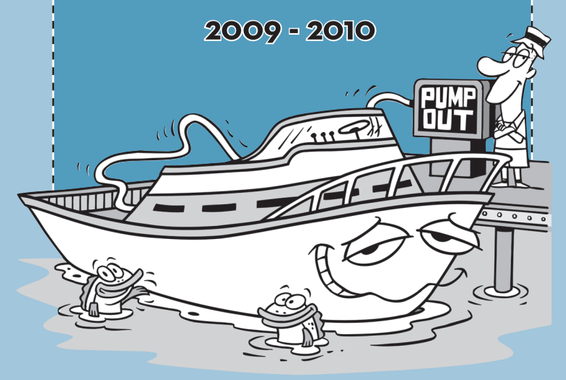
SAN FRANCISCO BAY

PUMPOUT GUIDE & MAP FOR BOATERS

2009 - 2010



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The Alternatives

PRODUCT	NON-TOXIC APPROACH
DETERGENT & SOAP	Fresh water and a lot of elbow grease
BLEACH	Hydrogen peroxide
SCOURING POWDERS	Baking soda or salt
FLOOR CLEANER	One cup white vinegar in 2 gallons water
WINDOW CLEANER	One cup vinegar in 1 quart warm water
VARNISH CLEANER	Wipe with 1/2 cup vinegar and 1/2 cup water solution
HEAD CLEANER	Brush with baking soda
SHOWER CLEANER	Wet surface, use scouring cloth with baking soda
ALUMINUM CLEANER	Use 2 tablespoons cream of tartar in 1 quart of water
CHROME CLEANER/POLISH	Apple cider vinegar to clean, baby oil to polish
FIBERGLASS STAIN REMOVER	Baking soda paste
DRAIN OPENER	Disassemble and replace; avoid toxic products
MILDEW REMOVER	Paste of equal parts lemon juice and salt
WOOD POLISH	Use 3 parts olive oil and 1 part white vinegar; almond or olive oil (interior unvarnished wood only)

Check with your local chandlery for green products.

This guide was produced by the San Francisco Estuary Project in cooperation with the California Department of Boating and Waterways under a grant from the Clean Vessel Act. The information presented in this guide is accurate to the best of our knowledge and is based on toxicity ratings performed by the Washington Toxics Coalition. The San Francisco Estuary Project and Department of Boating and Waterways assume no responsibility and disclaim any liability for any injury resulting from the use or effect of any product or information in this publication.

If it's Your Boat it's Your Responsibility

SWAB & SPILL DRILL

- Fill your fuel tank carefully, and avoid topping off. Soak up any spills – DO NOT HOSE DOWN.
- Promptly fix engine and fuel line leaks to prevent oil and fuel spills. Minimize spills before and during repairs by placing a drip pan under the leak. Dispose of your motor oil and used oil filters at a waste oil recycling center.
- Place a bilge pillow (an oil absorbing sponge or bioremediating boom) in your bilge to remove oil. Remove oily bilge water at a bilge pumpout station.
- Clean your boat with non-toxic detergents and avoid rinsing into the Bay. Check out "The Alternatives" for non-toxic options to common boat clean up and maintenance products.
- Use maintenance methods that prevent pollutants, sanding dust or other debris from being released into the water. Limit in-the-water maintenance and cleaning to times and places where debris can be captured and disposed of properly.

CLOG & CLUTTER CONTROL

- Avoid chopping vegetation with your boat propeller. Exotic (invasive) plants *Egeria densa* and *hydrilla*, are easily spread this way. Before moving your boat from one lake, bay, or river to another, inspect it for hitchhikers. Then purge your vessel of invasive plant fragments and aquatic critters by flushing and draining your systems, emptying bait buckets, cleaning tackle and gear, and pressure-washing the hull with hot water. Dispose of any debris at on-shore garbage facilities.
- Stock your boat with reusable cups, plates and other utensils. Avoid plastic and Styrofoam, which can easily blow overboard, or must be hauled to shore for disposal.
- Retrieve plastic trash, netting, six-pack yokes, and other items from the water and bring them back to the dock. Floating and shoreline trash can not only entangle, injure, or kill marine life, but also damage other vessels.

Clean Boater's Oath

- I will not use the Bay as a water closet.
- I will pump and dump at a convenient marina receiving station.
- I will use vim and vinegar to swab the decks.
- I will make merry but be wary (accidents lead to spills).
- I will deliver my trash to onshore receptacles.
- I will share these wise words and maps with fellow seadogs and mariners.

The Rules

- Discharges of untreated sewage are prohibited within the navigational waters of the U.S. (an area that includes the entire San Francisco Bay and Delta and extends three miles seaward beyond the coast). 33 U.S.C. 1322
- Fines of up to $2000 can be imposed for illegal discharges. CWA §312 (j)
- It is legal to discharge untreated sewage at sea (you must be at least three miles out from the coast) except in the Gulf of the Farallones National Marine Sanctuary, Monterey Bay National Marine Sanctuary, and Cordell Bank National Marine Sanctuary, (see map), which have the same discharge restrictions (no untreated sewage) as inland waters. Title 15, CFR, Sec. 922.82(a)(2)(ii)(A)
- All boats with installed toilets must have a U.S. Coast Guard-certified Marine Sanitation Device if operating in U.S. navigational waters. 33 CFR Part 159
- Vessels with a Type I or Type II Marine Sanitation Device must treat their sewage before discharge. For a Type I MSD, the fecal coliform count in the effluent must be no greater than 1000 per 100 milliliters of water and have no visible floating solids. For a Type II MSD, the fecal coliform count must be no greater than 200 per 100 milliliters, and suspended solids no greater than 150 milligrams per liter. 33 CFR Part 159
- Discharges of any kind, treated or not, are prohibited in Richardson Bay — a designated No-Discharge Area. 40 CFR Part 140.4
- When operating on the navigable waters of any lake, reservoir, or freshwater impoundment, the vessel toilet must be sealed, rendered inoperable, or designed so no human sewage can be discharged in the water. Div.104, Part 13, Chapter A, CHSC
- Discharges of oil or other hazardous substances are prohibited within 12 miles of the coast and within fisheries and marine preserves up to 200 miles from the coast under the Clean Water Act. 40 CFR Part 110.6

The Green Pages

EMERGENCY
911 or Channel 16 (VHF)

WATER QUALITY AND SEWAGE SPILLS
San Francisco Bay Regional Water Quality Control Board
(510) 622-2300

BOATING INFORMATION
California Department of Boating and Waterways
(888) 326-2822

San Francisco Estuary Project
(510) 622-2398

COUNTY POLICE & SHERIFF BOAT/MARINE UNITS
Alameda (510) 667-7721

Contra Costa (925) 646-2441

Marin (415) 479-2311

San Francisco (415) 554-7225

San Mateo (650) 363-4911

Santa Clara (408) 299-2311

Solano (707) 421-7090

Sonoma (707) 565-2121

U.S. Coast Guard
(415) 399-3455

OIL SPILLS
California Emergency Management Agency
(800) OILS-911

OIL RECYCLING
(800) CLEAN-UP
www.earth911.com

PUMPOUT INFORMATION
For the nearest pumpout station in California see: www.dbw.ca.gov and click on 'Clean and Green'

BOATING SAFETY
U.S. Coast Guard
www.uscgboating.org

California Dept. of Boating and Waterways
www.dbw.ca.gov

BOATING SAFETY CLASSES
U.S. Coast Guard
http://nws.cgaux.org

U.S. Power Squadron
(919) 821-0281

FISH & WILDLIFE
California Dept. of Fish & Game Hotline (CalTip)
(888) 334-2258

National Invasive Species Hotline
(877) 786-7267

Marine Mammal Center (injured animals)
(415) 289-7325

WildCare (injured birds)
(415) 456-SAVE

HUMAN HEALTH
California Dept. of Public Health, Environmental Health Investigations Branch (Fish consumption warnings)
(510) 620-3620
www.ehib.org

California Dept. of Public Health, Environmental Management Branch (Shellfish Information Hotline—warnings)
(800) 553-4133

SPONSORS
California Dept. of Boating and Waterways
2000 Evergreen St., Suite 100
Sacramento, CA 95815-3888
(888) 326-2822
www.dbw.ca.gov

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www.sfestuary.org

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The Scuttlebutt

Captain your boat the clean way! Follow the tips in this guide for running a tight ship, and you can avoid such indiscretions as flushing your head into a school of stripers or spilling bilge oil into the sparkling blue deep. With these tips in mind and this map in your head, you can help keep our waters clear and clean for everyone who boats, sails, surfs, skis, swims, and fishes in San Francisco Bay and the Delta.

As of 2007, there were 964,881 registered boats* in California — enough to make a sizable impact on water quality.

While the amount of sewage pollution contributed by boaters isn't enormous, it does impact the health of human water users and the Bay-Delta ecosystem. Swimmers, windsurfers, or boaters who come in contact with raw sewage can get stomach aches, diarrhea, skin rashes, hepatitis, and even typhoid or cholera. Diners with a taste for raw clams, oysters, or mussels face some of the same perils if the shellfish have been contaminated with sewage. Fish can die when the biological processes that break down sewage steal too much oxygen from their waters.

Sewage is not the only problem. Today, many of the products we use to run and maintain our homes, gardens, workplaces, vehicles, and even boats are ending up in our creeks, rivers, and bays — the water watersheds that provide drinking water to 22 million Californians and irrigate 4.5 million acres of farmland.

So open up this guide and review its five to-do lists for preventing pollution, find its map of the pumpouts and port-a-potty dump stations located at marinas and yacht harbors around San Francisco Bay. Then stash your new guide in a handy dry place so you can always find it when you feel like doing your part to keep our Bay a world-class waterway.

* California DMV

Scoop on Poop

- A weekend boater flushing untreated sewage into the Bay produces the same amount of bacterial pollution as that of 10,000 people whose sewage passes through a treatment plant.

10,000:1

- Over 100 different intestinal pathogens — viruses, parasites, and bacteria — can be found in sewage.
- Fecal coliform counts dropped from 16,000 per 100ml to 23 per 100ml in California's Avalon Harbor after the harbor launched a boater education and clean water program. As part of the program, dye tablets are deposited in on-board toilets, making illegal discharges highly visible.
- Synthetic hormones (from birth control pills and hormone therapy) secreted via women's urine into waterways can be absorbed by fish, causing physiological changes and affecting the reproductive ability of male fish. Antibiotics and other drugs taken by humans are also turning up in our waterways.

Sources: 1) SF Bay Regional Water Quality Control Board; 2) Managing Wastewater in Coastal Urban Areas, National Research Council, pp. 203-226; 3) Avalon Harbor; 4) Karen Kidd, Winnipeg Freshwater Institute, Gov. of Canada, Fisheries & Oceans

The Equipment

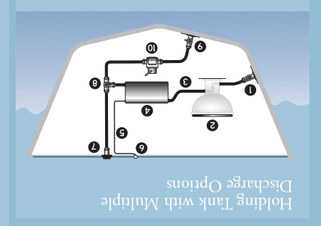
A Marine Sanitation Device (MSD) prevents pollution from the discharge of untreated sewage from a boat. According to U.S. Coast Guard regulations, all boats with an installed toilet must have one of the three types listed below.

Type I and II MSDs break up the sewage and disinfect it with chemicals. It is legal in most instances to discharge from either type directly overboard, but you must add the appropriate chemicals for treatment. Without this treatment, discharge from a Type I or II system is considered raw sewage and remains illegal within the three-mile limit (see *The Rules*).

Type III MSDs, most commonly used by boaters, provide a holding tank for storing untreated sewage until it can be properly disposed of at an onshore pumpout station that connects to a local sewer system. Type III MSDs can also be pumped out by mobile units that dispose of the waste into the sewer system. Adding chemical deodorizers does not constitute treatment and does not allow you to dump wastes overboard.

Some Type III MSDs have a "Y" valve, which allows you to dump directly overboard when you are operating outside the three-mile limit (except within federally designated No-Discharge Areas). Within the limit, you must secure the valve in the closed position with a padlock or non-releasable wire tie or remove the handle entirely.

Typical Type III MSDs



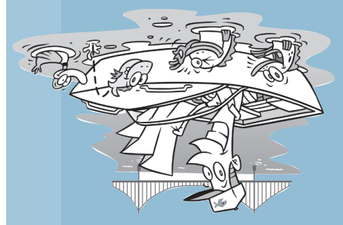
Potty Prep

- Before you board use the shoreside restroom facilities.
- Choose one of their U.S. Coast Guard certified types of Marine Sanitation Devices (MSDs) or a port-a-potty to hold or treat your waste (see "The Equipment" for more details).
- Look for environmentally friendly disinfectants for your MSD. Whenever possible, choose products with ingredient lists that do not include chlorine, formaldehyde, or other components that can be harmful to aquatic organisms and detrimental to pumpout facilities with septic systems.

- Keep your MSD in good operating condition. Make sure all fittings, hoses and other pump mechanisms stay clean and lubricated.
- Keep a complete repair kit for your particular type of head on board.
- To help prevent clogs look for rapid-dissolving marine toilet tissue specifically designed for MSDs. Post use instructions near the head.

Pumpout Pointers

- Find a pumpout station. It only takes a few minutes to pump the wastes out of your holding tank. For a free map of the San Francisco Bay pumpout stations, call (510) 622-2398 or see www.dbw.ca.gov.
- Follow pumpout instructions. If instructions aren't posted or aren't clear, ASK! Encourage the marine operator to post easy-to-understand instructions.



- Rinse water through the system for one minute once you've finished. Expensive breakdowns commonly occur when the marina's sewer lines get clogged because of inadequate rinsing. Flushing water through the system is cheap preventive maintenance.
- Pump out only your holding tank. Pumpouts are not designed to handle bilge water or solid objects.
- Turn off the pump when you're finished. Yes, boaters do pump out their holding tanks and then drive off, leaving the unit still running. Make sure the pump is off before pulling away so it will work for the next boater.
- Consider using a mobile pumpout service if you don't want to service the holding tank yourself.

PUMPOUT GRANTS

Grants are available to public and private marinas for construction, maintenance, and renovation of pumpout facilities and port-a-potty dump stations through provisions of the Clean Vessel Act of 1992 (covers up to 75% of cost). For more information, call the California Dep. of Boating and Waterways at (888) 326-2822.

Ins and Outs of Pumping Out

- Close nozzle valve on pumpout hose.
- Remove deck waste fitting cover from boat (attach nozzle guard to deck waste filling if available) and insert nozzle.
- Turn on pump.
- Open nozzle valve. (Valves can be difficult to turn – be persistent!)
- Check the flow through the sight glass. If flow doesn't occur within one minute, place the nozzle in water for ten seconds. If there's still no flow, check for an air leak in the line or a plug in the holding tank air vent.
- When tank is empty, close the nozzle valve.
- Remove the nozzle from the deck fitting.
- Turn off the pump and return the hose when you're finished so it will work for the next boater.
- Use the pump! Know the location and operation of pumpout and pumpout facilities for marinas you frequent. The map and table inside shows you where to find these facilities around SF Bay.
- Thank your local marina owner for keeping pumpout facilities in good working order. Report any breakdowns immediately to the marina operator, local environmental health agency, or local boating law enforcement officer.
- NEVER discharge untreated sewage wastes into the Delta or Bay.
- If you must discharge treated sewage from Type I or II MSDs, avoid sensitive areas of shellfish beds, fish spawning areas, and all areas where people are swimming, windsurfing, or water skiing. Never discharge in shallow bays, marinas, or places with little water movement or tidal flushing.
- Be aware that Marin County's Richardson Bay is a "No-Discharge Area" where discharge of sewage, treated or untreated, from a vessel is strictly prohibited. When boating in Richardson Bay, a Type I or II MSD must be secured or the toilet sealed to ensure no wastes escape.