



Nantucket Boat Basin in Nantucket has been recognized by the U.S. Fish & Wildlife Service for its success in providing pumpouts to boaters.

4.7 Boat Sewage and Wastewater Management

Untreated sewage and other boat-generated wastewater dumped into coastal waters can be harmful to humans and marine life. Therefore, it is in your best interest to steer boaters in the right direction with sewage disposal. This section provides information on pumpouts and other BMPs for reducing impacts from boat wastewater discharge.

LEGAL REQUIREMENTS

The following laws apply to vessel discharge and wastewater. Please read the summary of these regulatory programs in Chapter 6.

- Clean Water Act — Discharge of Sewage
- Clean Water Act — No Discharge Areas
- Massachusetts Clean Waters Act
- Massachusetts Waterways Regulations

Best Management Practices

Pumpouts

Providing pumpout services at your marina gives boaters an easy way to do the right thing, and helps keep the waters around your marina clean. The most important factor in pumpout success is for the service to be convenient and easy for boaters. The most successful services have marina staff doing the pumping out.

Pumpout facilities are available in five primary forms: fixed pumpout stations, dock-side pumpouts, portable pumpouts, pumpout boats, and dump stations. For more information on the types of pumpout facilities and which system would be appropriate for your marina, contact the pumpout manufacturers listed in Appendix C. A listing of all pumpout locations in Massachusetts is included in Appendix D. If you do not own a pumpout facility, consider purchasing one if the demand for pumpout services exists. Financial assistance is available through the Clean Vessel Act (see information sources below).

If you already own a pumpout, consider the following measures to ensure maximum and proper use:

- ▷ **Pumpout Maintenance:** Conduct regular inspections and maintenance on pumpout facilities.
- ▷ **Pumpout Cleanliness:** Keep pumpout facilities clean and easily accessible.

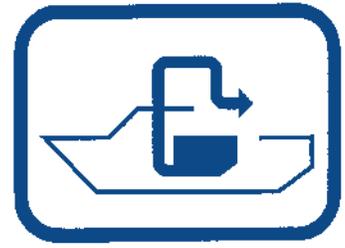
- ▷ **Convenient Service Hours:** Provide pumpout services at convenient times, such as during normal business hours in the boating season. Pumpout service is not expected to be available 24-hours a day, or in the cold non-boating season.
- ▷ **Pumpout Staffing and Training:** Staff the pumpout facility and offer to provide pumpout services during weekdays when boats are not in use. Some marinas have sign-up sheets for customers to request such services. Train all your staff on how to use the pumpout so that customer's pumpout needs can always be met.
- ▷ **Low Pumpout Costs:** Offer pumpouts at a reasonable cost. Studies have shown when pumpout costs are over \$5.00, the willingness of boaters to use the service decreases. Many marinas give the service free to their regular customers because it increases the frequency of use, builds good will, and helps protect the environment. The Clean Vessel Act grant program imposes a \$5.00 ceiling charge if federal money was used to purchase the pumpout equipment (see information contacts below). Note that most pumpout facilities in Massachusetts are available at no charge.
- ▷ **Pumpout Signs:** Promote availability of pumpout services with signs that identify the pumpout station, list the hours of use, and cost, if any. CZM provides pumpout pennants free to marinas to help them advertise pumpout availability. A separate sign should remind the boat owner to make sure the holding tank vent is clear before pumping out.
- ▷ **Holding Tank Additives:** Encourage boat owners to use holding tank additives to help breakdown holding tank contents. Additives increase the rate of breakdown and decrease bacteria and oxygen demand when the contents are legally discharged off-shore.
- ▷ **Portable Dump Stations:** Provide portable toilet dump stations near small boat slips and boat ramps.

LOCAL EXAMPLE



Constitution Marina's mobile boat pumpout service

Constitution Marina in Charlestown has a mobile boat pumpout service that is available to its customers free of charge. The marina operators have set up a system for its use to make the pumpout as convenient as possible. Customers call in and set up a time during the week to be pumped out. They don't have to be at the boat when this occurs. Then when they want to use their boat on weekends, the holding tank has already been pumped and they are ready to go. Constitution Marina has made the pumpout boat very popular by making the service easy and convenient and, as a result, the pumpout boat is used everyday. Call Peter Davidoff at (617) 241-9640 for more information.



Please Note

Congress passed the Clean Vessel Act (CVA) in 1992 to help reduce pollution from vessel sewage discharges. CVA established a five-year federal grant program administered by the U.S. Fish and Wildlife Service and authorized \$40 million from the Sport Fish Restoration Account of the Aquatic Resources Trust Fund. Up to 75 percent of the costs of approved projects can be paid for with CVA money, with the remaining funds provided by the states or marinas. Reauthorized in 1998, Congress extended the pumpout grant program through 2003, providing \$50 million. Pumpout stations installed with CVA funds are restricted to charging no more than \$5.00 per pumpout (with certain exceptions), and must be maintained in operating condition, available during reasonable hours of service (such as normal business hours), and convenient to boats for use.

NDA s

A No Discharge Area (NDA) is a designated body of water in which the discharge of treated and untreated sewage is banned. The use of Type I and Type II MSDs is prohibited in NDA's and MSDs must be properly secured when boats are cruising through an NDA. Closing the seacock and padlocking it, using a non-releasable wire tie, or removing the seacock handle (with the seacock closed) are options for securing the MSD. Locking the door of the head with a padlock or door handle key is another acceptable method.

Mass. NDA s

NDA s in Massachusetts include Nantucket Harbor; Waquoit Bay, Falmouth; Stage Harbor Complex, Chatham; Harwich coastal waters, Wellfleet Harbor, and Buzzards Bay. All Rhode Island waters are also designated as No Discharge. See information sources below for a map of No Discharge Areas in Massachusetts.

Proper Use and Operation of Marine Sanitation Devices

All new boats over 20 feet with cabins are generally equipped with one of two standard U.S. Coast Guard approved boat toilet systems for on-board waste management. These systems are called Marine Sanitation Devices (MSDs). Type I and II MSDs are systems that mechanically chop up the sewage, chemically treat it, then discharge it through a screen and overboard. These MSD systems can not be used in coastal waters that are designated as No Discharge Areas. Massachusetts has designated many coastal boating waters as No Discharge Areas (see NDA box). Type III MSDs are boat toilets that empty into built-in holding tanks that must be emptied at a pumpout station. It is illegal for any untreated sewage to be discharged into any of the waters of Massachusetts and the United States, except beyond three miles offshore in the ocean. While the U.S. Coast Guard must approve each MSD system, it is up to the boat owner to properly use and maintain the MSD to effectively lessen impacts on the marine environment. To promote proper use at your marina:

- ▷ **Prohibit Sewage Discharge:** Prohibit use and discharge of Type I and II MSDs at slips or moorings. While all Coast Guard approved Type I and II MSDs are legal to use on some waters and do treat sewage to approved standards, the discharge still contains high nutrients and chemical disinfectants that may impact water quality and marine life in coastal harbors, coves, and bays. In designated No Discharge Areas, all discharge is illegal. Some marinas in their slip rental contract forbid the discharge of any sewage from Type I and II MSDs to prevent odors, to keep the water cleaner, and to prevent algal blooms.
- ▷ **Fill Disinfectant Tanks:** Encourage boaters with Type I and II MSDs to fill the disinfectant tanks each boating day to ensure proper operation.
- ▷ **Shoreside Facilities:** Urge boaters to use the marina's shoreside restroom facilities while at dock or staying overnight. Maintenance of clean and comfortable shoreside restroom facilities will help promote use by boaters.
- ▷ **Biodegradable Holding Tank Cleaners:** Promote the use of non-toxic biodegradable cleansers and deodorants for holding tank treatment that do not use formaldehyde. Enzyme-based products use aerobic bacteria to accelerate natural breakdown and reduce lingering odor. Vendors of non-toxic biodegradable cleaners and deodorants are provided in Appendix C.
- ▷ **Discharge Prevention Steps:** Encourage all boat owners to prevent discharge while boating in coastal waters by removing their existing Y-valves and seacocks with thru-hulls, or plug hulling the holes; or alternatively, by removing the handle on the Y-valve, or using a wire tie.
- ▷ **MSD Retrofit Services:** Offer winter services to retrofit MSDs with holding tanks, and inspect MSD systems to ensure their proper operation.

Proper Graywater Handling

Graywater is the wastewater from the sink and shower (sewage is called blackwater). Graywater can contain detergents, soap, and food wastes and when released to the environment can reduce oxygen levels in small bays and coves by enriching algae growth and bacterial breakdown of wastes, both of which use up oxygen. Help your customers to reduce the impacts of graywater by taking the following steps:

- ▷ **Customer Education:** Educate customers about the impacts of graywater and steps they can take to help reduce graywater impacts.
- ▷ **Refrain from Using Dish Soap On-Board:** Discourage your customers from using dish soaps to clean dishes on board their boats. If soap is necessary for hard to clean jobs, use biodegradable soaps in moderation.
- ▷ **Low Nitrogen Detergents:** Sell only low nitrogen detergents in your ship store.
- ▷ **Dishwashing Station/Laundry Facilities:** Consider providing shoreside dishwashing facilities for boaters and encourage their use. Also explore the potential for offering coin operated laundry facilities.
- ▷ **Encourage Use of Marina Facilities:** Encourage customers to use the showers and restrooms provided by the marina when at the docks.

Useful Contacts

1. Massachusetts No Discharge Area Program, Massachusetts Office of Coastal Zone Management (CZM). This Program provides assistance to municipalities that are seeking a No Discharge Area designation. Call CZM at **(617) 626-1200** or log on to CZM's website at www.state.ma.us/czm for more information.
2. The CZM Coastal Pollutant Remediation (CPR) Program has funds available for pumpout programs. Call CZM at **(617) 626-1200** or log on to CZM's website at www.state.ma.us/czm/ for more information.
3. Clean Vessel Act Program at the Massachusetts Division of Marine Fisheries — Contact them at **(617) 626-1531** or see www.state.ma.us/dfwele/com/comcvahm.htm for more information on the federal Clean Vessel Act Program and pumpouts in Massachusetts.



BOAT SEWAGE AND WASTEWATER MANAGEMENT

Complete this checklist if boat sewage and graywater may be a problem. An indicator of a potential problem is if you have a large number of live-aboards at your marina

Activities that occur at the facility: Pump-out Holding Tank Discharge On-board Dishwashing/Laundry

Check either the “Yes” or “No” column to indicate if you are using each of the BMPs listed below. If the BMP does not apply (you are using a different BMP or the activity does not occur at your marina), put “NA” in the “Yes” column. In the “Action” box, list the next steps for all BMPs where you have checked the “No” column.

| BMP | YES/NA | NO | Refer to Page | Action |
|---------------------------------------|--------|----|---------------|--------|
| Pumpout Maintenance | | | 4-37 | |
| Pumpout Cleanliness | | | 4-37 | |
| Convenient Service Hours | | | 4-38 | |
| Pumpout Staffing and Training | | | 4-38 | |
| Low Pump-out Costs | | | 4-38 | |
| Pumpout Signs | | | 4-38 | |
| Holding Tank Additives | | | 4-38 | |
| Portable Dump Stations | | | 4-38 | |
| Prohibit Sewage Discharge | | | 4-39 | |
| Fill Disinfectant Tanks | | | 4-39 | |
| Shoreside Facilities | | | 4-39 | |
| Biodegradable Holding Tank Cleaners | | | 4-39 | |
| Discharge Prevention Steps | | | 4-39 | |
| MSD Retrofit Services | | | 4-39 | |
| Customer Education | | | 4-40 | |
| Refrain from Using Dish Soap On-Board | | | 4-40 | |

| BMP | YES/NA | NO | Refer to Page | Action |
|--|--------|----|---------------|--------|
| Low Nitrogen Detergents | | | 4-40 | |
| Dishwashing Station / Laundry Facilities | | | 4-40 | |
| Encourage Use of Marina Facilities | | | 4-40 | |

NOTES:
