

Proposed Boat Pump-Out BMP

Wastewater Workgroup
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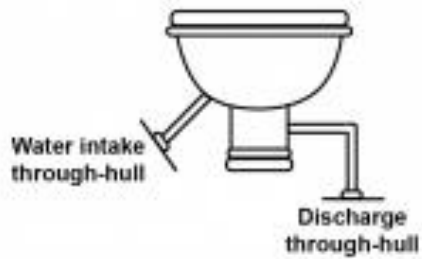
Chesapeake Bay Program
Science, Restoration, Partnership



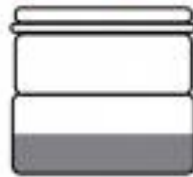
Figure 2
Impaired Waters: Lynnhaven River



1. Direct Discharge



2. Portable or Composting Toilet



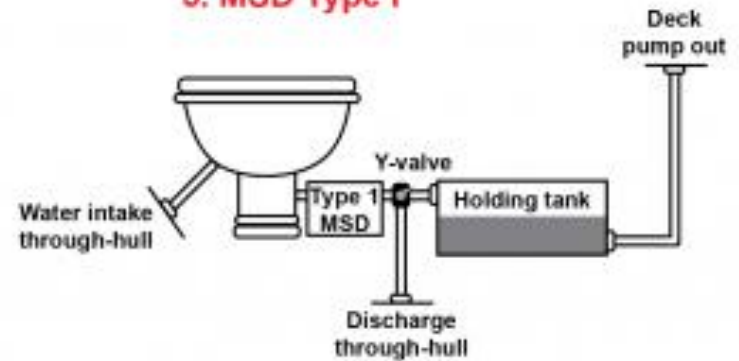
3. MSD Type III



4. MSD Type III with Optional Overboard Discharge



5. MSD Type I



Type I

A Type I MSD has a flow-through discharge design. The sewage is broken down and processed through the use of [chlorination](#) and/or [maceration](#). The [bacteria](#) count per one hundred milliliters of water must be less than one thousand. Discharges from Type I MSDs must not have evident floating solids.^[3] Type I MSDs also rely heavily on chlorination and maceration to break down the bacteria present.^[4]

Type II

Type II MSDs are similar to Type I, with a flow-through discharge. However, the sewage is broken up through the use of [aerobic bacteria](#) or some other biological digestion process. The bacteria count found in one hundred milliliters of water produced from this system cannot be greater than two hundred.^{[3][4]}

Crediting under an MS-4, since this discharge is not part of an MS-4 (this discharge is really part of the LA, not WLA).

Response: Good point. The credit should be under the load allocation (LA).

Ensuring no double-counting since this waste ultimately ends up in a WWTP for treatment (again, is this discharge part of the LA or part of the WWTP WLA—it cannot be both).

Response: Agreed. The discharge from the WWTP already includes the boat pump-out waste as an unquantified but small portion of their discharge load.

How to account for this as a credit in a “No-Discharge Zone” where these discharges are illegal.

Response: This is a key point. Because of this concern and others, the proposed boat pump-out BMP is now limited to the marine sanitation devices (MSDs) of Type I and Type II flow-through discharges, but only in areas of the Chesapeake designated as no-discharge zones that meet specific record keeping requirements at boat pump-out facilities. For details on MSD types please see: https://en.wikipedia.org/wiki/Marine_sanitation_device

Considering the concerns on specific calculations regarding the number of boats, those with MSD's capable of being pumped, nutrient values, and other calculated factors that impact the estimated loadings and benefits.with the lack of sufficient information on tracking and verification it does not seem warranted to include boat pump-outs as a simulated BMP. Also, considering the relatively small loadings there does not seem adequate justification ...to expend resources in the effort needed to adequately provide verifiable BMP reporting data to CBP considering the complexity of NEIEN and significant burden to provide adequate verification.

Response: Because of the difficulties and limitations in quantification listed above, Type III MSDs are no longer considered to be a nutrient reduction BMP under consideration by this report.