

## Archives

# Keep bilges clean and green

*Boating Industry*

Sunday June 1, 1997

Many marina owners have seen this scenario: A boat owner is relaxing on his aft deck, enjoying the sunset with a cocktail in hand. Suddenly, his boat's trusty bilge pump kicks on and behind the boat a rainbow appears on the water. But that's no rainbow. Along the bootstripe and heading toward the boat in the neighboring slip is a shimmering oil or fuel slick that has obviously come from their boat. The boat owner knows they're in trouble, and instead of sticking around to see if they get caught, they decide to take a sudden sunset cruise away from the scene of the crime. This scenario is fast becoming every boater's and marina owner's nightmare. Or it should be. States are writing tougher environmental statutes and enforcement is no longer such a long shot. Under the U.S. Federal Water Pollution Control Act, a boat owner can be fined up to \$10,000 for discharging oil or oily waste into the navigable waters of the U.S.

## Go to jail

But that's just for starters. For failing to report such a discharge which, you, the marina owner, just witnessed, you could receive a \$10,000 penalty and a year in jail. Then there's the cost of the cleanup, which could actually dwarf the fines. However, marina owners/operators and boat dealers can help boaters avoid potential spill problems by stocking the right bilge-keeping products and being a counselor to their customers. A growing number of marina operators are becoming increasingly involved in actively helping their customers master proper bilge hygiene. Marina owners, conscious of their own responsibilities, wanting to maintain an appealing facility and attuned to federal and state regulations, whether by choice or by law, are installing spill containment apparatus and oil-reception facilities. They are also instructing boat owners on how to use various bilge cleaning products on the market.

Most of the leading bilge cleaners on the shelves today are biodegradable, which is desirable if they do enter the water. They can be used as routine maintenance products in the bilge if there's no trace of oil, and because they are biodegradable, they can be pumped out into the water.

Even if bilge cleaners never enter the water and are pumped into a container and properly disposed of,

their biodegradable features are still a plus. Bilge cleaners are formulated to dissolve the "gook" that collects where stringers and cross members join the hull. When combined with water, they work with the gentle rocking of the boat. These products are usually surfactant- or citrus-based and can be used as an effective cleaner in a periodic maintenance program, more effective than general purpose cleaners or detergents. Jeff Tieger, president of Starbrite, says household cleaners often have an alkaline base that causes them to corrode wiring and to attack gel coat. A class of cleaning agents that should be avoided are solvents like kerosene or acetone. As obvious as this caution may seem, some boat owners still attack oil and grease accumulations with these toxic, highly flammable substances that are dangerous and environmentally hostile. New "green" degreasers like Castrol's Super Clean effectively remove build-up on engines. Be sure to advise your customers that even if they treat their bilge water with "biodegradable" cleaners, they still can not dump that bilge water overboard. Under most state laws, any oil dumped into the water is a violation. This includes oil that has been "dispersed" or "emulsified" by liquid bilge-cleaning products. Just because the discharge pumped out by the bilge pump doesn't leave a telltale sheen doesn't mean it's legal.

Liquid bilge cleaners can break oil into minuscule particles and can mix it with water much as dishwashing detergents deal with the grease on pots and pans but they can't eliminate it. It's still there. And when it's pumped overboard, it still adversely affects the environment. But it's easy to understand why many boat owners are unaware of this fact. They pour biodegradable cleaner into an oil-fouled bilge and believe that they're doing their bit to save the planet as they reach for the pump switch.

## What is 'biodegradable'?

The culprit in all this is the word "biodegradable." All it means is that the bilge cleaner itself is biodegradable. If you open the top, bypass the boat, and pour it directly into the water, you're clean. If you pour it into the bilge, and it mixes with oil or fuel before entering the water, you're guilty if not under federal law, which prohibits discharges that cause "... a discoloration of the surface of the water" or "... a sludge or emulsion beneath the surface ..." then at least in a growing number of states. While some bilge cleaner manufacturers warn consumers against pumping bilge contents overboard, it would

be good practice for all manufacturers to define "biodegradable" for buyers.

Let's say your customers play by the rules, and instead of allowing the oil to enter the water whether dispersed, emulsified, shaken or stirred they soak it up with oil absorbers and throw them in the garbage. However, what most customers don't know is that oil absorbers must be disposed of properly, which means delivering it to an oil collection or recycling site hopefully your marina.

Advise your customers to use oil absorbent pads or blankets to collect or stop leaks, and then use cleaners to clean up what little mess is left over after the pads do their job.

Absorbent and adsorbent pads, booms and pillows soak up oil in bilge water. Absorbent pads allow the oil to soak in, working the way disposable diapers do some boat owners have even been known to use diapers in bilges. Adsorbent pads and floating booms or "sausages," are usually made of polypropylene that repels water and attracts oil.

Pads, booms and pillows come from manufacturers such as 3M, Star brite, West Marine, Eagle Products and Applied Science, which has a 19" by 28" engine drip pad. Placing a pad of some sort under machinery will prevent slow oil, fuel and hydraulic fluid leaks from fouling the bilge.

Pads and booms must be disposed of as if they were containers of oil in other words, they can't go into garbage cans and Dumpsters. Most high-volume marinas have receptacles for these items. The oil can be squeezed out of them and the pads and the oil recycled.

Removing oil-soaked pads and booms from the bilge can be messy and can result in some oil being lost. Advanced Aquatic Products makes booms Bilge Bud-e and Bilge Mate-e that transform fuel and oil into a rubber-like solid, which eliminates vapors and can make removal and disposal cleaner and easier. Though they are still "hazardous waste" if dumped, they can be incinerated.

### **Bugs to the rescue**

Although the concept isn't new and has been applied in the commercial marine industry and in spill-cleanups for many years the latest splash in the bilge cleaner market is "bugs." Bugs are micro-organisms actually a blend of bacteria with an appetite for hydrocarbons that eat oil. The beauty of this approach is that the boat owner, ideally, is left with nothing that's a problem to dispose of, although

no one can be completely sure that the legal maximum parts-per-million level has been achieved.

If a boater finds they have a quart of oil in their bilge water, they can pour a product such as Biobilge from Bio-Concepts, ECP 79 from Earth Care Products or BOE 505 from Benson, Inc. directly into the bilge. Then, after waiting a day or two, the oil or fuel will have been devoured, leaving the bilge water clear and ready to be pumped out.

Wendy Heitzman, a detailer for Rybovich Spencer, says that residual bacteria can leave an odor if allowed to exist in fresh water. To eliminate it, she recommends putting salt water or rock salt in the bilge. However, Starbrite's Tieger says that uncertain shelf life, uneven effectiveness due to variations in temperature and salinity and the possible release of hydrogen sulfide, which can corrode electrical connections are possible drawbacks of that method.

Manufacturers and distributors of bacteria-based bilge cleaners say that a proper ratio of bugs to oil is essential and that time is required for the feast to be finished. They consider their products capable of producing virtually oil-free bilges if used as preventive agents.

Slow leaks can also be contained. One micro-organic product, Bio-Sok from Petrol Rem, Inc. contains its bugs in a bag. They're also encapsulated and don't spring into action until the oil hits the bilge, so Bio-Sok only works when it's needed. When they've had their fill of oil, the bugs turn on the bag itself and biodegrade it. All that's left is a string.

A similar product called Bio-Sock, distributed by Carr-Scarborough, has been used in the commercial marine industry for many years. Boat owners concerned about the possibility of pumping oil overboard might consider installing a sensor switch for their bilge pump.

Boat owners need to maintain a clean bilge without accidentally polluting the environment and getting into trouble.

How they accomplish this goal is more a matter of conscientious maintenance than of personal choice. But as a marina owner, you can help, because when it comes to products that can keep bilges green and clean, there are plenty available to stock on your shelves.

*John Clemans is a senior editor at Motor Boating & Sailing magazine of New York, N.Y.*