throughout the bay.

It is our goal that through public outreach, resource development, pumpout monitoring, and a publicly funded mobile pumpout program down the road, that we can curb the sewage discharge and make a real difference to aquatic ecosystem health throughout the San Francisco Bay and Sacramento Delta.

To order the San Francisco Bay and Delta Clean Boating Guides contact James Muller at (510) 622-2406 or [James.Muller@waterboards.ca.gov](mailto:James.Muller@waterboards.ca.gov)

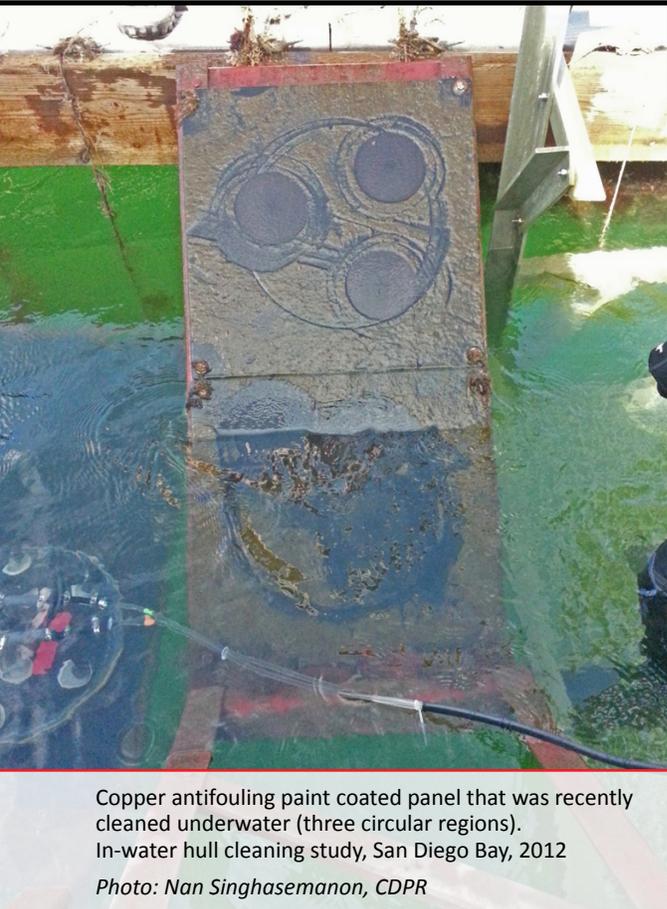


Sewage pumpout station.  
Photo: Vivian Matuk (DBW/CCC)

To check your nearest pumpout facility visit: [www.dbw.parks.ca.gov/pumpouts](http://www.dbw.parks.ca.gov/pumpouts)

## The Future of Hull Fouling Management in California

Continued from front page.



Copper antifouling paint coated panel that was recently cleaned underwater (three circular regions).  
In-water hull cleaning study, San Diego Bay, 2012

Photo: Nan Singhasemanon, CDPD

If you are considering a new paint, a list of currently registered copper paints, categorized by their leach rate, is available on the [DPR website](#). This list should immediately aid you in choosing an appropriate low leaching copper paint for your boats (Note: your local boatyards or paint retailers may not carry some of these products). Although many low leaching copper paints are available, keep in mind that non-copper paints are becoming feasible substitutes. The [Port of San Diego](#)'s website has resources to inform boaters of alternative non-copper paints, their associated costs and required maintenance. Future testing of new products should reveal even more alternatives.

With time, proper paint selection paired with proper cleaning practices will diminish the impact of copper on California's marinas. Remember - the choices you make today as individuals have very real future implications on our environment.

The Changing Tide newsletter is a great resource for you to get California's latest clean boating information. Help to reduce our carbon footprint and the amount of trash added to the waste stream by going paperless.



To go paperless, contact Victoria Gambale at

[vgambale@santamonibay.org](mailto:vgambale@santamonibay.org) or 213-620-2271

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### Southern California Chapter

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