INTERAGENCY COORDINATING COMMITTEE (IACC)
JOINT MARINAS AND RECREATIONAL BOATING AND
ANTIFOULING STRATEGIES (AFS) WORKGROUP

MINUTES FOR THE SEPTEMBER 7, 2011 MEETING

SAVE THE DATE: The next in-person meeting is scheduled for:

Wednesday, December 7, 2011

Meeting Attendees: Steve Fagundes (State Water Resources Control Board); Nan Singhasemanon, Denise Alder & Carlos Guiterrez (Department of Pesticide Regulation); Sarah Sugar & Christopher Scianni (California State Lands Commission); Kathy O'Brien (Sun Harbor Marina); Tim Leathers (Clean Marina Program); Leigh Johnson & Michelle Lande (UC Cooperative Extension); Barbara Heinsch (California Recycles); Lisa Corvington (Department of Fish and Game); Mara Noelle & Kendall Webster (California Coastal Commission); Jonathan Thompson (USFWS); Dan Garza (Department of Toxic Substances Control)

WebEx Participants: Neal Blossom (American Chemet); Vivian Matuk (CCC/Department of Boating and Waterways); James Muller (San Francisco Estuary Project); Jim Haussener (California Marine Affairs & Navigation Conference); Virginia St. Jean (SF Department of Public Health); Jenny Newman (Los Angeles Regional Board); Michelle Bowman & Rolf Schottle (AMEC); Jack Peveler (Channel Island Harbor); Grace Lee (Santa Monica Bay Restoration Commission); Deborah Pennell (Shelter Island Marina); Ray Heimstra & Collin Kelly (Orange County Coast Keeper); John Kelly (International Paint); John Hopewell (American Coatings Association); Katy Wolf (Institute for Research and Technical Assistance); Randy Short (Marina Recreation Association); Linda Candelaria (Santa Ana Regional Board); Brad Oliver (Halfmoon Marina); Marie Hobson, Frank Szafranski (International Paint); Kelly Moran (TDC Environmental); Karen Holman & Michelle White (Port of San Diego); Elizabeth LaPorte (Michigan Clean Marina Program)

Marina IACC Meeting

1. Announcements and Updates

NOAA Marine Debris Art Project and Grants

The NOAA Marine Debris program offers several grant opportunities including Community-based Marine Debris Removal Grants, Fishing for Energy Small Grants, and Marine Debris Prevention and Outreach Partnership Grants. For more details go to http://marinedebris.noaa.gov/funding/welcome.html. For more information on NOAA's Marine Debris Program, visit http://marinedebris.noaa.gov/.

NOAA's Annual Keep the Sea Free of Debris Art Contest for students (Kindergarten – 8th Grade) opened on September 16 and closes on October 21. For details go to http://marinedebris.noaa.gov/outreach/artrules.html.

2007 - 2009 California Boater Survey Final Report - Vivian Matuk

The California Department of Boating and Waterways and California Coastal Commission's Boating Clean and Green Program (BCGP), the Santa Monica Bay Restoration Foundation and the Keep the Delta Clean Program (KDC) (collectively the Project Partners) recently released the 2007 - 2009 California Boater Survey Final Report.

This report presents findings of the boating education and outreach efforts conducted from 2007 to 2009 throughout California by the Project Partners. During this time period, Project Partners conducted a statewide survey of boaters about their attitudes, opinions and knowledge of various issues related to boating. A total of 5,735 surveys were administered.

The report provides a descriptive snapshot of boaters surveyed and may not reflect the population of California boaters as a whole. Due to the purpose of this study and the sampling methodology used, the analysis focuses primarily on motorized boaters.

This report would not have been possible without the generous support and assistance of volunteer Dockwalkers and many organizations throughout the State.

Funding for this report was provided by the State Water Resources Control Board, the California Department of Boating and Waterways, and a grant from the Clean Vessel Act Program.

The survey used in this study was developed in conjunction with the Public Research Institute at San Francisco State University (PRI), KDC and the BCGP's Technical Advisory Committee, which is comprised of members in marine industry, boating associations (Recreational Boaters of California and Pacific Inter Yacht Club Association), and five KDC pilot marina harbormasters (Sugar Barge Marina, Discovery Bay Yacht Harbor, Lauritzen Yacht Harbor, Lazy M Marina and Bethel Harbor).

The surveys included questions about types of boats owned, boating activities (e.g. fishing, skiing, leisure cruising, etc.), frequency and location of boat use, sewage disposal habits, oil changing and disposal habits, boating experience, sources of clean boating information and a number of other topics. To read the entire report visit: http://www.coastal.ca.gov/ccbn/materialsforeducators.html.

Examples of some findings include:

- AGE AND EXPERIENCE: About half (51 - 56 percent) of all boaters surveyed were age 50 or older and about three-quarters (73 - 77 percent) were age 42 or older. Only 3 - 5 percent of boaters were less than 26 years old. Over 80 percent had been boating at least 3 years and nearly three quarters (71 – 72 percent) had more than 5 years of experience. Less than 10 percent of those surveyed had less than a year of boating experience

- OIL LEAKS: Across all boaters surveyed, 96 - 97 percent said their boat leaks oil most of the time or every time they go out on California waters, while only 2 percent said it rarely or never leaks oil. These findings support the continued need, and demonstrate the importance of, educational programs to target use of preventative engine maintenance and pollution prevention tools such as oil absorbents to reduce oil pollution.

- SEWAGE PUMPOUTS AND OBSTACLES: Across all boaters surveyed with onboard toilets, a little over one-third (38 – 39 percent) used sewage pumpouts more than 10 times a year or every time they go out and a little less than a third (30 – 32 percent) used them 1 – 5 times annually. The most common obstacle to pumpout usage encountered by all boaters was waiting in line more than 10 minutes, followed closely by broken pumpouts. Most of the boaters who used pumpouts where they launch (60 percent) had difficulty finding a pumpout while boating elsewhere. The majority of the respondents reported "never" having a problem (56 – 59 percent) finding a pumpout. Conversely, 40 percent of boaters still have difficulties finding a pumpout. Among those who boated on the Sacramento/San Joaquin Delta, Sacramento Basin residents said they encountered broken or closed pumpouts, had to wait more than 10 minutes, or couldn't find a pumpout more often than San Francisco Bay residents.

Department of Fish and Game Invasive Species Newsletter – Lisa Corvington

Lisa Corvington reported that this publication highlights Fish and Game's invasive species program, partner agencies, and related research. Lisa also announced an upcoming California Aquatic Invasive Species Team (CAIST) meeting – CAIST is responsible for some items on the Invasive Species Action Plan.

If you would like to receive the Eye On Invasives Newsletter, please email INVASIVES@dfg.ca.gov with the word 'subscribe' in the subject line to be added to the distribution list.

2. Presentations

Copies of the speaker's presentations are provided on the California Coastal Commission website.

Elizabeth LaPorte – Michigan Sea Grant - Michigan Clean Marina Program Online Classroom

This talk focused on the *Clean Marina Classroom*, an online training tool for marina operators developed by Michigan Sea Grant for the Michigan Clean Marina Program. To obtain the Clean Marina designation, every marina in Michigan must take this online course. The course includes ten modules, each of which is followed by a short self-evaluation. The Clean Marina Classroom is aligned with the certification checklist, which includes both mandatory practices and recommended best practices. The modules include photos and videos from certified Clean Marinas in Michigan.

- See the Michigan Clean Marina Checklist Form (PDF): http://www.miseagrant.umich.edu/downloads/cmp/10-719-Clean-Marina-checklist.pdf.

Tip sheets and how-to videos for marinas are available on the Michigan Sea Grant Clean Marina's program web site and YouTube channel http://www.youtube.com/michiganseagrant (search for Michigan Clean Marinas).

Michigan Clean Marina training/certification/recertification fees:
Training/Course Fee: $199 (regular fee)
Current Discounts:

- MBIA Member: $99
- Non-MBIA Member: $149

Site Visit Fees: $250 for the initial site visit. Recertification fee: $500 (both MBIA members and non-members)

Michigan Sea Grant initiated monofilament (partnership with Boat US) and shrink-wrap recycling (partnership with Mondo Polymers) programs. Approximately 30 monofilament bins have been distributed to marinas and other areas in Michigan.

- See Monofilament Recycling website: http://www.miseagrant.umich.edu/cmp/monofilament/
- See Shrink-wrap Recycling website: http://www.miseagrant.umich.edu/cmp/shrinkwrap.

Elizabeth is involved with a grant supported by the Great Lakes Restoration Initiative to work toward consistent best practices and certification standards in the Great Lakes region. The project is led by Michigan Sea Grant, and includes OH and WI Sea Grant. Other key partners include boating industry associations. Key collaborators include both regulatory and non-regulatory marina professionals. Videos and case studies from analysis should be completed this fall after input is collected from stakeholder groups.

Next Steps:

Part of the grant effort is to add more photos, videos and case studies from the Great Lakes region. The grant is supporting the addition of a new invasive species module. Also, there is interest in developing an energy conservation module. It was suggested that she look at the Bay Club and Green Business Challenge in San Diego.

Note: Photos of invasive species are available for public use through the Michigan Sea Grant web site

Invasive species resources

- Photos: http://www.miseagrant.umich.edu/photos/ais/index.html

Also see

- FLCKR: http://www.flickr.com/photos/43254442@N05/sets/72157622516441047/
- Fact sheets: http://www.miseagrant.umich.edu/publications/library/library-ais.html
- For other educational products / online bookstore: http://www.miseagrant.com/.

Chris Scianni – California State Lands Commission - Marine Invasive Species Program

Under the Marine Invasive Species Act, the CA State Lands Commission is charged with preventing invasive species introduced by vessels over 300 GRT (commercial sized ships). Chris' presentation highlighted his research to develop legislative (AS Bill 740) and regulatory controls for reducing the introduction of non-indigenous marine species.

Invasive species cost about $120 billion per year to the US in damage to property and through control programs. Shipping is the primary vector for the spread of marine invasive species through ballast water and vessel biofouling. In drafting biofouling regulations, the CA State Land Commission set three main priorities: 1) maintain consistency with international partners (International Maritime Organization), 2) address 'niche areas' while maintaining acceptable levels of biofouling for vessels, and 3) address high risk vessels, which move slowly or sit for a long time in one place.

America's Cup 34 Invasive Species Task Force was created to create recommendations for reducing the impact of invasive species from spectator vessels at the Americas Cup.

Sarah Sugar – California State Lands Commission - CSLC Marine Leases: An Introduction

The CSLC is primarily a land management agency headed by Commissioners Gavin Newsom (Lieutenant Governor), John Chiang (State Controller) and Ana Matosantos (Director of Finance), managing, among other lands, the beds of 1) more than 120 rivers, streams and sloughs; 2) nearly 40 non-tidal navigable lakes, such as Lake Tahoe and Clear Lake; 3) the tidal navigable bays and lagoons; and 4) the tide and submerged lands adjacent to the entire coast and offshore islands of the State from the mean high tide line to three nautical miles offshore. Public and private marinas located on ungranted lands must hold CSLC leases and adhere to environmental lease conditions imposed by the agency, which vary from lease to lease and have evolved over the years. CSLC has also developed standard environmental compliance measures, which include BMPs for marinas, and participates as a responsible agency in the CEQA review of new or modified marinas on State lands. These lease conditions, such as the BMPs, are contractually required but, because of limited staffing, sometimes effectively self-enforced by lessees; challenges to ensuring that lessees operations meet acceptable environmental standards include limited enforcement staffing and the length of each lease term (longer lease = longer period of potentially antiquated environmental lease conditions).

As an example, in its re-lease negotiations in 1998, the CSLC and Lawson's Landing in Tomales Bay negotiated a ban on the sale of prepared foods in Styrofoam. The CSLC is also currently developing a vessel management plan with NOAA in Tomales Bay to manage moorings in the area and work on water quality.

Jonathon Thompson – Fish and Wildlife Service - Aquatic Invasive Species Program

The Fish and Wildlife Service has two programs to prevent, manage and control invasive species. The first is the Aquatic Invasive Species (AIS) Program, which was developed under the National Invasive Species Act. The AIS Program encompasses a Fisheries Program and focuses on the nationwide Aquatic Nuisance Species Task Force, anstaskforce.gov, a collaboration between California, Nevada and the Klamath Basin. The second program is the CalFed Bay Delta Non-Native Invasive Species (NIS) program.

The Fish and Wildlife Service's goal is to find new introductions, reduce their effects and eliminate them. They provide education and outreach, technical support in developing rapid response programs, trainings, early detection and monitoring, management and control and research.

Their education program includes Stop Aquatic Hitchhikers, www.protectyourwaters.net, Habitattitude (to prevent pet owners from releasing unwanted pets into the wild) http://www.habitattitude.net/; 100th Meridian, and Don't Move a Mussel www.100thmeridian.org. Their training programs include early detection and monitoring for Quagga Zebra Mussels and watercraft inspection. They are researching a variety of invasive species including Quagga Zebra Mussels, New

Zealand Mudsnail, and Chinese Mitten Crab and methods for detection including environmental DNA or E-DNA.

AFS Meeting

1. Announcement (Nan Singhasemanon (Dept. of Pesticide Regulation)

Nan spoke on a radio show on the broad topic of California antifouling paint issues in July with ProBoat Radio: http://www.blogtalkradio.com/proboatradio/2011/07/19/copper-bottom-paint-regulations-and-alternatives. The paint industry's perspectives in a previous show can be heard at http://www.blogtalkradio.com/proboatradio/2011/05/17/marine-antifoulant-coatings. Try downloading the file if clicking directly on the embedded media player does not work.

2. CA Senate Bill 623 – *Michelle White (Port of San Diego) and Nan S. (DPR)*

Nan and Michelle provided an update on this bill that would regulate the use of copper hull paints on recreational boats. As currently written, the bill would require the Department of Pesticide Regulation, by January 1, 2014, to determine the maximum allowable leach rate for low-leach rate copper antifouling paints. By January 1, 2015, the bill would prohibit the selling of boats with copper antifouling paint and require the application of low-leach copper antifouling paint on recreational vessels. The bill also includes language that the State Water Resources Control Board will make a determination by January 1, 2019 as to whether or not water quality objectives will be met. If water quality objectives will be met, the use of low-leach copper antifouling paints will be continued. If water quality objectives will not be met, the use of application of biocide-containing antifouling paints will be prohibited after January 1, 2020.

The Port of San Diego and San Diego Coastkeeper are co-sponsors the Bill. The Port decided to become a co-sponsor of SB 623 in order to fully engage with stakeholders and work toward solving water quality problems in San Diego Bay. The Port of San Diego wanted to improve water quality and achieve TMDL targets, while incorporating stakeholder input. The Port of San Diego and San Diego Coastkeeper have been soliciting input from a variety of stakeholders and sponsored a stakeholder forum in July. Stakeholders responses included: concerns that additional information regarding the cost of alternative paints is needed, concerns that water quality improvements will not be seen, additional resources and incentives are needed to help boaters transition to new paints, and that infrastructure is needed at boatyards for application of new paints, and education is needed to grow awareness around these issues.

In early August, Senator Kehoe decided to make CA SB 623 a two-year bill. In becoming a two year bill, SB 623 will be held in Assembly Appropriations, allowing additional time to resolve outstanding stakeholder concerns. Deliberations will resume in early 2012. In the meantime, the Port of San Diego will continue stakeholder outreach and plans to hold another stakeholder forum in early November or December.

3. DPR Reevaluation Update – *Denise Alder (DPR)*

Denise stated that registrants had asked for a 4-month extension to complete data submittal and it was granted by DPR. Leach rates were now being determined using the ISO modeling method. Based on the data submitted so far, DPR found that most of the paints sold in California are generally epoxy ester (hard) and ablative (soft) paints. John Kelly (IP) gave brief descriptions of the paint types.

Deborah Pannell (Shelter Island Marina) asked about contributions of copper from underwater hull cleaning activities. Nan responded that DPR added a contribution study to the data requirement. In fact, the extension requested was so that registrants could get together and develop a study protocol. Nan added that, as part of the reevaluation, the contribution study is pivotal in determining if management practices should focus on passive leaching, hull cleaning, or both.

4. Presentation: Copper Tolerance of Hull Fouling Organisms – *Leigh Johnson and Michelle Lande (UC Cooperative Extension)*

Nan opened this segment with a statement that much of what is being presented is copyrighted information so she asked that the WebEx presentation, in whole or in part, not be copied or shared. The handout titled, "Hull Fouling and Copper Tolerance – 2011 Scientific Review", on the other hand, can be freely shared.

This emerging scientific field has discovered that most copper tolerant species are not native, but that some native species can also tolerate copper. Invasive species are particularly hearty and can tolerate poisons while native species are less hearty and, therefore, less tolerant of poisons. So, there is a good chance that the fouling currently on most boat hulls in California contains an invasive species.

There are two approaches for determining copper tolerance: (1) test whether the species can survive on a copper surface; and (2) test whether the species can survive in copper polluted waters.

Michelle reported research highlights for both approaches. For the first approach she presented two studies. The first study conducted by an Australian research team examined a bryozoan species, *Watersipora subtorquata*. The team found that this species covered 64% of copper painted surfaces and that copper sensitive species grew on top of the Watersipora. The second study was also conducted by a research team in Australia, which examined copper painted panels in a recreational and a commercial harbor. This study found that after 5 to 10 months, non-native species were up to 60% more prevalent in both harbors.

The research highlights for the second approach were presented in three studies. The first study was conducted by a team in San Francisco. This team used panels to grow organisms in the Bay; the panels were then submerged in copper-polluted buckets of

water and then returned to the Bay to allow new fouling species to form. The first study concluded that exotic species density does not change much with increased copper concentrations. The second study was conducted by a research team in Australia that tested the ability of 4 invasive bryozoans to attach after 24 hours and survive for 5 to 20 days in copper solutions of 0, 10, 50 and 100 ppb. This team found that *Bugula neritina* and Watersipora are the most resistant to copper. These species may be able to shut down or go dormant in unfavorable conditions, but then recover and grow. The third study was also conducted by an Australian research team that looked at two populations – one from a polluted harbor and one from an unpolluted harbor. Both populations were subjected to copper, but the population that originated from the polluted harbor fared better than the population from the unpolluted harbor when it was returned to polluted conditions.

Michelle and Leigh concluded that their research demonstrated the following: tolerant species can grow directly on copper antifouling surfaces, tolerant species may provide nontoxic refuge for other fouling species, and tolerance is more of an advantage in disturbed environments and clean environments may serve as a buffer to invasion. The presenters noted that a fact sheet is available on the UC Cooperative Extension website: http://ucanr.org/sites/coast/Nontoxic_Antifouling_Strategies/

Neal Blossom commented that tolerance to any biocide is inevitable. Any invasive species on vectors of transport is going to be a robust species and boaters should use a variety of antifouling options to prevent invasive species.

Kelly Moran mentioned that the aquatic communities may also be exposed to pulses of very high copper concentrations during storm runoff periods.

Christopher Scianni commented that these organisms do not thrive on copper, but just happen to do better when compared to other organisms.

5. U.S. EPA/DTSC Alternative Coatings Project Update – *Katy Wolf (Institute for Research and Technical Assistance - IRTA)*

Katy announced that an IRTA report on this project will be completed in a couple of months.

Katy revisited the two major conclusions from the Port of San Diego Study: (1) non-biocide coatings were found to be effective; and (2) these alternatives were cost effective when compared to the cost of copper paints over the life of the paint. However, boaters may object to alternative coatings because of the high upfront paint job cost. With that said, the goals of the DTSC study were to: (1) panel test additional emerging non-biocide paints; (2) research methods for increasing ease and reducing costs of applying paints; and (3) demonstrate new emerging paints and cost effective methods of applying them.

Katy's team achieved favorable results for several of the panel-tested new and emerging non-biocide paints. Katy reported that paint job costs increased by $2,500 to $3,000 when boatyards needed to strip the boat before coating was applied, the cost increased by $600 when the coating was sprayed on rather than rolled on. Media blasting with sodium bicarbonate, volcanic rock and dry ice preformed reasonably well and is comparable in cost to hand stripping and chemical stripping. Rolled-on non-biocide coatings performed well. Katy reported that a low-cost alternative may be applying a sealer over copper and then a coating of non-biocide paint over the sealer.

Some boatyards do not know that copper wastes generated from stripping are a hazardous waste, which can cost a sizable amount of money to dispose of. Recycling of this material by extracting copper metal from the waste stream can significantly reduce this cost.

More information is available on IRTA's website at www.irta.us and in IRTA's newsletter: http://www.irta.us/IRTA_newsletter.htm

6. Port of San Diego Projects Update – Karen Holman (Port of San Diego)

The Port of San Diego adopted in-water hull cleaning regulations in July to reduce or eliminate copper pollution caused by hull cleaning activities. This ordinance requires: (1) that any business conducting hull cleaning on port tidelands must obtain a port permit; and (2) the use of Best Management Practices for anyone doing in-water hull cleaning on recreational or commercial boats. Business must develop and turn in a BMP plan to show that their methods will not show a visible paint plume. For more information: www.sandiegobaycopperreduction.org

The Port received a $600,000 CWA Section 319(h) grant to reduce copper pollution. Boat owners will receive funding to remove copper paint and repaint with a non-biocide hull paint. The Port has contractual agreements with the local San Diego Bay boatyards to perform the work. These contracts were also approved by the Port's Board of Commissioners at their July meeting.

A media event was also held on August 6th to increase awareness of the program. So far, two boats are being converted. Furthermore, 30 boaters indicated that they are interested in the grant funding for hull paint conversions. The Port estimates that it will be subsidizing about $2,000-2,800 per boat. The Port will also be assessing the boating community to find out what boaters think about the program. For more information: www.sandiegobaycopperreduction.org

7. Marina-Industry Hull Cleaning Update - *Randy Short (Marina Recreation Association - MRA)*

The diver/bottom cleaning issue is the last component of a four-pronged approach and commitment to SWRCB to improve water quality: the first approach is making over 100 changes to the Clean Marina Program requested by the IACC; the second approach is to meet with DPR to encourage them to accelerate the reformulation of bottom paint; the third approach is boater education/outreach; the fourth approach is to improve on the process used by divers and boat owner relative to bottom cleaning.

The program developed in San Diego was the starting point of a larger initiative to make boaters and divers aware of the copper problem. The San Diego Port Tennants Assoc., using information supplied by one of the largest paint manufacturers, developed a sign that all marinas except one yacht club in San Diego have agreed to post.

The next step in the process is to get this program out to other harbors (some of those have already agreed to follow San Diego's model), to continue with this awareness program.

On a personal note Randy's own boat was not cleaned (except for non-painted metal parts) for 21 months and had virtually no noticeable loss of performance. This was the second such cycle attempted. The first was for 27 months with the same outcome.

8. Marine BLM, Low Leaching Cu AFPs, and Updates from Europe – *Neal Blossom (American Chemet)*

Neal's group is calling for a Biotic Liquid Model (BLM) update of the federal copper water quality criteria. Once that is successful, Neal would like to engage the Water Boards in adopting the more scientifically-updated approach as the means to calculate site-specific water quality standards. He also reported that copper bans have been lifted in Sweden and the Netherlands and leach rate restrictions are now being used in Denmark, Sweden and Canada.

9. Other Agency & Stakeholder Updates – *All*

Here's a brief update on the Department of Toxic Substances Control's Marine Vessel Service & Repair (MVSR) Project. Since we ran out of time before we were able to get this agency update item, Dan Garza from DTSC kindly provided this written update:

DTSC has been working with the MVSR project Technical Advisory Committee to develop "data sheets" or "fact sheets", which identify Recommended Practices for managing typical waste streams generated at boatyards. Along with the TAC, DTSC has also formed a Technical Review Committee (TRC) who will provide a second pair of eyes to review the "fact sheets" developed. The TRC is comprised of regulators, industry, non-governmental, academia, and trade association folks. Ten "fact sheets" will be developed which will cover the waste streams generated at boatyards. We have completed five draft fact sheets which will be sent to the TRC for their review in mid-September. These should be completed by November 2011. Once they have been reviewed by the TRC and the "fact sheet" is finalized; it will be submitted to our graphic

artist for final formatting and subsequent printing. If you have any questions please feel free to contact Suhasini Patel, Project Manager, spatel@dtsc.ca.gov, or Daniel Garza, dgarza1@dtsc.ca.gov

Adjourn.

Next meeting is Wednesday, December 7, 2011.