



Newport Bay Copper Reduction Project

Newport Bay Copper Reduction Project

Draft Final Report



March 2013

by Orange County Coastkeeper

and

Linda M. Candelaria, PhD

for the

Santa Ana Regional Water Quality Control Board



Newport Bay Copper Reduction Project

EXECUTIVE SUMMARY

- **Background:**

In 2002 the USEPA promulgated a toxics TMDL for San Diego Creek and Newport Bay. As detailed in that TMDL, copper concentrations in Newport Bay were found to exceed USEPA criteria and according to the USEPA, over fifty thousand pounds of copper is released from boat bottom paint into Newport Bay each year. In 2006, Orange County Coastkeeper began a study to investigate the contribution of copper from copper based boat paints to the water and sediment in the marinas of Lower Newport Bay. This study was designed to find out what happens to that copper once it is released into the marina. The study found that copper concentrations in the bay continue to exceed USEPA Criteria and that concentrations in marinas are higher in the marinas than in the channel. Following up on these studies the Newport Bay Copper Reduction Program was begun in 2009 to document the reduction on

- **Why is this research important?**

The State Board Copper Antifouling Paint Workgroup is currently investigating the contribution of copper from antifouling boat paints to marinas, as are other regional water boards and local agencies. This study provides useful data to the Santa Ana Regional Water Quality Control Board and state workgroup to help facilitate the development of the Metals TMDL for Lower Newport Bay. Coastkeeper conducted this study under a contract from the city of Newport Beach, with funding provided by the Santa Ana Regional Control Board. The toxicity testing was funded by the California EPA Department of Pesticide Regulation.

- **How we did it:**

Water and sediment samples were collected from 8 marinas and the adjacent channels in the Lower Newport Bay, and analyzed for copper and other metals such as nickel, chromium, lead, arsenic, nickel, tin, cadmium, and zinc. The resulting data shows us the presence of copper and other metals in water and sediment, and concentrations in marinas compared to channel sites. This water and sediment quality data was critical to determining if copper boat paints are a significant source of contamination in Lower Newport Bay.

- **What measurable outcomes did you establish for this project?**
- **What indicators did you use to measure performance?**
- **To what extent did your project achieve the outcomes?**
- **What, if any, challenges did you face during the project and what actions did you take to address these challenges?**
- **What impact do you think this project has had to date?**
- **What are the lessons you learned from undertaking this project?**
- **What will happen to the project after this grant has ended? Will project activities be sustained? Will project activities be replicated? If the project will be sustained or replicated what other funding sources will allow this to occur?**
- **Please note your significant partners in this project and if/how you will continue to work on this activity.**
- **Over the entire project period, what were the key publications and communications activities? How were they disseminated or communicated?** (Products and communications activities may include articles, issue briefs, fact sheets, newsletters, survey instruments, sponsored conferences and workshops, websites, audiovisuals, and other informational resources.)



Newport Bay Copper Reduction Project



Newport Bay Copper Reduction Project

Project Map

Newport Bay Copper Reduction Project Sample Sites





Newport Bay Copper Reduction Project

Draft Project Report – Prepare and submit to the Grant Manager a draft Project Report for review and comment that includes and addresses the following narrative sections and items:

- a. A report of all monitoring and management practices or management measures implemented, including identification of the stream reach affected by these activities. The report shall be in a format that enables the Grant Manager to find the stream reach affected by practices in a quick and efficient manner.
- b. Describe Project performance, including benefits, successes and shortcomings, consistent with the PAEP. Enumerate specific quantifiable environmental changes and results of the Project. As appropriate, include 1) behavioral results such as the amount of management practices or measures implemented 2) estimates or measurements of the amount of pollutants prevented from reaching surface or ground water, 3) documented changes in water quality based on monitoring and 4) improved or protected beneficial uses.
- c. Identify lessons learned in carrying out the Project. Describe what worked and what did not work, and how similar efforts could be utilized within the Project area, as well as in other watersheds.
- d. Describe the extent of outreach that has been conducted and if there are plans to further promote the results of the Project to achieve additional implementation.

TASKS:

1. Balboa Yacht Basin Education/Incentive Program

- 1.1. Develop Education Materials: Newport Bay Copper Pollution
- 1.2. Develop Education Materials: Non-Toxic Boat Bottom Paint Options
- 1.3. Outreach in Balboa
 - a. Small group boater education program
 - b. One-on-One communication with stakeholders
 - c. Distribution of printed materials to all boat owners, marina offices and the Coastkeeper and City of Newport Beach websites.
 - d. Six to eight workshops at Balboa Yacht Basin to describe Incentive Program, and the need for non-toxic paint in Newport Bay
- 1.4. Develop and implement an Incentive Program
 - a. Use the Incentive Program to encourage the switch to non-toxic bottom paint
 - b. Work with stakeholders (City of NB, Coastal/Bay Water Quality Citizens Advisory Committee, Harbor Commission, City Council, boaters, and boatyard operators) to establish the details
 - c. Database survey to track the change-overs to non-toxic paints.

2. Bay Wide Education Program



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- 2.1. Develop Education Materials: Newport Bay Copper Pollution
- 2.2. Develop Education Materials: Non-Toxic Boat Bottom Paint Options
- 2.3. Outreach in Newport Bay
 - a. Ten Workshops throughout the harbor
 - b. One-on-One communication with stakeholders
 - c. Distribution of printed materials
 - d. Survey boat changeovers

3. Bay Wide Resolution (3)

- 3.1 Work with stakeholders to develop a Bay Wide Resolution to reduce the use of copper bottom paint, and policies to encourage boaters to switch to non-toxic bottom paints.

4. Work with boaters, boatyard operators, paint manufacturers, City of Newport Beach staff, and Trace Marine Services to identify economical and operational effective nontoxic bottom paint alternatives.

5. Water Monitoring

- 5.1. Procedure
- 5.2. Results
- e. Describe the Project's funding. Include the projected cost and actual cost of the Project, how much of the grant funds were spent, and how much funding was put into the Project from other sources. Identify funding sources that have been "leveraged" by the project and plans for funding future activities.
- f. Identify planned or potential follow-up activities.....
- g. Photos and graphics
- h. A list of items submitted as outlined in the Table of Items for Review
- i. Any additional information that is deemed appropriate by the Grant Manager.



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- c. Identify lessons learned in carrying out the Project. Describe what worked and what did not work, and how similar efforts could be utilized within the Project area, as well as in other watersheds.



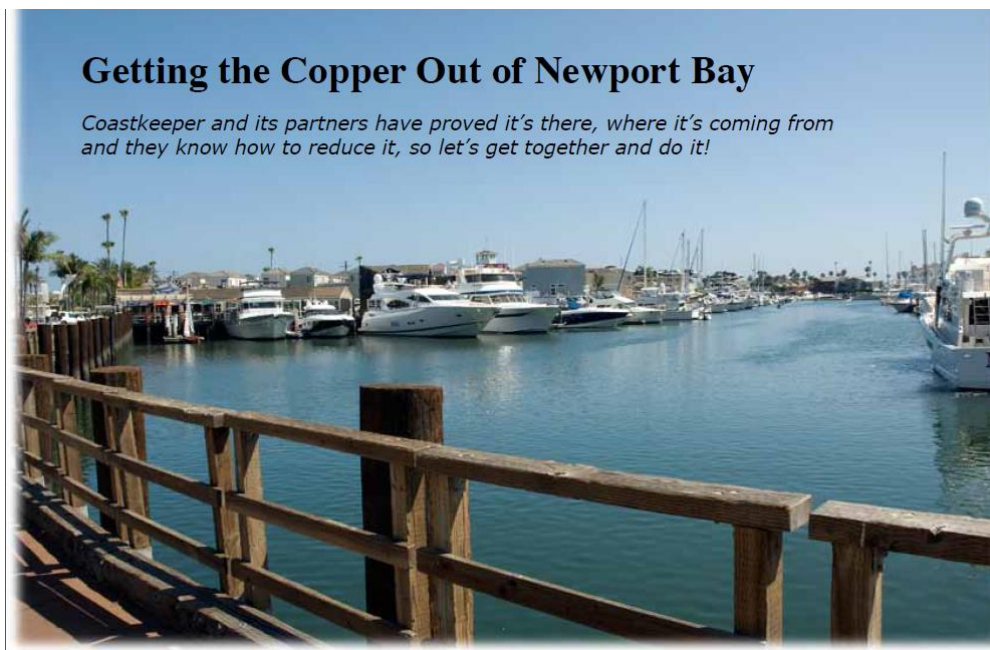
Newport Bay Copper Reduction Project

d. Describe the extent of outreach that has been conducted and if there are plans to further promote the results of the project to achieve additional implementation. (Maybe this should be written out rather than bulleted)

1. Balboa Yacht Basin Education/Incentive Program:

1.1. Develop Education Materials: Newport Bay Copper Pollution

- "Getting the Copper Out of Newport Bay" – Coastkeeper Magazine (1/4/10)
- "Newport Bay Copper Reduction Project" – Brochure (9/1/10)
- "Newport Bay Copper Reduction Project" -- PowerPoint
- "Alternatives to Copper" – flyer (9/1/10)
- "Biocide Basics" -- flyer (9/1/10)
- "Copper Reduction in Newport Bay Coastal/Bay Water Quality Committee Update" – PowerPoint presentation (3/1/12)
- Direct mailing four times w/magazine ??





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1.2 Develop Education Materials: Up-to-date information on all non-toxic boat bottom paint option

- “Alternatives to Copper” – flyer (9/1/10)
- “Biocide Basics” -- flyer (9/1/10)
- “Non-toxic paints eligible for the incentive program” -- flyer (12/31/10)
- “Copper Rebate Flyer” – flyer (9/1/10)
- “Coatings Eligible For Incentive Program” -- flyer (11/23/11)
- “Are you ready for new bottom paint? Don't miss out on a \$\$\$ INCENTIVE!” -- revised flyer : Non-biocide paints on the two boats in Balboa Yacht Basin that have changed over to non-biocide paint (9/27/11)
- “Boats with Non-biocide Paints in Balboa Yacht Basin”



Alternatives To Copper-Based Paints

As concerns continue to spread about the risks of elevated concentrations of copper in aquatic environments, water solutions are being explored and tested. Many are receiving strong reviews and support within the boating community. The following details a few alternatives that provide commercially available products that are copper free.

Zinc

Similar to copper in many ways, zinc paints contain many of the same qualities and characteristics as traditional copper paints. Biocidal biocides are often added to combat fouling growth. Concerns do exist about the potential toxic effects of increased zinc concentrations in aquatic environments. Zinc is an even heavier metal than copper and may be subject to future regulations.

Epoxy

A non-toxic option with excellent foul-release characteristics. Provides a slippery surface that allows growth to be easily cleared with proper cleaning habits. Frequency of cleaning does increase and application and maintenance costs are initially more expensive. Does not need to be reapplied as often as most savings are usually realized in the long-term.

Silicone





Slippery coating that can improve speed and reduce fuel consumption. Coatings generally damage more easily than other options. Frequent cleaning and maintenance are important for ensuring longevity of the product. Most fouling can be removed by spraying the vessel with high pressure. Available in various compositions including silicone-epoxy, silicone-urethane, and silicone. All have water-repellent properties.

For more information regarding the Newport Bay Copper Reduction Program, contact Ray Hiemstra at 714-850-1965 or ray@coastkeeper.org.

Funding for this project has been provided in full or in part through an agreement with the State Water Resources Control Board and the U.S. Environmental Protection Agency under the Federal National Sanitation Act (FNSA) Program (Clean Water Act Section 210). The contents of this document do not necessarily reflect the views and policies of the State Water Resources Control Board, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

Coatings Eligible For Incentive Program

A variety of hull coatings are available for boat owners. It is important for boaters to consult experienced professionals in order to select a paint that is most compatible for their specific boat type and usage. The following products are a list of available options but inclusion does not constitute a recommendation or endorsement.

	Intersleek 900: Fluoropolymer foul release coating designed for all vessel types operating above 10 knots. Smooth and slippery surface that prevents strong adhesion of fouling growth. Three part system containing an epoxy primer, a silicone flocast, and a silicone/fluoropolymer finish coating.
	Hempasil x3: Silicone foul release coating designed for vessels with service speeds above eight knots and with low to medium activity. Provides a smooth surface with special surface release properties to minimize fouling settlement. Three part system including an epoxy primer, a flocast and a high solids silicone topcoat.
	Klear N' Klean PETTIT Clear foul release coating for use on fiberglass, steel and aluminum boat hulls. Flexible, tough finish that minimizes soft and hard fouling attachment. Two part system consisting of an epoxy primer and a silicone topcoat.
	PCM Marine epaint Epoxy silicone foul release coating containing patented phase change materials designed to protect surfaces above and below the waterline. Slippery surface that minimizes and eases removal of fouling. One coating system formulated with 100% solids and no solvents.

Boats with Non Biocide Paints in Balboa Yacht Basin

The PiSeas II (right) was painted with Intersleek 900 in July of 2010. This non-biocide paint was the top performer out of all bottom paints, in the Port of San Diego 2008-2010 antifouling paint alternatives study, outperforming copper and zinc bottom paints. This paint improves sailing speeds and is still in "like new" condition after over a year in the water with a normal cleaning schedule. With this long lasting paint the boat may not need another bottom paint job for four years or more.

The Cleansweep (left) was painted with Hempasil X3 in July of 2011. This paint is has been used on commercial boats for many years and was the number two performer out of all paints in the Port of San Diego 2008-2010 antifouling paint alternatives study. This boat will see up to 9% better fuel efficiency and will not need bottom paint again for five years or more with a normal cleaning schedule.

For more information this opportunity to get a cash rebate contact Ray Hiemstra at Orange County Coastkeeper
Email: ray@coastkeeper.org Phone: (714)-850-1965
www.coastkeeper.org/coqpr



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1.3. Small Group/One-on-One Boater Education/Outreach Program

a. Small group boater education program:

- Three Presentation to *Clean Boater Network* (CBN) "Newport Bay Copper Reduction" Ray Hiemstra (2/4/11)
- Wrote letter inviting boaters to our outreach meeting (12/8/11) Dunes
- Bottom paint presentation
- Copper Project Presentation at Newport Dunes, February 24th

Newport Bay Boaters!



Learn about new, longer lasting boat bottom paints.

b. One-on-One communication with stakeholders

- At the suggestion of the city marina manager, I walked the docks of the Balboa yacht Basin marina rather than trying to hold meetings, talking to boaters one-on-one about the program. **I interacted with a total of nine boaters** all of whom were interested in the program. Boater contact should increase as spring and summer increases the number of boaters on the docks (3/31/10)
- At the suggestion of the Harbor Resources Department Manager, we have walked the docks and used the Coastkeeper boat to talk to BYB boaters rather than trying to hold meetings. **We interacted with a total of seventeen boaters** all of whom were interested in the program. (6/30/10)
- Walked the docs, and used the Coastkeeper boat to talk with boat owners (10/7/10)
- Met with Steve from Dana point shipyard (10/28/10)
- Walked docks for boats with bad paint 11/8/10)
- We have continued walking the docks and used the Coastkeeper boat to talk to BYB boaters. We were out on the dock for two days. (12/31/10)
- **I have been working individually with three boat owners** on changing over to non-biocide bottom paint. They are still deciding what to do. (6/30/11)





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- One of the three boaters I was working with previously is now in the process of changing over to non-biocide bottom paint. The others are still deciding what to do. **We talked to thirteen new boaters this quarter through dock walking. (9/30/11)**
- One of the three boaters I was working with previously is now in the process of changing over to non-biocide bottom paint. The others are still deciding what to do. **We talked to thirteen new boaters** this quarter through dock walking.
- In response to a direct mail letter **I was contacted by five boaters this quarter. I worked with each of them** and two have decided to convert to non-biocide bottom paint. One has already signed a contract for the work. (9/30/12)
- **Visiting Boatyard owners (January 2011):**
January 7th met with boatyard owners
 - Basin Marine
 - Larson's Shipyard
 - Balboa Shipyard
 - South Coast Shipyard
 - Dana Point Shipyard

Boatyard Owners

- Basin Marine
- Dana Point Shipyard
- South Coast Shipyard
- Bellport Shipyard
- Table at Dunes
- Twice Table at Basin Marine

c. Distribution of educational materials:

- Flyer box
- Letters:
 - We identified 30 boats with poor bottom paint that needs to be replaced and **developed a letter** that will be sent to the boat owners after the end of the year.
 - **We sent letters to the owners of 35 boats** we identified with poor bottom paint that needs to be replaced. We received one follow-up call-in response to the letters. (3/31/11)
 - **We sent out a direct mail letter to each boater in Balboa Yacht Basin and through that mailing I was contacted by four boaters (12/31/11)**
 - **We sent out a direct mail letter to each boater in Balboa Yacht Basin** and through that mailing I was contacted by eight boaters. Two have decided to convert and I am working with them on the process. I continue to work with the other six who are still deciding what to do.



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- Banner at Balboa
- Distribution to Marina Offices
- City of Newport Website.
- Orange County Coastkeeper Website: video and educational materials
- “Copper Resolution” -- City of Newport Beach ??
- Revised a flyer for distribution to boaters “Recent studies that have been done on non-biocide boat bottom paints on recreational boats” (3/31/12)
- Lower Newport Bay Copper/Metals Study



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Meetings ???

MEETINGS 1/1/2011 THROUGH 3/30/2011

- California Coastkeeper Alliance (on SB623) January 11th
- Basin Marine meeting, January 13th
- Newport Beach Coastal Bay Water Quality Committee Meeting, January 27th
- BYB water quality Monitoring, February 4th
- Meeting with NB Harbor Resources Dept., February 5th
- Copper Project meeting with Newport Beach City Staff, March 9th
- Statewide Marina/Antifouling Workgroup, March 14th
- Meeting with Regional Board Staff, March 24th
- Meeting with NB Water quality staff to begin copper video/Tweets/Facebook outreach, March 29th
- Meeting with NB Harbor Resources Dept. on Copper Project banner design

Meetings 7/1/2011 through 9/30/2011

- Port of San Diego Community outreach meeting (on SB623)
- Newport Beach Coastal/Bay Water Quality Committee (on SB623)
- Interagency Antifouling Workgroup
- City of Dana Point Staff (on SB 623)
- City of Newport Beach staff (on SB623)
- County of Orange staff (on SB623)
- City of Huntington Beach (on SB623)
- State Senator Tom Harman staff (on SB623)
- Assembly Member Jim Silva staff (on SB623)
- State Senator Mimi Walters staff (on SB623)
- San Diego Coastkeeper (on SB623)



Newport Bay Copper Reduction Project

1.4 Develop and implement an Incentive Program:

Stakeholders

Input and meetings: (Ray will summarize)

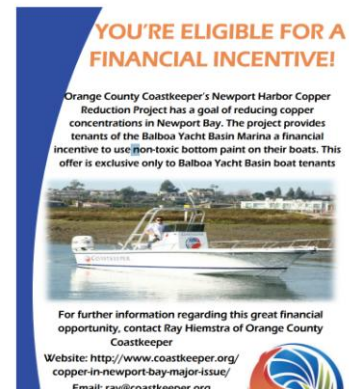
Media:

Copper in the News:

- “Eco-Friendly Hull Paint Funds Set to Expire Soon” – *The Log*, September 24, 2012
- “Newport Bay Copper Reduction Program Offers Boater Incentives”- *The Log*, July 9, 2010
- “Push for ‘green’ paint”- *The Daily Pilot*, June 18, 2010
- “Newport Beach boaters are urged to abandon copper-based paints” – *The LA Times*, May 1, 2008
- “Study: Paint in bay toxic” – *The Daily Pilot*, May 2, 2008
- “Campaign aims to decrease copper paint use” – *OC Register*, April 30, 2008
- Coastkeeper Press Release – September 12, 2012 “Last chance for boater incentive program...Coastkeeper’s Copper Reduction Program expires at the end of this year”
- Coastkeeper Press Release - April 25, 2008

Video

- Video on cable T.V. and City of Newport website



Tweets

- Have a boat in Balboa Yacht Basin #Newport Beach? Learn how you can get free money to change your hull paint! <http://ow.ly/ep8Q5> #rebates
- @NewportBeach Attn boaters: Go copper-free with your hull paint, get money back courtesy of OC Coastkeeper. ow.ly/dZi5U
- @newportbeachgov Boaters, ask for Ray @ Coastkeeper & get cash back when you switch to copper-free hull paint ow.ly/dZhX5
- @NewportBeach Boaters! It's not too late to get cash back when you switch to long-lasting, copper-free hull paint! ow.ly/dZhNK
- @newportbeach Time is running out to get \$ back from Coastkeeper when you switch to long-lasting non-biocide hull paint ow.ly/dZa6d
- @NewportBeach Get high-performance, long-lasting, eco-friendly hull-paint, and Coastkeeper helps you pay for it! ow.ly/dZ9YR
- @newportbeachgov Boaters: Changing your hull paint soon? Go copper-free, and get \$\$ back courtesy of OC Coastkeeper. ow.ly/dZ9RY



Newport Bay Copper Reduction Project

- @newportbeach Hey boaters! It's not too late to get cash back from us for changing to an eco-friendly hull-paint! ow.ly/dZ9ET
- @newportbeachgov Hey boaters! It's not too late to ask us for a reimbursement on copper-free hull paint. Learn more: ow.ly/dO0DM
- @NewportBeach Boaters, it's not too late to ask us for a reimbursement on copper-free hull paint! Learn more: ow.ly/dO0yr
- Balboa Yacht Basin boat owners: it's not too late to ask us for a reimbursement on copper-free hull paint! Learn more: ow.ly/dO0J3
- @newportbeachgov Boaters: Get a \$\$ rebate from OC Coastkeeper for switching to copper-free hull paint! Learn more: ow.ly/dO0oZ
- @NewportBeach Hey boaters: Get a cash rebate from OC Coastkeeper for switching to copper-free hull paint! Learn more: ow.ly/dO0jY
- Balboa Yacht Basin boat owners can receive a rebate for their boat bottom paint! Learn more: ow.ly/dNVmj @newportbeachgov #boating
- @newportbeachgov Calling boaters: Get new non-biocide bottom paint & get cash back from us! Call 714.850.1965 ray@coastkeeper.org
- @NewportBeach Own a boat? Make it more eco-friendly with copper-free hull paint & get a \$ rebate! Call 714.850.1965 ray@coastkeeper.org
- @NewportBeach boat owners: we will help pay for you to switch to a non-biocide bottom paint. Email ray@coastkeeper.org to learn more!
- @newportbeachgov Hey boaters! Keep the water clean with copper-free hull paint & get a \$\$ rebate. Call 714.850.1965 ray@coastkeeper.org
- BYB boaters we have financial assistance for non-biocide bottom paint. Call 714.850.1965 @newportbeachgov @NewportBeach ow.ly/dH3eN
- #NewportBeach boaters keep copper out of our water w/ non-biocide bottom paint, we have \$\$\$ 4 U. Call 714.850.1965 ray@coastkeeper.org (Sept. 13)

Facebook Posts:

- Coastkeeper's Newport Bay Copper Reduction Program is featured in the latest issue of The Log. It discusses the basis and challenges this program has faced over the years. This is the last chance for Balboa Yacht Basin boaters to claim the available cash rebates to switch to a non-biocide bottom paint. Read the article here: <http://read.uberflip.com/i/84802> (Oct. 9)
- Yesterday morning we pulled a Newport Beach city boat out of Balboa Yacht Basin to evaluate the performance of the non-biocide paint that was applied to this vessel over 15 months ago. The paint was in great condition and you can see from this photo how slippery this paint is, which means organisms have a harder time attaching to the boat bottom. Learn more about our Copper Reduction Program here: <http://www.coastkeeper.org/copper/> (Sept. 26)
- Calling all Balboa Yacht Basin boaters in Newport Beach! We are entering into the final months of our Copper Reduction Program. There's a financial incentive available to assist with the cost of stripping the copper bottom paint off of your hull, and replacing it with a non-biocide alternative. 50,000 lbs of copper is deposited in Newport Bay each year, and has detrimental effects on marine life. Help protect our waters! [http://ow.ly/dH7WN](https://ow.ly/dH7WN) (Sept. 13)



Newport Bay Copper Reduction Project

2. Bay Wide Education Program:

2.1. Develop Education Materials: Newport Bay Copper Pollution

- “Getting the Copper Out of Newport Bay” – Coastkeeper Magazine (1/4/10)
- “Newport Bay Copper Reduction Project” – Brochure (9/1/10)
- “Newport Bay Copper Reduction Project” -- PowerPoint
- “Alternatives to Copper” – flyer (9/1/10)
- “Biocide Basics” -- flyer (9/1/10)
- “Copper in Newport Bay... What is going on?” – (6/29/11)
- “Copper Reduction in Newport Bay Coastal/Bay Water Quality Committee Update” – PowerPoint presentation (3/1/12)
- “Copper in Newport Bay... What is going on?” – (6/29/11)
- Direct mailing four times w/magazine ??
- Released our video on the copper project. (3/31/11)

2.2 Develop Education Materials: Up-to-date information on all non-toxic boat bottom paint option

- “Alternatives to Copper” – flyer (9/1/10)
- “Biocide Basics” -- flyer (9/1/10)
- “Boats with Non-biocide Paints in Balboa Yacht Basin”



Alternatives To Copper-Based Paints

As concerns continue to spread about the risks of elevated concentrations of copper in aquatic environments, safer options are being explored and tested. Many are receiving strong reviews and support within the boating community. The following details a few alternatives that provide commercially available products that are copper free.

Zinc

Similar to copper in many ways, zinc paints contain many of the same qualities and characteristics as traditional copper paints. Biocidal biocides are often added to combat fouling growth. Concerns do exist about the potential toxic effects of increased zinc concentrations in aquatic environments. Zinc is an even heavier metal than copper and may be subject to future regulations.

Epoxy

A non-toxic option with excellent fuel release characteristics. Provides a slippery surface that allows growth to be easily cleaned with proper cleaning habits. Frequency of cleanings does increase and application and maintenance costs are initially more expensive. There is no need to be resurfaced as often as cost savings are usually realized in the long term.

Silicone

Heavy coating that can improve vessel speed and reduce fuel consumption. Coatings generally damage more easily than other options. Proper cleaning and maintenance are important for ensuring longevity of the product. Most fouling can be removed by operating the vessel at high speeds. Available in various compositions including silicone rubber, silicone epoxy, and silicone. All have water-resistant properties.

For more information regarding the Newport Bay Copper Reduction Program, contact Ray Hiestra at 714-855-1965 or ray@coastkeeper.org.

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Newport Bay Copper Reduction Project

2.3 Educate boaters in workshops, on an individual basis, and by distribution materials

a. Workshops

- “Newport Bay Copper Reduction” Presentation at **Newport Dunes** marina. We sent out a letter to all eight hundred tenants and members/owners inviting them to the meeting to learn about the project. (2/5/10)
- Harbor wide **CBN** meeting was held at the Harbor Patrol office conference room. The Log newspaper and Dredging Today magazine printed announcements of the meeting. (12/8/10)
- Three presentations to **Clean Boater Network** (CBN)
 - “Newport Bay Copper Reduction” presentation at **CBN** (2/4/11)
 - “Copper in Newport Bay... What is going on?” presentation at **CBN** (6/29/11)
 - We held a Newport Bay **CBN** meeting in December. Despite direct outreach to all marine oriented businesses, a direct mail invitation to all Balboa Yacht Basin Marina tenants, and an email list of over fifty persons, attendance was not what we expected, but we were able to get our message out to those that attended. (12/8/11)
- “Copper Reduction in Newport Bay Coastal/Bay Water Quality Committee Update March 20” We met and presented at the **Coastal Bay Water Quality Committee** on March 8th to discuss the project Bottom paint presentation. (3/8/12)
- Copper Project Presentation at Newport Dunes, February 24th ?
- Participated in an **Anti-Fouling Paint Work Group** conference call. (3/9/12)
- **Newport Beach Tidelands Committee** (2/6/12)
- Presentation to the **Orange County Coastal Coalition** (1/26/12)
- I attended the **Newport Beach Coastal Bay Water Quality Committee** to hear and provide input to a presentation by Ken Schiff of SCCWRP on copper in Newport Bay. (6/14/12)
-

Newport Bay Boaters!



Learn about new, longer lasting boat bottom paints.

b. One-on-One

- I attended a total of thirteen meetings/ conference calls related to the copper project. This included meeting with researchers, other NGO's, city staff, local agencies, statewide workgroups, and elected officials staff. (9/30/10)
- Meeting of the Newport Bay Clean Boating Networking Conference was held. This quarterly conference draws boaters from throughout the bay. **I spoke on the Newport Bay Copper**



Newport Bay Copper Reduction Project

Reduction Project during the public comment period and handed out educational materials to everyone. (3/2/10)

- We contacted Newport Dunes marina and set up a public meeting for boaters on February 5th. We sent out a letter to all eight hundred tenants and members/owners inviting them to the meeting to learn about the project.
- Met with Newport Beach City staff on February 13th and came up with a list of ideas for additional boater outreach. (2/13/11)
- Participated in the March Statewide Marina/Anti-fouling workgroup conference call. (3/31/11)
- I attended a total of thirteen meetings/ conference calls related to the project. This included meetings with researchers; other NGO's, paint manufacturers, city staff and commissions, local agencies, statewide workgroups, the USEPA, and elected officials. I also hosted a Newport Bay Clean Boating Networking Meeting. (6/30/11)
- I attended a total of thirteen meetings/ conference calls related to the project. This included meetings with researchers; other NGO's, paint manufacturers, city staff and commissions, local agencies, statewide workgroups, the USEPA, and elected officials. I also hosted a Newport Bay Clean Boating Networking Meeting. (9/30/11)
- I met with the Harbor Resources manager on (2/9/12)
- We hosted one bay wide outreach event using an outdoor booth at Balboa Yacht Basin. We had good attendance and talked to nine people, including five boaters, two of which were planning to talk to their boatyard about changing over to non-biocide paint. One also provided information on 'persons to contact' regarding the project. (9/30/12)

b. Distribution of materials

- Copies of the flyers and emails sent announcing the two bay wide "Clean Boating Network Conference". (9/30/09)
- Meeting of the Newport Bay Clean Boating Networking Conference was held. This quarterly conference draws boaters from throughout the bay. I spoke on the Newport Bay Copper Reduction Project during the public comment period and **handed out educational materials** to everyone. (3/2/10)
- City of Newport Website.
- Orange County Coastkeeper Website: video and educational materials
- "Copper Resolution" -- City of Newport Beach ??
- Revised a flyer for distribution to boaters "Recent studies that have been done on non-biocide boat bottom paints on recreational boats" (3/31/12)
- Lower Newport Bay Copper/Metals Study



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3. Bay Wide Resolution

(Ray will summarize)?

3.1 Baywide Resolution with City of Newport Beach

- 9/30/09 Discussions with Newport city council members are in progress and draft resolution language will be completed soon.
- 12/31/09 Discussions with Newport city council members are in progress and draft resolution language has been submitted.
- 3/31/10 The draft Baywide City Resolution was discussed at the March Harbor/Coastal Water Quality Committee meeting. The Resolution language is being re-drafted by city staff and will be discussed again at the May committee meeting.
- 6/30/10 The baywide resolution is adopted.
- 9/30/10 The Newport Beach baywide resolution was adopted 7/12/2010. I am currently working with the cities of Huntington Beach, Dana Point, Newport Beach, and the County of Orange along with the other NGO's to support a proposed statewide legislation to ban copper bottom paints.
- 12/31/10 The Newport Beach baywide resolution was adopted 7/12/2010. I also met with City of Newport Beach staff to discuss options for outreach to boaters and potential city participation in that outreach.
- 3/31/11 The Newport Beach baywide resolution was adopted 7/12/2010. I also met with City of Newport Beach staff to discuss options for outreach to boaters and potential city participation in that outreach.
- 6/30/11 The Newport Beach baywide resolution was adopted 7/12/2010. I am currently working with the cities of Huntington Beach, Dana Point, Newport Beach, and the County of Orange along with the other NGO's to support a proposed statewide legislation to ban copper bottom paints.
- 9/30/11 The Newport Beach baywide resolution was adopted 7/12/2010. I am currently working with the cities of Huntington Beach, Dana Point, Newport Beach, and the County of Orange along with the other NGO's to support a proposed statewide legislation to ban copper bottom paints. This bill was sponsored by Senator Kehoe's office (San Diego) and is co-sponsored by San Diego Coastkeeper and the Port of San Diego.
- 12/31/11 The Newport Beach baywide resolution was adopted 7/12/2010. I am currently working with the cities of Huntington Beach, Dana Point, Newport Beach, and the County of Orange along with the other NGO's to support a proposed statewide legislation to ban copper bottom paints. This bill was sponsored by Senator Kehoe's office (San Diego) and is co-sponsored by San Diego Coastkeeper and the Port of San Diego.
- 3/31/12 The Newport Beach baywide resolution was adopted 7/12/2010. I am currently working with the cities of Huntington Beach, Dana Point, Newport Beach, and the County of Orange along with the other NGO's to support a proposed statewide legislation to ban copper bottom paints. This bill was sponsored by Senator Kehoe's office (San Diego) and is co-sponsored by San Diego



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- Coastkeeper and the Port of San Diego. I am also participating in a small group of stakeholders advising the Senator on revisions to the bill for 2012.
- 6/30/12 The Newport Beach baywide resolution was adopted 7/12/2010.
- 9/30/12 The Newport Beach baywide resolution was adopted 7/12/2010.

4. Work with Boatyards to Develop Nontoxic Paint Services

(Ray will summarize)

4.1 List of Non-Toxic Paint Alternatives, List of Boatyards, Paint Manufacturer Contacts and Results

- 9/30/09 Submitted, development will continue.
- 12/31/09 Submitted, development will continue.
- 3/31/10 An initial version of the non-toxic paint alternatives have been submitted, development will continue. This quarter I met with the owners of Basin Marine, Newport, and South Coast Shipyards and discussed the project and non-toxic paint options. The Newport and South Coast yards are ready and willing to apply non-toxic coatings at this time. Basin Marine is still unwilling to apply the coatings, so boaters are being referred to the South Coast and Newport shipyards for estimates. I also contacted the representatives for all five non-toxic bottom paints available for the program and brought them up to speed on the program and encouraged them to contact the Newport Shipyards to offer details about their coatings. All of them complied. I will continue to work with all shipyards and paint manufacturers to provide non-toxic and non-copper bottom paint services in Newport Beach.
- 6/30/10 A revised version of the non-toxic paint alternatives has been submitted, development will continue. This quarter I met with the owners of Basin Marine and South Coast Shipyards and discussed the project and non-toxic paint options. The Newport and South Coast yards are ready and willing to apply non-toxic coatings at this time. Basin Marine is still unwilling to apply the coatings, so boaters are being referred to the South Coast and Newport shipyards for estimates. I worked with the Interlux paint representative and a representative from the Llewellyn wholesale distributors company to assure Intersleek 900 non-toxic paint is available to all boatyards in the harbor. I will continue to work with all shipyards and paint manufacturers to provide non-toxic and non-copper paint services in Newport Bay.
- 9/30/10 This quarter I contacted the owners of Basin Marine, Bellport and South Coast Shipyards and discussed the project and non-toxic paint options. I have also been working with Katy Wolf of IRTA to identify new non-biocide paint options and work with shipyards to implement cost effective boat stripping methods and test new low cost non-biocide paint applications methods. I will continue to work with all shipyards and paint manufacturers to provide non-toxic and non-copper bottom paint services in Newport Bay.
- 12/31/10 A revised version of the non-toxic paint alternatives have been submitted, development will continue. This quarter I met with the owners of Balboa, Larsons, Basin Marine, Bellport, Dana Point and South Coast Shipyards and



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- discussed the project and non-toxic paint options. The Bellport, South Coast, Balboa and Larsons yards are willing to apply non-toxic coatings at this time – an increase from two to four shipyards. Basin Marine is still unwilling to apply the coatings, but is interested in the project and has submitted two paints to us for investigation for inclusion in the project. One of these paints, Crystal Marine Pro, has been approved for use in the project and we are working with Basin Marine to get them to agree to apply the paint on request by boaters. Boaters are being referred the Balboa, Larsons, South Coast, Dana Point and Newport shipyards for estimates. Additionally I met with Stan Stussman of Interlux paints, Harvey Wills of Petit Paints and Bill Kraus of CeramKote paints to discuss how to promote their non-biocide paints. I have also been working with Katy Wolf of IRTA to identify new non-biocide paint options and work with local boatyards to implement cost effective boat stripping methods to reduce bottom stripping costs. I will continue to work with all shipyards and paint manufacturers to provide non-toxic and non-copper bottom paint services in Newport Bay.
- 3/11/11 A revised version of the non-toxic paint alternatives has been submitted, development will continue. This quarter I met with the owners of Balboa, Larsons, Basin Marine, Dana Point, and South Coast Shipyards and discussed the project and non-toxic paint options. All boatyards are now willing to apply non biocide bottom paints but are not willing to promote them. I have also been working with Katy Wolf of IRTA to identify new non-biocide paint options and work with local boatyards to implement cost effective boat stripping methods to reduce bottom stripping costs. I will continue to work with all shipyards and paint manufacturers to provide non-toxic and non-copper bottom paint services in Newport Bay.
- 6/30/11 This quarter I contacted the owners of Balboa, Larsons, Basin Marine, Bellport and South Coast Shipyards and discussed the project and non-toxic paint options. I have also been working with Katy Wolf of IRTA to identify new non biocide paint options and work with shipyards to implement cost effective boat stripping methods and test new low cost non-biocide paint applications methods. I will continue to work with all shipyards and paint manufacturers to provide non-toxic and non-copper bottom paint services in Newport Bay.
- 9/30/11 This quarter I contacted the owners of Basin Marine, Bellport and South Coast Shipyards and discussed the project and non-toxic paint options. I have also been working with Katy Wolf of IRTA to identify new non-biocide paint options and work with shipyards to implement cost effective boat stripping methods and test new low cost non-biocide paint applications methods. I will continue to work with all shipyards and paint manufacturers to provide non-toxic and non-copper bottom paint services in Newport Bay.
- 12/31/11 This quarter I contacted all five boatyards in Newport Beach regarding the project. I also worked with Stan Stussman of Interlux Paints, South Coast Shipyard, and Katy Wolf of IRTA to assist a boater from the J moorings in Newport Bay to convert to a non-biocide bottom paint along with using an experimental sealer coat to allow the application of the non-biocide paint over copper paint. I will continue to work with all shipyards and paint manufacturers to provide non-toxic and non-copper bottom paint services in Newport Bay.



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- 3/31/12 This quarter I contacted one boatyard, Basin Marine in Newport Beach regarding the project. I also worked with Stan Stussman of Interlux Paints, and Katy Wolf of IRTA to assist a boater with an existing non-biocide bottom paint that was having problems and to assist a boater in Balboa Yacht Basin in deciding to convert to a non-biocide bottom paint using an experimental sealer coat to allow the application of the non-biocide paint over copper paint. I will continue to work with all shipyards and paint manufacturers to provide non-toxic and non-copper bottom paint services in Newport Bay.
- 6/30/12 This quarter I contacted one boatyard, Basin Marine in Newport Beach regarding the project. Katy Wolf of IRTA to document the performance of non-biocide paint we placed on the City of Newport Beach boat. I will continue to work with all shipyards and paint manufacturers to provide non-toxic and non-copper bottom paint services in Newport Bay.
- 9/30/12 This quarter I contacted one boatyard, Basin Marine in Newport Beach regarding the project. The boatyard is now recommending non-biocide bottom paints to boaters, who are interested, a change from their previous stance. On September 25th we hauled out the city of Newport Beach boat to inspect its non-biocide bottom paint after fifteen months of service. The paint was in excellent condition. A report is attached.