

Clean Boating Tip Sheet

Vessel Sewage

Is Sewage a Problem?

Raw or poorly treated boat sewage is harmful to human health. Typhoid, hepatitis, cholera, gastroenteritis, and other waterborne diseases may be passed directly to people who swim in contaminated waters. People may also become infected by eating shellfish contaminated with viruses and other microorganisms contained in sewage discharge.

Sewage is also harmful to water quality. Because the microorganisms within sewage need oxygen, any effluent discharged to waterways reduces the amount of oxygen available to fish and other forms of aquatic life. Furthermore, the heavy nutrient load in



sewage promotes excessive algal growth. As the algae multiply, they prevent life-giving sunlight from reaching subsurface vegetation. When the algae die they create another problem: the algae are decomposed by bacteria which further reduce levels of dissolved oxygen.

What Does the Law Say?

According to Federal and State law, it is illegal to discharge raw sewage.

All vessels with installed toilets must have a Marine Sanitation Device (MSD):

- Type I systems mechanically cut solids and disinfect waste. They must bear a U.S. Coast Guard certification label.
- Type II systems are similar to Type I systems. The difference is that Type IIs treat sewage to a higher standard and generally require more space and energy. Type II systems must also have a Coast Guard certification label.

- Type III systems do not discharge sewage. Holding tanks are the most common Type III system. Incinerating systems are another option. A Coast Guard label is not required. Note that under Delaware Code, Type III MSDs include both portable toilets and permanently installed MSD devices. Under Federal law, portable toilets are not considered MSDs.

Vessels 65 feet and under may have any of these three types of MSDs. Vessels over 65 feet must have a Type II or III system.

Within a No Discharge Zone (NDZ), the discharge of all sewage is prohibited.

Currently, there are no NDZs in Delaware waters. However, efforts are underway to designate Delaware's Inland Bays as NDZs. Boaters with Type I and II systems must secure them while navigating within an NDZ. Locking the door to the head or disabling the seacock are acceptable methods for preventing overboard discharges.

What Can You Do?

Holding Tanks

Install a holding tank. Information explaining how to retrofit a boat to include a holding tank is available on the Maryland Department of Natural Resources' web site at www.dnr.state.md.us/boating/pumpout/systemsguide

Use good plumbing to control holding tank odor. Fiberglass and metal tanks are highly resistant to permeation. Specially labeled flexible "sanitation hoses" and PVC piping are also highly impermeable. Hose runs should be as short and as straight as possible. Wherever practical, use rigid pipe below the level of the

holding tank and in other areas where sewage will accumulate. Keep the number of connections to a minimum and insure that seals are tight.

Use enzyme-based products in your holding tank to further control odor. Enzymatic products use biological processes, rather than harsh chemicals, to break down sewage. Be sure to pump and rinse your holding tank prior to initial use of an enzyme product if you have used chemical-based odor control additives in the past. Chemical residues may interfere with the effectiveness of enzyme-based products.

Avoid holding tank products that contain quaternary ammonium compounds (QACs) and formaldehyde. These products may disrupt sewage treatment plants.

Type I and II MSDs

Maintain your Type I or II MSD. Establish a regular maintenance schedule based on your owner's manual to remind yourself when chemicals need to be added, electrodes need to be cleaned, etc.

Do not discharge your Type I or II MSD while in a marina, in a swimming area, in a No Discharge Zone, over an oyster bar, or in a poorly flushed area. Effluent from legal Type I and Type II systems contains nutrients and possibly toxic chemicals. It may contain pathogens as well.

Always use shoreside restrooms when in port. Encourage guests to do the same.



For information about the Delaware Clean Marina Program, contact Delaware Sea Grant at (302) 645-4268, or dchapman@udel.edu