

How's your bilge system working?

On the Saturday before the rainy nor'easter of April 15-16, I was purchasing a portable submersible pump for my cellar. I thought it might be a good idea because the rains of May 2006 brought the water table right up through my cement floor, and I was pumping water out for seven days using my neighbor's pump.

While pondering the size of pump I needed, I was thinking that I hadn't written about bilge-pump systems for a while and, with the rainy season coming, it might be a good time to review a few things.

Fishing vessels are designed to be on the water, but water inside the vessel is a problem – a potentially devastating problem. It would seem reasonable for virtually all fishing vessels to be required to have high-water alarms and dewatering devices regardless of where they fish but, currently, those federal regulations only apply to about one-third of the commercial fishing vessels in Maine, for example.

High-water alarms

Rising water in the bilge activates the high-water alarm. This is not to be confused with the bilge alarm that alerts you if the bilge water is contaminated with fuel or oil and should not be pumped into the ocean.

If your bilge-pump system is manually operated, or if it has failed, a high-water alarm gives you time to investigate the cause, activate the second pump, make a distress call, and, if needed, don immersion suits and abandon ship.

For the \$50-\$60 it costs for each alarm, plus a few hours of your time to install one per compartment, the response time such an alarm buys you could be critical.

Why bilge system?

The Commercial Fishing Industry Vessels Safety Act specifically requires a

bilge system rather than just a bilge pump. That distinction might escape us until we realize that many fishing vessels have multiple watertight compartments – in fact we encourage compartmentalizing the bilge in order to prevent sloshing water from causing free-surface effect and putting the boat and crew at risk of capsizing.

In vessels without watertight compartments, the water will collect amidships when the vessel is at rest but in the stern when underway.

For a two-compartment vessel and for the vessel without watertight compartments, two bilge pumps are the minimum.

Short on capacity

Pumps are rated by their output in gallons per hour (gph). The numbers, which are usually in the thousands, such as 1,100, 2,000, 3,700 gph; seem huge. But in fact, many boats do not have enough capacity in their bilge system.

To check the capacity of your pump, mark two five-gallon pails in one-gallon increments. Then fill your freshly cleaned bilge with water and collect the water you pump out in the pails for exactly one minute. Multiply this number by 60 (minutes) to get the gallons-per-hour capacity of your pump.

This exercise will help you determine if you have the capacity you think you had. One rule of thumb for adequate bilge-pump gph capacity is 10 times the length of your vessel.

Also check ...

- Hoses and the through-hull fittings – Run the hoses “steep and short” to the through-hull fittings.
- Electrical service to the pump – Run the wires “high and dry” and make sure the connection is waterproof.
- Battery power – If you use a battery to power the pumps, check that the amperage

by Ann Backus, MS
Director of Outreach

Department of Environmental Health
Harvard School of Public Health, Boston MA
Phone (617) 432-3327;
E-mail <abackus@hohp.harvard.edu>



Theresa Dolloff graphic

on the battery is sufficient. A 60-amp-hour battery will power one 15-amp pump for four hours or two 15-amp pumps for two hours. Take into account the amperage of any other devices tied into the same battery.

Keep the bilge clean

Organic matter that is allowed to build up in the bilge not only has the potential to clog the pumps, it can result in dangerously high levels of H₂S, hydrogen sulfide gas.

If you recognize this as the gas that smells like rotten eggs, you are correct. However, one property of this poisonous gas is that it anesthetizes your nasal passages to the point where you can't smell it anymore.

On Dec. 5, 2001, the Coast Guard airlifted two crewmen and the captain from the Katrina Lee off Chatham. Steve Follet, 22, died from “acute H₂S intoxication” and the captain who tried

to retrieve Steve from the hold was ill for months in a Boston hospital.

Oh, I just checked my cellar pump. It is wildly pumping gallons of water and keeping the cellar from flooding. I'm glad I bought more capacity than I thought I needed. That's a good idea for everyone. ■

FISH SAFE:

- Consider purchasing and installing high-water alarms and a “bilge system” even if you are not required to have them.
- Check out your pumps and their capacity and clean them out.
- Clean out your bilge.
- Enjoy a dry boat!

Osmond Beal Designs from H&H Marine, Inc.

Osmond 42

LOA 42'
Beam 15'3"
Draft 4'8"
Cockpit 26'6"-28'
HULLS - \$30,550
KITS - \$56,130

