



Here's the Scoop on Poop



Maintaining Your MSD and Onboard Head

Oklahoma is home to approximately 1,401 square miles of surface water and 11,611 miles of shoreline, making our fresh water supplies one of our most precious natural resources for drinking water and recreational activities such as boating, fishing, and swimming. We all have a role to play to protect our waters for current and future generations of Oklahomans.

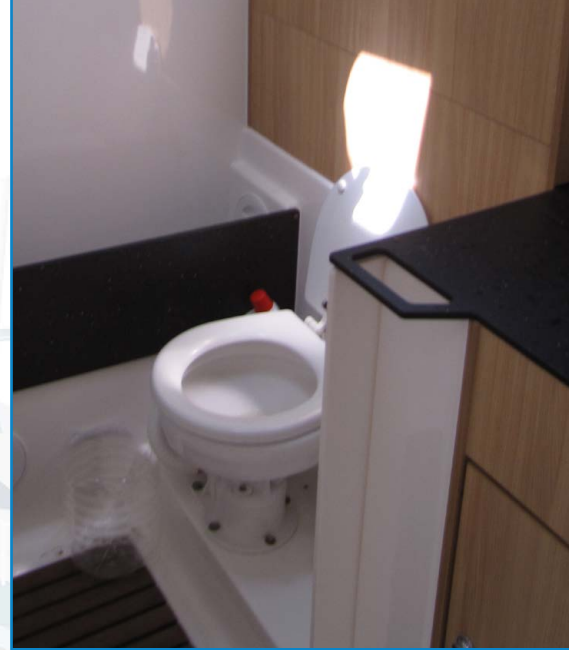
Sewage discharged from boats may degrade water quality by introducing disease-causing microorganisms into the marine environment and reducing oxygen levels in the water. This brochure explains how Oklahoma boaters and marinas can help protect our lakes from the harmful effects of sewage disposal.

Clean water and boat sewage: Are we boating in a toilet?

Did you know one gallon of sewage from a boat may have as much bacteria as 10,000 gallons of treated municipal wastewater? It is illegal to dispose of sewage into Oklahoma waters; therefore, it is important to make sure sewage from boats is properly managed. The Department of Environmental Quality participates in the Clean Vessel Act Grant Program, established by the United States Fish and Wildlife Service, to provide grant funds for the construction, renovation, operation, and maintenance of pump-out stations and waste reception facilities at marinas, and for educational programs informing boaters of the importance of proper sewage disposal.

The Oklahoma Water Resources Board (OWRB) designates Oklahoma lakes as Primary Body Contact Recreation (PBCR) or Secondary Body Contact Recreation (SBCR). PBCR involves direct body contact with the water where a possibility of ingestion exists, such as from swimming. On lakes designated as PBCR, OWRB rules state that the water shall not contain, among other things, biological substances in a concentration that would cause illness in humans if ingested. The SBCR designation is used where ingestion of water is not anticipated, such as where swimming is prohibited, but activities such as boating, fishing or wading are allowed. The vast majority of Oklahoma lakes are designated PBCR.

For PBCR lakes, OWRB rules establish levels for E. coli and Enterococci bacteria, above which a swimming advisory will be issued to prohibit swimming and other activities that may result in ingestion of the water. Ingestion can cause severe stomach cramps, diarrhea, and vomiting. One potential source for these bacteria is sewage discharged from boats or marinas. These bacteria can also deplete oxygen levels in the water, resulting in fish kills. Swimming advisories and large fish kills can have a detrimental effect on Oklahoma tourism and the businesses around our lakes that depend on that tourism.



Marine Sanitation Devices

Under the federal Clean Water Act, it is against the law to discharge untreated sewage into navigable waters of the United States, which includes Oklahoma lakes. All boats with toilets must be equipped with one of three types of US Coast Guard-approved marine sanitation device (MSD) to manage sewage generated on the boat.

Type I and II MSDs utilize an onboard holding tank to treat sewage via physical, chemical, biological, or aerobic means. These MSDs may be equipped with a Y-valve which would allow discharge of the treated sewage either overboard or at a designated pump-out station; however, in Oklahoma, the Y-valve must be locked in a position to prevent overboard discharges. Waste treated by Type I and II MSDs can be unhealthy for marine waters.

1. Chemical treatment often sanitizes only the outer surfaces of waste clumps.
2. Chemicals routinely used in MSDs can be harmful to marine life and water quality.
3. Poorly maintained MSDs may not treat effluent to the prescribed standards.
4. Treated sewage can still lower dissolved oxygen levels in water, negatively impacting marine life.

Type III MSDs utilize an on-board holding tank that is not designed to allow discharge of sewage overboard. For Type III MSDs, the collected sewage must be pumped out of the holding tank at designated pump-out stations.

Compliance with state and federal boat sewage discharge laws and regulations is necessary to protect the quality of Oklahoma's precious water resources, as well as the health of visitors to Oklahoma lakes and the marine environment. In Oklahoma, failure to equip a boat with an MSD when required, or for illegally dumping MSD waste, can result in fines up to \$1,000.

Maintenance

There are several steps boaters can take to help keep their onboard toilets working properly.

- Every 2 months, add one quart of household white vinegar to the toilet bowl and flush. Let the vinegar stand in the plumbing lines for 12-24 hours before using the toilet. Vinegar clears the lines of salt and calcium, which can create blockages over time.
- Add half a cup of vegetable oil to the toilet, flush, and allow to sit overnight. The oil helps lubricate the moving parts of the toilet.
- Clean the toilet with a mild household cleaning product. Never clean the toilet with chlorine bleach, ammonia, pine oil products, formaldehyde, phenol derivatives, paint or lacquer thinners or solvents. These products are extremely damaging to the lining of the sanitation hoses. Once the hoses are damaged, odors can become a problem.
- It is not necessary to use a special, expensive marine toilet paper. An inexpensive single or dual ply from a grocery store will work just fine.
- Do not dispose cigarette butts, feminine products, or safe sex products in the toilet.
- Never use a plunger to unclog your toilet. Marine toilets are equipped with special flapper and duck bill valves to assist in pumping and evacuating effluent. Plungers can damage these valves and make your toilet inoperable.



For in-depth information about boat responsibility, visit the U. S. Coast Guard's Boating Safety website, <https://www.uscgboating.org/>.

The Oklahoma Clean Marina Program is a partnership between the Oklahoma Marina Association and the Oklahoma Department of Environmental Quality.



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