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

MINUTES FOR THE JUNE 8, 2011 MEETING

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

Wednesday, September 7, 2011

Meeting Attendees: Steve Fagundes and Melenee Emanuel (State Water Resources Control Board); Nan Singhasemanon, Denise Alder, Richard Spas, and Carlos Gutierrez (Department of Pesticide Regulation - DPR); Suhasini Patel (Department of Toxic Substances Control); Mara Noelle (CA Coastal Commission); Lisa Corvington (Department of Fish and Game), Heidi Sanborn (California Product Stewardship Council); Frank Winkleman (Petit Paint); Frank Szafranski (International Paint);

Phone In: Vivian Matuk (CCC/Department of Boating and Waterways); Collin Kelly (Orange County Coast Keeper); Chris Scianni and Sarah Sugar (State Lands Commission); Michelle Bowman (AMAC); Deborah Pennell (Shelter Island Marina), John Kelly (International Paint), David Elias (San Francisco Bay Regional Board) James Muller, (San Francisco Estuary Project), Grace Lee (Santa Monica Bay Restoration Commission); G. Fred Lee, Neal Parry (NOAA Marine Debris Program), Katy Wolf (IRTA); Paul Kaplan (KKMI); Karen Holman and Stephanie Bauer (Port of San Diego); Tom Nielsen (Nielsen Beaumont Boatyard); Al Pliodzinskas (Hemple (USA), Inc.); Ray Heimstra (Orange Co. Coastkeeper); Ignacio Riviera (U.S. Navy, SPAWAR); Rolf Schottle (AMEC); Dave Elias (San Francisco Bay RWQCB)

Marina IACC Meeting

1. Announcements and Updates

State Board Activities

Randy Yates retired; however, a new person has not been hired yet. In the interim, Melenee Emanuel is helping with the meeting logistics and WebEx program. The state board has a WebEx program which could be an option for use in future meetings. The toll free phone number associated with this program might be helpful since it is a long distance call for most folks.

Vivian Matuk – Flares Subcommittee -

Antonia Becker is preparing an issue paper for Department of Toxic Substances Control upper management regarding the expired marine flares disposal issue. The goal is to find convenient alternatives statewide and funding to properly dispose of expired marine flares in California.

2. Presentations

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

Frank Szafranski – International Paints

Interlux Paints has a Waterfront Challenge competition for groups who conduct waterfront improvement projects between March 1 and August 31, 2011. The projects must demonstrate sustainability. A total of fifty thousand dollars will be awarded as 7 regional grants of 4,500 each, and a grand prize of $20,000.

The supporting documentation of project implementation must be received by September 2. The judging will occur in October. Go to http://www.waterfrontchallenge.com/ for information or to register.

Neal Parry – National Oceanic and Atmospheric Administration (NOAA) Marine Debris Program

Nir Barnea, from NOAA's Marine Debris Program was originally scheduled to speak since he is responsible for the West Coast, but his schedule changed and Neal Parry, the Gulf of Mexico Marine Debris Coordinator, took his place. The Seymour Center at Long Marine Lab contributed slides for the presentation.

The talk focused on the impacts of marine debris. The majority of debris in the ocean comes from land: littering and poor waste management in many forms are major contributors, as well as the abundance of plastic products that do not readily degrade. Derelict fishing gear and litter dumped from vessels account for additional debris. Derelict fishing gear, such as nets and crab pots are especially harmful, as they continue to do what they are designed for - catch, entangle, and trap animals.

Both NOAA and EPA have important roles to play in addressing marine debris. EPA authority and focus is on land based debris, including solid waste reduction and prevention activities, while NOAA focuses on debris found in the ocean and addresses its negative impacts on the marine environment and commerce.

The role of ocean currents and winds on debris transport has been investigated for many years. A lost container of floating rubber ducks in 1992, and their dispersion over thousands of miles was investigated by a scientist who brought this phenomenon to the attention of the general public. Like rubber ducks, floating debris can travel long distances, impacting areas far from where it originated.

NOAA has been involved with marine debris for many years. In the 1980s' NOAA's focus was on wildlife entanglement in derelict nets. In 2005 the current program was established, and the Marine Debris Research, Prevention and Reduction Act serves as the program mandate to address marine debris. This nation-wide program is based in

Silver Spring, Maryland, has regional coordinators to coordinate activities around the country, and has funded and supported over 150 projects since its inception.

An important message is that marine debris is not just a problem in the U.S., debris is present on beaches worldwide, even remote places such as Antarctica. *One Ocean* is a concept NOAA is trying to communicate to the public. Research on debris dispersed in the water column focuses on impacts to wildlife, economy, tourism, and direct and indirect costs such as beach closures due to pollutants and beach clean-up events. An example is a lost "ghost" crab pot on the ocean floor that continues to fatally trap crab.

Micro plastics are classified as pieces less than 5 millimeters in size. These tiny pieces of plastic are found in oceans around the world, but many questions remain about the impacts to wildlife and humans.

One study has found that in California, 60% of injured pelicans brought to veterinary care are injured by derelict gear. Research from a submarine found the most of the debris in Monterey Bay is from recreational vessels. Fishing line recycling stations are helping, but they need to be maintained and cleaned to be effective.

Pollution prevention includes the control of plastic bags. Recycling is encouraged. A goal is to get young people engaged and be an example to the older folks. NOAA has resources available to the public on their website.

Heidi Sanborn – California Product Stewardship Council (CPSC)

Heidi has over twenty years experience with recycling and waste disposal issues, and working with local governments. Heidi is invited to speak all over the world about extended producer responsibility (EPR), and the CPSC.
California leads the nation in EPR.

The CPSC believes in cradle to cradle producer responsibility. This concept does not hurt businesses because the cost of end of life management of waste is internalized into product cost. Cities and counties adopt product responsibility because they bear the burden of the cost of disposal and recycling and are legally responsible to manage everything sold in the free market. The public doesn't even know what is in most of the products sold therefore, it is difficult and expensive to determine how to recycle it.

The CPSC has an awards program called the Arrow Awards
http://www.calpsc.org/awards/2011-winners.html for businesses in California demonstrating outstanding leadership, innovation and partnerships in product stewardship and green design. Now is the time for nominations.

It has been documented that there is a direct correlation between the drop in the economy and a decline in trash generation in the US. Packaging is only part of the solution. Product disposal bans don't work because the items are just disposed of in other ways.

Heidi provided examples of issues identified in California:

- There is no collection program for the mercury in light bulbs.

- Eighty percent of streams in the US have pharmaceutical products. Fish residing near wastewater treatment outfalls are 90% female.

- California has the first carpeting recycling program in the world.
- With six products under stewardship programs, California has made more product responsibility laws than any other state.

A recommended book on the subject is Cradle to Cradle written by coauthors William McDonough and Michael Braungart. A website dedicated to the concept is organized by the Cradle to Cradle Products Innovation Institute:
http://www.c2ccertified.org.

The issue needs government oversight to level the playing field. Canada will have 24 EPR products under stewardship programs by July 1, 2012.
Extended Producer Responsibility in short means "producer designed and financed systems".

The strategy is to have government set the standard but let the industry decide how to accomplish the goal.

AFS Meeting

1. CA Senate Bill 623 – *Nan Singhasemanon (DPR)*

Nan provided an update on California Senate Bill 623. He noted that the latest amendment that most folks may have seen is the one labeled April 25th. In this version, SB 623 prohibits the sale of any new recreational vessel containing antifouling paint that contains copper, after January 1, 2015. In addition, after January 1, 2019 the bill prohibits the use of antifouling paint containing copper on any recreational vessel. The DBW is currently named as the implementation agency and authorized to enforce provisions of the bill.

On May 19th, Sen. Kehoe's staff (led by Linda Barr) held a well-attended stakeholder meeting at the Capitol Building in Sacramento. All the potentially impacted parties were there. The meeting lasted for several hours, indicating that many issues still needed to be heard. Key areas of discussion were:

- Fiscal impact (particularly those to DBW)
- Possibility of leach rate limit & lower-leaching copper paint formulations
- Introduction of an "off ramp" if alternate mitigation via DPR reevaluation is successful (Registrants)

- Inclusion of diver certification requirement into the bill
- Inclusion of all recreational vessels and commercial vessels
- Exclusion of transient boats – large & small

Linda closed the meeting w/ her outlook that another amendment to the bill seems very likely and that there will be at least one more stakeholder meeting like this one in the future.

On June 1st, the Senate passed SB 623 on a party line 25-13 vote. The bill has proceeded to the Assembly.

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

Katy gave a detailed overview and a status update on a copper AFP alternatives project that she and IRTA have been involved in. The project's goal is to investigate methods of reducing the cost in applying promising coatings that could become viable alternative coatings to current copper-based ones. The project has been underway for about a year now.

Now that the Port of San Diego's alternative study has demonstrated that the cost of using alternative biocide-free paints is comparable to the cost of using copper paints over the lifespan of the paint (some biocide-free paints have a longer lifespan than copper paints), Katy believes that the next hurdle is to reduce the hull preparation and application cost for these emerging alternatives.

At the present, the cost of application is higher for the non-biocide paints because the boat hull has to first be stripped of existing copper paint and then the non-biocide paint must be sprayed on. Katy estimated that the need to strip the existing paint and spray on the biocide-free paint could add about $3,500 to the cost of converting a 30-foot boat. About $2,500 of this amount is for stripping and $1,000 is for the spraying. For comparison, copper paints are normally rolled over the previous copper coat.

Some of the tasks for this project include:

1) identifying and evaluating stripping techniques and methods (3 methods already under evaluation)
2) evaluate effectiveness of rolling versus spraying of biocide-free paints
3) explore boatyard copper recycling program
4) panel testing of emerging coatings
5) boat hull testing of emerging coatings
6) evaluate hull cleaning requirements of emerging coatings

Katy mentioned that IRTA is working with Ray Heimstra from the Orange County Coastkeeper to test two coatings on a City of Newport Beach boat. One half the boat is painted with Hempasil X3, which did well in the Port of San Diego alternatives study. A

new paint from Hempel called XA278 is painted on the half of the boat. Both of these coatings have been rolled on the hull rather than sprayed. XA278 is also concurrently undergoing panel testing.

IRTA is also testing alternative coatings on a number of boats in various coastal locations. In S.F. Bay, IRTA applied another emerging coating called XZM 480 (made by International Paint) on to a powerboat that is owned by the Port of S.F. Its hull was first stripped and the coating was rolled on. IRTA also painted two Department of Fish and Game boats (one in Alamitos Bay and the other in San Diego Bay) that are rigid inflatables with metal hulls. One has been painted with Fuji Hunt's Sher-Release paint system (new to the recreational boating market) and the other with an improved version of International Paint's XZM 480.

IRTA also painted a boat that is owned by Alex Halston of San Diego Diving Services with a biocide-free coating called BottomSpeed. On one half of the boat, the hull was stripped and the painted was sprayed on. Katy said that the results thus far was not that great. On the other half, BottomSpeed was rolled on over the existing copper coating. Bottomspeed is being tested on the entire boat hull on another boat (30-footer) in San Diego Bay. IRTA will have as many as 8 boats painted with biocide-free coatings and the project should wrap up by September or October 2011. Katy will update the workgroup on the results of all the boats being tested at future meetings.

Katy talked a bit about copper waste streams that are generated from boat hulls at boatyards. The 3 main sources are from:

1) dry sanding dust
2) waste from stripping with sodium bicarbonate blast media
3) clarifiers (with pressure washing waste).

Katy noted that the Port of San Diego's conversion project will generate a lot of waste copper, which could potentially be reclaimed. She did clarify that clarifier wastes may not have a high enough concentration of copper to be worth recycling.

Katy was asked a question regarding cleaning robots. Katy was not able to respond to this in detail, but Chris Scianni (SLC) said that there is a robot(s) being operated by BAE Systems in San Francisco to strip large commercial ships (e.g., cruise ships) in dry dock. The robot systematically blasts the ship hull with high pressure water at very close range. He added that he was not sure if this technology is that practical for smaller recreational boats.

A link to some pictures of this technology can be found at **http://news.cnet.com/2300-11394_3-6163970.html?tag=mncol;txt** [Nan.]

3. Discussion of Potential Northern California Copper AFP Alternative Study – *All*

This idea of a NorCal alternatives study has been introduced before in small circles for discussion. Nan wanted to explore it with the entire workgroup to see if this idea could

be pushed further along. What are the obstacles, and where are the promising leads? Nan explained that the goal of such a project would be to find coatings that work well up in the coastal waters of Central and Northern California and to evaluate newer coatings that have recently been formulated to panel and (potentially) hull tests.

Nan asked what work or serious discussions have taken place? Katy said that there have been sporadic attempts at collaboration in the San Francisco Bay Area. For example, she has pursued work with Hornblower in the Bay Area; however, the company ended up choosing a zinc biocide paint instead of a biocide-free one. Interests in non-copper biocide paint have dampened enthusiasm toward biocide free paint to some extent. Stephanie Bauer (Port of S.D.) added that Hornblower was particularly concerned with the cost to strip the existing copper paint and if a zinc paint was used, then stripping was not necessary. Someone added that Janssen Pharmaceuticals Inc. has been running some field tests on products with its new biocide tralopyril in the Bay Area and the results should be available near the end of 2011. Nan said that he was aware of this as the company has to obtain research authorization from DPR.

Nan asked whether the two major ports in the Bay Area could take the lead to conduct and/or fund a project on the scale of the Port of San Diego. Several participants thought that there is some interest there and that smaller pots of funding probably exist but the key was to have a single source of significant funds to make such a project happen. Nan suggested that the lack of a copper TMDL like that for Shelter Island Yacht Basin and the higher Bay Area site-specific water quality objectives for copper may have resulted in less pressure on Bay Area stakeholders to follow in the footsteps of those in San Diego.

Nan voiced that he is hopeful that a similar alternatives study is still possible to test coatings and hull fouling management strategies in the distinctively different coastal waters of central and northern California. Perhaps, it would be possible to fund and implement a streamlined project that is based on lessons that have been learned from the Port of San Diego's study. Such a project would cost less and be more feasible to conduct.

4. **DPR Reevaluation Update – *Richard Spas and Denise Alder (DPR)***

Nan mentioned that quite a bit has happened with reevaluation since the March AFS mtg. He then introduced Denise Alder and Richard Spas from DPR's Registration Branch. Denise explained that the reevaluation has expanded in that DPR sent a letter to registrants in late March to clarify the leaching data requirement and to ask for a protocol of a study to evaluate the contribution of underwater hull cleaning activities to dissolved copper concentrations in marina waters.

Clarification of leach data was necessary so that the most accurate and consistent set of leach rates under real world conditions could be used by DPR to evaluate each product. Leach rates could also be used to in modeling to help determine if specific

mitigation approaches would be effective. The underwater hull cleaning protocol is needed to help definitively determine the activity's relative importance of passive leaching. Any mitigation approach or action as a result of DPR's reevaluation would be very dependent on this finding. Denise mentioned that DPR is already getting some responses to the hull cleaning protocol requirements. The new data requirements are due to DPR sometime in late July 2011.

Denise added that about 90% of the copper AFP products can be classified as epoxy esters, while the remaining 10% are copolymer ablatives. The hard epoxy ester AFPs can have as much as 76% copper by weight and the soft copolymer ablative AFPs can have as much as 58% copper by weight.

Discussion followed regarding proposed mitigation approaches and the various impacts of the potential reformulation of copper products.

5. Underwater Hull Cleaning of Non-Copper AFPs – *Alex Halston (San Diego Diving Services)*

At the June meeting, Leigh Johnson and Carrie Culver talked to the workgroup about their study that looked at the effects of cleaning on fouling on several coating surfaces (including ceramic-epoxy & siliconized epoxy). In this meeting, Alex Halston talked about his experiences with cleaning some of the coatings that were evaluated in the Port of S.D. alternatives study and added to the collective understanding of how to maintain these emerging coatings.

Highlights:

- At this point in time, there are some decent choices of biocide free coatings to choose from.
- There has been some conditioning of hull cleaning approaches in the industry; however, divers must adapt their routines to properly clean and maintain emerging biocide-free coatings. The selection of the right tool and technique to do the job is critical with biocide-free coatings.
- Alex has worked on about a half dozen boats with biocide-free epoxy coatings. They are difficult to clean by hand and are easier to clean using a rotary cleaner, which can also be used on the propellers. Epoxy coatings are durable and, if properly maintained, can last 8 to 9 years.
- Silicone show excellent potential and are often more resilient than suggested. They are easy to maintain and tend to stick well to metal surfaces. Cleaning using a soft cloth is possible. International Paint has a good cleaning guide for its biocide-free product.
- Sometimes maintained coatings may not be visually appealing. Boaters who select the silicone coatings need to understand this. They should also expect to see a little bit of growth on this coating type.

6. Port of S.D. Divers Permit and Hull Conversion Project – *Karen Holman (Port of San Diego)*

The draft divers permit is expected to be out during the next few weeks. Then, a 30-day review period will be opened. The Port's Board of Commissioners will discuss the permit at a board meeting in July or August. There is likely going to be a 90-day grace period once the permit requirement has been approved until enforcement begins. Permits will be issued to businesses and they are responsible for issuing authorization cards to their employees. Underwater hull cleaning businesses need to submit the following to the Port in order to obtain a permit:
1) An application
2) An application fee
3) A BMP Plan
4) A proof of employee training
5) An insurance certificate

A list of Frequently-Asked-Questions with more details on the permit can be found at the URL: **http://www.portofsandiego.org/public-documents/doc_view/3474-in-water-hull-cleaning-permit-faq.html**

The Port is finishing its contract for the 319(h) grant (approximately for $600,000 from the SWRCB) project to convert boats painted with copper AFPs to biocide-free coatings. The contract will go in front of the Board for approval in July 2011.

7. Marine Vessel Service Repair Pollution Prevention Project - *Su Patel (DTSC)*

This is a DTSC project on source reduction of hazardous waste via pollution prevention education for the marine vessel service/repair industry (boatyards). The Project began in December 2010.

The project formed a technical advisory committee (TAC) that meets approximately every 3 weeks or so to discuss the activities at boatyards that generate waste and help come up with recommended practices for industry to reduce the amount of waste that is produced. The approach the TAC has taken has been to "follow the boat" from being taken out of the water and through the various services that it could receive at a boatyard facility. So far, the TAC has discussed lifting, washing, sanding, scraping and will soon be addressing hull preparation activities such as blasting and stripping. Copper and other AFP waste make up a part of the overall waste stream from boatyard facilities. Eventually, the aim of the project is to produce a tool kit and similar materials, which could be used as an educational resource to the industry. Su also mentioned that an issue paper on the project is being developed.

Adjourn.

Next meeting is Wednesday, September 7, 2011.