CALIFORNIA THE GOLDEN STATE

California Environmental Protection Agency
Regional Water Quality Control Board
Santa Ana Region 8

Marinas and Boating

Between 21 to 31 million people in the U.S. are involved in some form of boating activity (fishing, powerboating, water skiing, canoeing, sailing) (Boating Industry, 1994). With over 16.6 million recreational boats in use today, marina and boatyard facilities are in high demand. Marinas can be found in most lakes, reservoirs and rivers, as well as in coastal harbors and bays. Because of their locations, it is very important that marinas and others involved with recreational boating always practice pollution prevention and protect our waters.

Boaters and marina operators can take common-sense steps to minimize pollution in our marinas, harbors, rivers, lakes, bays and the ocean. These steps, called "Best Management Practices," or BMPs, have been developed to address used oil management, fueling, accidental oil or fuel spills, sewage discharges, boat cleaning and maintenance, trash and litter, and hazardous waste. We *can* protect recreational waters from pollution. Below are some things you can do to help keep our waters pollution-free. For more information, please visit http://www.smbay.organd http://www.coastal.ca.gov/web/ccbn/ccbndx.html.

Fueling and Used Oil:

In calm water, a spill of just one gallon of gasoline or diesel fuel can create a sheen that covers an area larger than a football field. *Prevent fuel spills!* Know your boat's fuel tank capacity before filling it, learn how to estimate how much fuel is needed to fill your tank, and do not "top off" your tank. Fuel surge protectors and fuel/air separators prevent fuel spills and are relatively inexpensive.

According to the Santa Monica Bay Restoration Project, "A single gallon of used oil or fuel can pollute over one million gallons of water." Never pump oil- or fuel-contaminated bilge water overboard, and always dispose of drain oil properly.Maintain engines to prevent bilge water from becoming contaminated with oil. Marina operators can help prevent oil from polluting their waters on by providing bilge pump-outs and used oil and oil filter recycling and collection facilities. Marina operators can also help by distributing oil and fuel absorbent pads to soak up oil and fuel, and by using them at fuel docks to capture minor spills. Used crankcase lubricating oil is hazardous waste. Prevent pollution in marinas and waterways by properly recycling used oil and oil filters, by keeping engines and final drives well maintained and free from oil and fuel leaks, and by using oil- and fuel- absorbent pads in bilges (taking care to prevent pads from clogging bilge pump intakes).

For more information on used oil and fueling, call the Boating Clean and Green Campaign, (415) 904-5214. Call 1-800-98-TOXIC or 1-800-CLEANUP for the nearest recycling facility for disposal of used oil absorbent pads.

Oil and fuel spills must be reported immediately to the U.S. Coast Guard National Response Center at 1-800-OILS-911. Do not try to treat the spill with detergents or other chemicals. Use oil absorbent pads or booms to soak up any spills that reach the water.

Boat Cleaning

Simply by washing down your boat with high pressure, fresh water after each outing, you can minimize the needed to wash your boat with harsh cleaners. The reality, however, is that your boat will eventually need a thorough washing. Many of the cleaning compounds used to clean and detail boats contain chemicals that can contribute to water pollution.

Alternatives to strong chemical cleaners include using small amounts of phosphate-free, biodegradable detergents, vegetable or citrus-based cleaners, baking soda and vinegar. Non-toxic does not equate with being ineffective. For example, mix borax and lemon juice into a paste to remove grease. To clean and deodorize the head, use a mix of ½ cup borax per 1 gallon of water. Clean heads frequently with a solution of baking soda and water and sprinkle baking soda around the rim. (Source: "Boating Clean and Green - A guide to Environmentally Sound Boating Practices in the San Francisco Bay and Delta.") If possible, clean boat surfaces while the boar is out of the water, taking steps to keep wash water, and all chemical cleaners, out of storm drains, rivers, lakes, streams and coastal waters.

Preparing to Paint or Varnish

When preparing to varnish or paint a boat, it's usually necessary to sand or scrape off old coatings. Keep dust and chips from this prep work out of the water. Drape a tarp from e boat to dock so that particulates fall onto the tarp instead of in the water. Capture dusts and chips by using a vacuum connected to sanders and other power tools, and to vacuum debris from wet sanding operations. Paint chips and paint dusts, particularly from anti-foulant paints, may be hazardous waste, and must be properly disposed of.

Hazardous Waste:

In addition to paint chips, used oil and used oil filters, marina operations and boat maintenance may also produce other types of hazardous waste that can pollute water. Used transmission fluids and engine coolants, freon, rags used to absorb oil, paint, solvent or fuel spills, metal or paint dusts, and used lead acid batteries are examples of hazardous wastes that are common to marinas. Dispose of hazardous wastes safely and properly. Call 1-800-CLEANUP to find a hazardous waste collection or disposal site near you.

Litter and Trash:

Floating litter and debris causes a variety of problems for the boater, from fouling cooling water intakes to physical damage to hulls, props and other running gear. In addition, marine wildlife (e.g. fish, fur seals, birds and other animals) often confuse trash and debris with food, and try to eat the litter or feed it to their offspring. Marine wildlife can suffocate or starve from becoming entangled in plastics wastes, such as bags or six pack rings, and discarded fishing line and nets,

and can be poisoned by eating cigarette butts. All boats should be equipped with a trash receptacle and a device for retrieving litter that falls overboard. Marina operators can help prevent floating litter and trash by providing an ample number of secure containers for litter and trash.

Sewage Discharge:

A publication put out by Department of Boating and Waterways (Shipshape Santiation) states that "A single weekend boater flushing untreated sewage into our waters produces the same amount of bacterial pollution as 10,000 people whose sewage passes through a treatment pant." Human wastes contain bacteria viruses that can affect human health and lead to beach closures and shellfish bed closures. In addition, vessel holding tank waste includes chemical additives used to disinfect and deodorize the waste. Some of the more common disinfectants include formaldehyde, paraformaldehyde, and quaternary ammonium chloride. The water quality impacts of these additives must be considered as well. Below is an image, provided by the City of Los Angeles, of potentially disease-causing bacteria and viruses found in marine waters.

The Harbors and Navigation Code, Chapter 6, Division 3, Section 776(a) states "Every vessel terminal shall, as required by the Regional Water Quality Control Board for the protection of the quality of waters of this State, be equipped with vessel pumpout facilities for the transfer and disposal of sewage from marine sanitation devices." Measures to manage sewage from recreational activities include providing alternatives to illegal, overboard waste discharges. Many marinas provide vessel holding tank pump out stations and dump stations for safe disposal of sanitary wastes. Marina operators can provide educational materials, such as fliers or signs, to advise boaters that marinas and harbors are "no-discharge" areas. Well- marked and properly maintained pump out stations provide a convenient alternative to illegal disposal of holding tank wastes.

To combat illegal disposal of untreated holding tank wastes, some marina operators have required arriving boaters to check in with a harbormaster, who will put dye tablets into holding tanks. Marina operators then monitor anchorages for the telltale dye. Boaters who discharge dyed holding tanks within the marinas have been fined and/or banned from the harbor where the violation occurred.

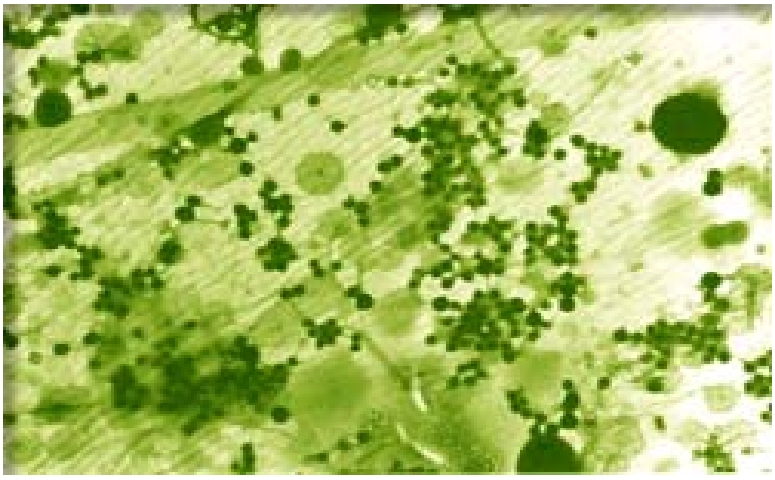

Image provided by The City of Los Angeles.
The image above is an "electron micrograph of bacteria (large spheres) and marine viruses (small spheres)…" (http:///www.lacity.org/san/swmd/Pages/hlthrsks.htm)

Caulerpa Taxifolia:

Caulerpa taxifolia, an invasive seaweed, and commonly used saltwater aquarium plant, if released into the wild could severely and adversely threaten the marine ecosystems of both coasts of North America. *C. taxifolia* was identified in the Mediterranean Sea off Monaco around 1984, most likely originating from an aquarium. As of 2002, it is estimated that this seaweed has infested over 30,000 acres of seafloor in at least five Mediterranean countries. In June 2000, *C. taxifolia* was found in Southern California in Huntington Harbour, Orange County and the Agua Hedionda Lagoon in Carlsbad. Due to its fast-growing and hardy nature, a small fragment of this seaweed has the potential to regenerate into a new plant. This "aquarium strain" of *C. taxifolia* has the ability to form a dense carpet on any surface including rock, sand, or mud. Once established, this seaweed smothers the native marine communities and displaces the marine life that depends on them. *C. taxifolia* does not cause direct harm to humans, but infestations of *C. taxifolia* have negatively impacted tourism, commercial and recreational fishing, and recreational activities.

Caulerpa taxifolia is brilliant green, with feathery, fern-like fronds that extend upward from a main stem.

Importation of *Caulerpa* is a federal offense under the Noxious Weed Act of 1999. The October 15, 2001, Los Angeles Times reported that Gov. Gray Davis signed a state law that bans the import, sale and possession of this invasive seaweed. Avoid purchasing, selling, or distributing *C. taxifolia.*

Eradication efforts are underway in Southern California. The Southern California Caulerpa Action Team, SCCAT, is an action committee established to respond quickly and effectively to the discovery of *C. taxifolia* in Southern California. Individual efforts are encouraged to help prevent new infestations of *C. taxifolia*.

What you can do:

1. Look for *C. taxifolia* while fishing, boating, or diving. Any suspected *C. taxifolia* that is found on fishing gear or water craft should be removed, carefully bagged, and reported to the Regional Water Quality Control Board at **(858) 467-2985, caulerpa@rb9.swrcb.ca.gov, or (909) 782-3221.**
2. Aquarium tank water and its contents should never be emptied into or near any stormdrain, creek, lagoon, bay, or the ocean. Aquarium water should only be dumped into a sink or a toilet. To dispose of *C. taxifolia* from your aquariums, put the seaweed and anything it is attached to, in a plastic bag, place it in your household freezer for at least 24 hours, and then dispose it into a trash receptacle destined for a landfill. Do not use this seaweed in your aquarium.
3. Before launching your boat, check for attached plants and dispose of them in the trash.

For more information, please visit:
http://www.swrcb.ca.gov/~rwqcb9/News/Caulerpa_taxifolia/caulerpa_taxifolia.html and
http://swf.nmfs.noaa.gov/hcd/caulerpa.htm

Summary:

Once a water body becomes polluted, or when a water body's physical structure (and the habitat it supports) has been altered, it is very difficult and costly to restore to the water body to its original condition. That is why environmental stewardship and pollution prevention are encouraged and recommended. Consistent use of thoughtful and appropriate Best Management Practices (BMPs), such as those outlined above, can help to prevent water pollution. Public education is the basis of many BMP programs, and that is why this fact sheet has been produced. Thank you for reading it. For further information about a wide range of BMPs, please visit http://www.epa.gov/npdes/menuofbmps/menu.htm**.**