THE CHANGING TIDE
Spring 2011

Costs & Capacity to Control Invasive Fouling Species on California's Coast & Delta and Baja California

Fouling control is critical to maintain boat speeds, save fuel, and extend the life of hull coatings. Because aquatic invasive species are carried on recreational boat hulls, fouling control is also needed to reduce risks of spreading them to new areas. However, water quality agencies are concerned about effects on marine life caused by build-up in coastal marinas of copper leached from antifouling paints. Restrictions are being phased in for north San Diego Bay and bills to ban such paints were introduced to legislatures in California and Washington in early 2011. Many boat owners and boating businesses will likely need to consider both invasive species and water quality in choosing strategies to control fouling growth.

Boat on Lift in Slip at California Marina.

Photo by Scott Parker, UC Cooperative Extension
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UC Cooperative Extension Coastal Resources Advisor Leigh Johnson and UC Riverside Economics Professor Linda Fernandez wanted to learn what supplies and services are available to help boaters control invasive and other fouling species, while protecting water quality. They surveyed nearly 200: marinas, harbors, yacht clubs with slips, boat repair yards and hull cleaning companies on the coasts of California, the Sacramento-San Joaquin Delta, and Baja California; west coast slip liner companies; and U.S. boat lift companies. Although both are uncommon, slip liners are used more often in southern California and boat lifts are used more often in northern California.

Johnson and Fernandez found widespread capacity to apply and maintain copper antifouling paints but very little capacity for zinc antifouling paints, nontoxic epoxy hull coatings, and nontoxic slick hull coatings. Therefore, capacity for alternative hull coatings must be developed if restrictions on copper antifouling paints spread beyond north San Diego Bay.

Heaviest longer-distance boat traffic is both ways between southern California and Baja California; to San Francisco Bay from Central Coast and the Delta; and to Central Coast from North Coast. However, about half of boats rarely leave home. Boats that often travel longer distances pose a lower risk of leaching copper to marina waters and a higher risk for carrying invasive species, so they may be better candidates for copper paints. Risks are reversed for boats that rarely leave home waters, so they may be better candidates for nontoxic hull coatings combined with hull cleaning, a slip liner, or a boat lift.

Fact sheets, technical reports, a video-documentary, and the Boating Environmental Forum blog are available at http://ucanr.org/coast/.

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Calculations based on research by Environmental Defense Fund and other members of the Paper Task Force.

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A California Clean Boating Network Publication presented by the Santa Monica Bay Restoration Foundation, California Department of Boating and Waterways, California Coastal Commission, and the Keep the Delta Clean Program.

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Tide-Bit *DID YOU KNOW?*

A day of boating is the perfect way to escape the daily routine. But when it comes to daily boat maintenance, some things are just unavoidable...like cleaning the holding tank. Did you know, there are lot's of simple things you can do to keep the honey pot fresh and clean?

To avoid smelly sewage holding tanks, practice the following tips:

- Empty your holding tank on a regular basis. Full and overfull tanks are difficult and dangerous to drain. Keep a pumpout log on your boat to keep track of your holding tank capacity.
- Periodically rinse the entire system with water. Connect a hose to the deck fitting for the holding tank and fill the tank with fresh water. Use the pumpout to pump the water out. Repeat if neccessary.
- Use enzyme and bio-active treatments, when possible, as these are biodegradable and less toxic treatments.
- Before you add any holding tank treatment, use a vinegar solution, about once a month, immediately after a tank has been emptied. This solution will help to reduce scale buildup and it will keep the walls of the hose clean. Without buildup on the walls, hoses last much longer and are not so easily permeated by bad smells.
- Do not use treatments that contain any components that can be harmful to aquatic organisms. Avoid chemical treatments that contain chlorine compounds like sodium hypochlorite, formaldehyde, para-formaldehyde, ammonium compounds, bronopol, glutaraldehyde, para-dichlorobenzene, Dowicil, and other caustic chemicals.
- To clean the boat's head, use a mix of ½ cup borax per 1 gallon of water and sprinkle baking soda around the rim.
- Over time, the system hoses, made up of a rubbery material, start absorbing the sewage smell. Perform the following quick test:
  Use a rag with hot water and put it around the hoses for few minutes. Remove the rag and if the rag has a bad odor, like of sewage, the odor is permeating though the hose and it's time to change the hose.

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Southern California Chapter

bay restoration foundation
STEWARDS OF SANTA MONICA BAY

Southern California Marine Protected Areas Approved…

after years of public input

Photo by Lia Protopapadakis

On December 15, 2010, after 2.5 years of public input and debate, the California Fish and Game Commission approved regulations to create a network of Marine Protected Areas in southern California. The new regulations could take effect as early as this summer.

Marine protected areas are legally defined marine or estuarine areas designed to protect or conserve marine life and habitat. There are two types of marine protected areas currently included in the southern California network: State Marine Reserve (SMR) and State Marine Conservation Area (SMCA). Also included are two existing special closures in the northern Channel Islands.

Marine protected areas are not new to our coastline and several of these existing areas, including all of the northern Channel Island marine protected areas, remain in the new network. Other marine protected areas have been altered to be less confusing and better serve their purpose. Some have been removed altogether and new ones have been added.

Contributing writer: Lia Protopapadakis / Member, Regional Stakeholder Group and Marine Scientist, Santa Monica Bay Restoration Commission

What do marine protected areas mean to boaters?

- If you sail, pleasure cruise, or SCUBA dive from your boat and are not fishing, it doesn't change a thing. Anchoring, transiting and enjoying the wildlife viewing in these areas is allowed.
- If you just had a successful fishing trip at one of the many popular fishing spots unaffected by the new marine protected areas and want to transit or anchor in a marine protected area to enjoy the scenery while you eat your fresh ceviche, you are allowed to do that too…just make sure your fishing gear is stowed and you'll be within the law.
- If you do fish, you will need to learn where these areas are. Many SMCAs allow recreational fishing for pelagic fish with specified gear. While fishing is not allowed within SMRs, you may benefit from marine protected areas when you fish a nearby reef.

How can you stay informed?

- For updates on when the marine protected areas will take effect or to see maps, detailed coordinates, and the new regulations go to the Department of Fish and Game's website: www.dfg.ca.gov/mlpa.
- Tell your GPS manufacturer that you would like a base map on your GPS that includes California's new marine protected areas.
- Participate in state-sponsored surveys about your marine protected areas. This will improve outreach, enforcement, and adaptive management of these areas.

Terms to Know:

- **SMR:** Take of all marine resources is prohibited.
- **SMCA:** No take EXCEPT species expressly allowed with permitted gear. Exceptions vary.
- **Special Closure Zones:** No-go zone (bird nesting and/or marine mammal rookery).

See **www.dfg.ca.gov/mlpa** for area specific restrictions and exceptions.

Santa Barbara Harbor, Marina One Phase I Construction Complete

The Santa Barbara Waterfront has one of the oldest maritime histories in California. In 1867, John Peck Stearns built the oldest working wooden wharf to facilitate the transfer of cargo and people from ships to shore. In 1925, the State Lands Commission granted the City of Santa Barbara (City) tidelands and submerged lands located off the coast.

Two years later, Max Fleischmann and the City put up $200,000 a piece to build a detached breakwater creating Santa Barbara Harbor. Poorly understood coastal processes, such as longshore sediment transport, immediately began filling the harbor. In response, the City and Mr. Fleischmann worked together to extend the breakwater to the shore in 1930. Since then, the harbor has served the boating public.

With Santa Barbara's year round mild and sunny climate, the harbor quickly became a popular place to moor a boat. Moorings were gradually replaced with four marinas, beginning in the 1950s. The harbor is now home to over 1,100 vessels.

Marina One is the largest marina in the harbor and was last reconstructed in 1975, with a small extension completed in 1998. The slips constructed in 1975 have exceeded their useful life and it's time once again to rebuild the marina.

Since Marina One is relatively large as single access marinas go, reconstructing over 500 slips at one time was deemed infeasible. With the nearest harbor over 25 miles away displacing so many vessels at once would have created a logistical nightmare. Instead, the decision was made to replace Marina One in ten phases, while keeping the majority of the marina open the entire time. Each phase is scheduled to take a couple months at a time and the vessels displaced from the docks under construction can be reassigned to slips within Santa Barbara Harbor.

Funded in part by a generous loan from the Department of Boating and Waterways, construction of Phase One was completed in the spring of 2010. The main headwalk was replaced along with all the utilities. At 1,160 foot long and providing the only access to over 500 slips, replacing the main headwalk while keeping the marina open was a remarkable feat. The new docks were constructed alongside the old dock over the course of several weeks.

Slipholders quickly became used to stepping over temporary electrical cords and ramps but were never denied access to their boats. Removing the old dock and sliding the new 1,160 foot dock into place was a sight to behold. With plenty of advanced planning by Bellingham Marine Industries, the new docks slid into place without a hitch to the delight of the Marina One slipholders. It will take several years, but eventually Marina One will be completely reconstructed and continue to serve the Santa Barbara boating public for decades to come.

Marina One dock during construction
Photo by Theresa Lawler

Contributing writer: Karl Treiberg, Waterfront Facilities Manager

Santa Barbara Harbor offers the following environmental services: Five sewage pumpouts; one port-a-potti dump station, an oil absorbent exchange program and an oily bilge water pumpout. Three collection services areas are available for used oil, oil filters, used coolant, marine batteries and used zinc anodes. Trash and recycling receptacles are spread throughout the waterfront, and scrap fishing line receptacles are available on Stearns Wharf. For disposal of other hazardous materials, the Santa Barbara County operates a household hazardous waste collection center at UCSB. Since 2006, Santa Barbara Harbor has been designated as a California Clean Marina. The designation means that the harbor has demonstrated that they are encouraging boaters and employees to use best management practices to protect the environment and prevent or reduce pollution in California's waters

Save the Date!

May 22, 2011
1:00pm- 5:00pm

The King Harbor Yacht Club Sea Fair is a community-based event that promotes boating and safety. Attractions include a helicopter search and rescue demonstration by the US Coast Guard, sailboat rides, kids' activities, and much more. Join us for a fun day full of excitement! King Harbor Yacht Club is located at 280 Yacht Club Way in Redondo Beach. For more information contact Mark L. Hansen at marklhansen@aol.com.

Photo by 2nd Class Richard J. Brunson, U.S. Navy

California Delta Chapter

Developing a Delta Plan

The Delta Stewardship Council (Council) released the first draft of its' Delta Plan February 14 and the second draft March 18. The Council is an independent state agency created by California SBX7, and is tasked with developing a legally enforceable, comprehensive, long-term management plan for the Delta.

The 2012 Delta Plan will be the beginning of one of the largest water and ecosystem efforts in California's history. The goal is to put into place policies and regulations that will restore the estuary and ensure a more reliable water supply for the future of our state. One of the areas the plan is focusing heavily on is improved regional supplies, conservation and water use efficiency. If water use by Californians (including urban, residential, industrial, and agricultural) can be decreased, that will mean less stress put on the Delta.

Get Involved

At each stage of the development of the Delta Plan there will be an opportunity for public input at the Delta Stewardship Council meetings for the purpose of receiving information and comments and for council deliberation. In addition, public comments are welcome during the entire process and will become a formal part of the record.

The Delta Stewardship Council encourages written public comments to be submitted to: deltaplancomment@deltacouncil.ca.gov.

For more information and to see simulcast council meetings, visit www.deltacouncil.ca.gov.

Destination Series:

Sandy Beach County Park - *Family Fun on the Delta*

Photo by Chris Drake

Observed life jacket wear rates in the Visiting Sandy Beach County Park has been a tradition for water enthusiasts for more than 30 years. The park is located on the outskirts of Rio Vista giving its visitors immediate access to the Sacramento River Delta. A familiar hot spot during the summer, Sandy Beach seldom sees a warm weekend without families enjoying the beach, picnic areas or the campground.

Sandy Beach has a long history of being an excellent place to launch boats and personal watercraft. In the last couple of years, the park has seen a marked increase in personal water craft users. This popularity has led the park to host personal watercraft races with racers coming from as far as Utah to compete.

Sandy Beach was honored to receive the Best Campground in the Delta Award for 2009 due to the variety of services that it offers. All campground sites have potable water and 30 amp electrical connections to accommodate motor homes, trailers, as well as tent camping.

Photo by Chris Drake

As stewards of the land, Solano County Parks and Recreation has been looking at ways of spreading a healthy land/sea ethic. They have recently installed monofilament recycling stations, and cigarette butt collection bins in conjunction with the Keep the Delta Clean Program and the Department of Boating and Waterways. As devoted participants in the Coast and Creek Cleanup Day every September, Solano County Parks and Recreation were one of the first sites in Solano County to be a Zero Waste Site. At the park they have been working to remove the invasive plant Arundo from along the shore. Projects at the park currently being explored include the installation of a fish cleaning station, safety buoy markings with no wake zones, and an electric generating wind turbine.

Even in these uneasy economic times, Sandy Beach has continued to be a staple for recreation. Increasingly, people are looking for ways to maximize the value of their vacations. As people are finding that they may be limited by distance for their vacations they are looking for alternatives such as Sandy Beach County Park that are closer to home for their camping, fishing, boating and picnicking needs.

Visit Sandy Beach County Park at:
www.solanocounty.com/parks for more information

Contributing writer: Christopher Drake, Sandy Beach County Park, Park Ranger

Northern California Chapter

UPDATES FOR THE BOATING CLEAN AND GREEN PROGRAM WEBSITE

The statewide Boating Clean and Green Program updated its website with materials and resources that encourage clean and safe boating practices on California's waterways. Information for boaters includes: maps, pumpout stations, used oil collection centers, volunteer opportunities, how to properly dispose of an unwanted vessel, weather and tide information, and much more.

Marine businesses also benefit from this website. Resources include: funding opportunities, laws and regulations, clean marine business resources and abandoned vessel information. Another resource available to marine businesses is the *Annotated Catalog of Marina and Recreational Boater Pollution Educational Materials*. Resources contained in this catalog enhance clean marine business efforts. Some of these resources include:

- *Audiovisual*
- *booklets*
- *brochures*
- *fact sheets*
- *handbooks/manuals*
- *leaflets/mailers*
- *newsletters*
- *maps*
- *packets*
- *point of purchase display*
- *posters play*
- *stickers*
- *signs*
- *wallet cards*
- *tide tables*

The Department of Boating and Waterways and the California Coastal Commission invite you to explore the updated Boating Clean and Green Program website at www.dbw.ca.gov (click on the "Clean and Green" tab).

Thank you for keeping California's waterways safe and clean.

Become a Dockwalker

Help Keep California's Waterways Clean

Dockwalking in Mission Bay

The Department of Boating and Waterways and the California Coastal Commission's Boating Clean and Green Program invite boaters to become Dockwalkers. Training is free and Dockwalking is a fantastic way to interact with boaters to help keep California's marinas, waterways, and ocean clean and healthy.

"It is important for boaters to not only boat safely, but to also implement environmentally sound boating practices," stated Department of Boating and Waterways' Acting Director Lucia Becerra. "Safety and protecting the environment go hand in hand."

The Dockwalker Program educates boaters to be safe and environmentally sound while boating in California through its volunteer Dockwalkers. The volunteers are trained to conduct face-to-face boater education while visiting marinas, boat launch ramps, boat shows and events. Hours spent training or educating the public qualify as community service.

Boating facilities also benefit from the Dockwalker Program. Involvement in this program provides them with the educational information and tools to increase clean boating practices and minimize water quality impacts within their facilities.

Get involved! Check out the 2011 training schedule at www.dbw.ca.gov (click on "Clean & Green" tab, "Boating Clean and Green" and "Dockwalkers"). The program coordinator, Vivian Matuk, may also be contacted at vmatuk@coastal.ca.gov or (415) 904-6905.

Partnerships with the Santa Monica Bay Restoration Foundation, the Keep the Delta Clean Program, and many more organizations have made this program successful.

Did you know?

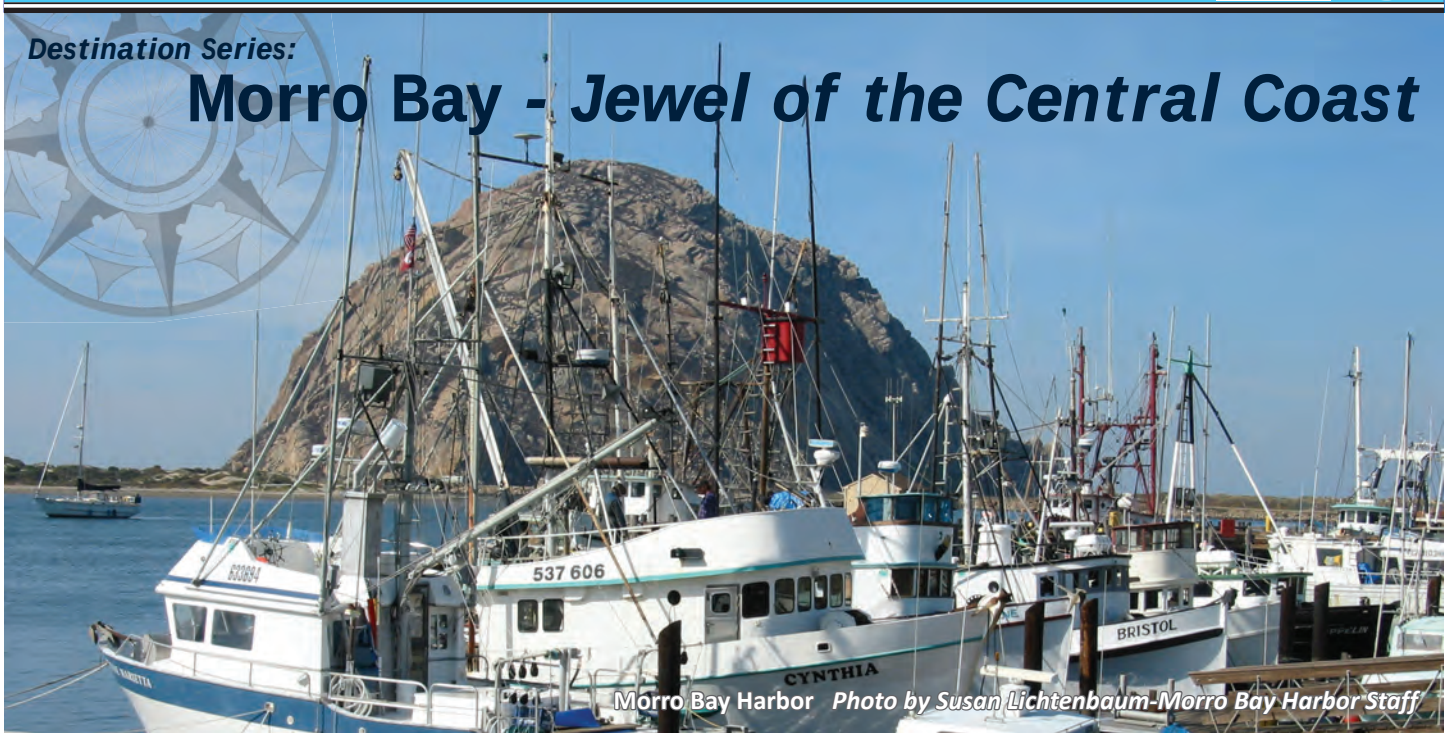
In 2008, the California Coastal Commission and the Department of Boating and Waterway's Boating Clean and Green Program, the BoatUS Foundation, and the Keep the Delta Clean Program installed 42 monofilament fishing line recycling stations throughout the state that have collected to date approximately 500 pounds of fishing line. Stretched out, this line would stretch from San Francisco, California to Aspen, Colorado!

For fishing line recycling stations in California visit: www.coastal.ca.gov/ccbn/MonofilamentCard.pdf#page=2

Northern California Chapter

Destination Series:

Morro Bay - *Jewel of the Central Coast*



Morro Harbor *Photo by Susan Lichtenbaum-Morro Bay Harbor Staff*

Morro Bay is approximately 90 miles by water from both Monterey (north) and Santa Barbara (south). Often called "The Jewel of the Central Coast," Morro Bay is a close knit community known for its fishing industry and unique natural beauty.

Morro Rock (Rock) is a historical landmark. It has been used as a navigational guide for hundreds of years. Native American Chumash and Salinian tribes were the first to cultivate the land and sea near the Rock and its nine volcanic sister peaks. The town of Morro Bay grew around the turn of the century, and over the years strong fisheries developed in shark, salmon, albacore and abalone. In the early years, boats entered the harbor but the area was known to be dangerous because of high surf, surging tides, erratic winds and shifting channels.

First quarried for rock for local projects in the late 1800's, Morro Rock was jolted by further blasts in the 1930's as a man-made causeway was begun to close off the north entrance to the harbor and connect the Rock to the mainland. At the beginning of America's entry into World War II, the causeway was completed and north and south jetties were constructed to create a more protected harbor for a naval training base, and the waterfront as we know it today was created out of the dredged material that was created from channel deepening.

Boating in Morro Bay Harbor

Morro Bay Harbor is homeport to approximately 500 recreational and commercial vessels in slips or on moorings. The city of Morro Bay owns and operates two commercial piers, slips for 50 commercial fishing vessels, and facilities for transient vessels, while the remainder of vessel berthing is privately managed. Morro Bay State Park Marina accommodates 125 vessels. The harbor also has a three lane public launch ramp, yacht club, ice, fuel, and a small chandlery. Groceries, restaurants, shopping, kayak rental, sport fishing, whale watching, and bay cruises are all available on or near the waterfront. The Harbor Patrol can be reached on VHF channel 16/12, or by phone (805) 772-6254.

Services for Environmentally Sound Boating in Morro Bay Harbor

Morro Bay Harbor offers the following environmental services: Four sewage pumpouts; one port-a-potti dump station, an oil absorbent exchange program, and an oily bilge water pumpout. Collection services area also available for used oil, oil filters, used coolant, marine batteries, and used zinc anodes. Trash and recycling receptacles are spread throughout the waterfront, and scrap fishing line receptacles are also available. For disposal of other hazardous materials, the San Luis Obispo County operates a household hazardous waste collection center in town. Since 2006, the Morro Bay Harbor has been designated as a Clean California Marina. The designation means that the harbor has demonstrated that they are encouraging boaters and employees to use best management practices to protect the environments and prevent or reduce pollution in California's waters.

Contributing Writer: Endersby Eric, Harbor Master, Morro Bay Harbor