

Belvedere Yacht Club



“Green Marina”

Guidelines and Recommendations & Fuel/Oil Spill Remediation

March 1, 2018

1. Introduction

In early 2018 the Belvedere Yacht Club (BYC) embarked on an initiative to meet the certification requirements to be qualified as a “Green Marina” by the Maryland Department of Natural Resources (DNR). The reasons behind this initiative are numerous; to ensure our Club and its members are acting as good stewards of our property and environs, including Forked Creek, the Magothy River, and the Chesapeake Bay; to provide consistent guidance and recommendations to our members in responsible fueling, cleaning and operation of their vessels (including disposal of associated byproducts); implement and observe practices to reduce the amounts of waste generated by Club events, and to qualify for any financial benefits associated with the Green Marina designation (e.g. insurance premium reduction).

The following sections outline policies, procedures and recommendations for complying with the Club’s commitment to Green Marina qualification and certification.

2. Fueling and Petroleum Control

- a. **General** - Petroleum in or on the water is harmful and, in some cases, fatal to aquatic life. Floating petroleum is particularly bad because it reduces light penetration and the exchange of oxygen at the water’s surface. Floating oil also contaminates the microlayer. The microlayer refers to the uppermost portion of the water column. It is home to thousands of species of plants, animals, and microbes. Ninety-nine percent of the Chesapeake Bay’s blue crab larvae feed in the microlayer, which also serves as a nursery ground for rockfish. The abundance of life in the microlayer attracts predators: seabirds from above and fish from below. Pollution in the microlayer, thus, has the potential to poison much of the aquatic food web.
- b. **The Law** - The Federal Water Pollution Control Act (also called the Clean Water Act) prohibits the discharge of oil or oily waste into or upon the navigable waters of the United States or the waters of the contiguous zone if such discharge causes a film or sheen upon, or discoloration of, the surface of the water, or causes a sludge or emulsion beneath the surface of the water. Violators are subject to a penalty of \$5,000 from the U.S. Coast Guard. State law also prohibits the discharge of oil. The Maryland Department of the Environment may impose additional fines.

- c. **BYC Rules** - Refueling of gasoline and diesel is permitted provided a single portable container per occurrence is used which is certified for the appropriate fuel, with a limit of one occurrence in any 24-hour period, is in good condition with a secure cap, and has a capacity not to exceed 6 gallons. In the case of gasoline refueling, the Fleet Captain must approve the portable container.

A Spill Response kit is stored in the cabinet at the front of the pier if needed.

- d. **Fueling Practices** - Gas or diesel may be spilled during the act of fueling: as backsplash out the fuel intake or as overflow out the vent fitting. Spills of this sort harm aquatic life, waste money, and can result in stains on the hull and damage to the gel coat and striping. Follow these tips to avoid problems:

- i. Fill tanks to no more than 90 percent capacity—gas that is drawn from cool storage tanks will expand as it warms up onboard your vessel.
- ii. To determine when the tank is 90 percent full, listen to the filler pipe, use a sounding stick, and be aware of your tank's volume.
- iii. Rather than filling your tank upon your return to port, wait and fill it just before leaving on your next trip. This practice will reduce spills due to thermal expansion because the fuel will be used before it has a chance to warm up.
- iv. Use oil absorbent pads or containment jugs to catch all drips.
- v. Slow down at the beginning and end of fueling.
- vi. In Case of a Spill
 - 1. Stop the flow.
 - 2. Contain the spill.
 - 3. Call the U.S. Coast Guard National Response Center at (800) 424-8802.
 - 4. Call the MD Dept. of the Environment's Emergency Response Division at (866) 633-4686.

3. Bilge Maintenance

- a. Engine oil tends to accumulate in bilges. If no precautions are taken, the oil is pumped overboard along with the bilge water. Discharging oily water is illegal. To avoid fines and to protect water quality, follow these tips:
 - i. Keep your engine well tuned to minimize the amount of oil that is released. Be sure there are no leaking seals, gaskets, or hoses.
 - ii. Place oil absorbent materials or a bio-remediating bilge boom/sock in the bilge.
 - iii. Place an oil absorbent pad under the engine, and replace it regularly.
 - iv. Do not treat oily water with detergents. Soaps pollute and make clean up impossible. You may be fined up to \$25,000 for using soaps to dissipate oil.
 - v. To prevent oily bilge water from being discharged, consider installing a bilge pump switch that leaves an inch or two of water in the bilge. Alternatively, connect a bilge water filter to your vessel's bilge pump. Filters will remove oil, fuel, and other petroleum hydrocarbons from the water.

4. Disposal of Oil Absorbent Materials

- a. The disposal of used oil absorbent material depends on what type of product it is and how it was used:
 - i. Standard absorbents that are saturated with gasoline may be air dried and reused.
 - ii. Standard absorbents saturated with oil or diesel may be wrung out over oil recycling bins (if they are saturated with oil or diesel only!) and reused. Alternatively, since the Club does not provide recycling bins, they should be double bagged with one plastic bag sealed inside of another and tossed in the regular trash.

- iii. Bioremediating bilge booms/socks may be disposed in the regular trash as long as they are not dripping any liquid. Because the microbes need oxygen to function, do not seal them in plastic bags.

5. Emissions Control

- a. Marine engines - especially 2-stroke outboard motors - produce the highest average level of hydrocarbon exhaust emissions after lawn and garden equipment. Hydrocarbon emissions contribute to ground level ozone, a known health risk. Follow these tips to help your engine operate as efficiently as possible:
 - i. Use the gas to oil ratio recommended by the engine manufacturer. Too much oil can foul spark plugs and too little can lead to increased engine wear or even failure.
 - ii. Use premium two-cycle engine oil. Premium oils improve engine performance and reduce pollution because they burn cleaner, contain more detergents, and prevent formation of carbon deposits.
 - iii. Use gasoline with the octane level recommended by the engine manufacturer.
- b. Preventive equipment products are available commercially which can help you prevent spills and reduce emissions:
 - i. Install a fuel/air separator along your vent line. These devices allow air, but not fuel, to escape through a vent opening.
 - ii. Attach a safety nozzle to portable gas cans . These nozzles automatically stop the flow of fuel when the receiving tank is full.
 - iii. When it is time to buy a new engine, select a fuel efficient, low emission model.

6 Vessel Sewage

- a) **General** - Raw or poorly treated boat sewage is harmful to human health and water quality. 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 micro-organisms 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.

- b) **The Law** - According to Federal and State law, it is illegal to discharge raw sewage.
- i) All vessels with installed toilets must have a Marine Sanitation Device (MSD):
- (1) Type I systems mechanically cut solids and disinfect waste. They must bear a U.S. Coast Guard certification label.
 - (2) Type II systems are similar to Type I systems. The difference is that Type II's treat sewage to a higher standard and generally require more space and energy. Type II systems must also have a Coast Guard certification label.
 - (3) 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.
 - (4) 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.
- ii) Within a No Discharge Zone (NDZ), the discharge of all sewage is prohibited. Herring Bay and the northern Coastal Bays are 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. For locations and more information about No Discharge Zones in Maryland, visit

dnr.maryland.gov/boating/pumpout.

- c) **BYC Rules** - Belvedere Yacht Club does not own or provide a sewage pump-out station. Additionally, vessel owners are not allowed to empty portable toilets in the Club bathrooms. Accordingly, it is the responsibility of every vessel owner to follow the law, and to utilize pump-out stations at nearby marinas (e.g. Fairwinds) for sewage disposal. For locations and more information about pump-out stations in Maryland, visit dnr.maryland.gov/boating/pumpout.
- d) **What You Can Do** – The following tips/guidelines should be used for disposal/remediation of vessel sewage:
 - i) Install a holding tank. Information explaining how to retrofit a boat to include a holding tank is available on the Department of Natural Resources' web site at dnr.maryland.gov/boating
 - ii) 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.
 - iii) 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.
 - iv) Avoid holding tank products that contain quaternary ammonium compounds (QACs) and formaldehyde. These products may disrupt sewage treatment plants.
 - v) 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.
 - vi) 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.

7. Vessel Waste Containment and Disposal

- a. **General** - Marine debris - especially plastic - has become a major problem in our environment. For example, plastic may snare propellers and choke animals such as turtles or sea birds.

- b. **The Law** - Congress passed a law in 1987 to protect our waterways from garbage. The Marine Plastic Pollution Research and Control Act (Title II of Public Law 100-220) regulates the disposal of garbage at sea according to how far a vessel is from shore:
 - i. Within U.S. lakes, rivers, bays, sounds, and within 3 nautical miles from the ocean shore, it is illegal to dump anything other than fish scraps.

 - ii. Between 3 and 12 nautical miles from shore, it is illegal to dump plastic and any other garbage that is greater than one inch in size.

 - iii. Between 12 and 25 nautical miles from shore, it is illegal to dump plastic and dunnage, i.e, lining and packing material, nets, lines, etc.

 - iv. Beyond 25 nautical miles, it is illegal to dump plastic.

- c. **Best Practices** - Meeting the law is easy. Just follow these tips!
 - i. Contain Trash
 - 1. Don't let trash get thrown or blown overboard. .
 - 2. If trash blows overboard, retrieve it. Consider it "crew-overboard" practice.
 - 3. Pack food in reusable containers.
 - 4. Buy products without plastic or excessive packaging.
 - 5. Don't toss cigarette butts overboard. They are made of plastic (cellulose acetate).
 - 6. Purchase refreshments in recyclable containers and recycle them. There are recycling bins at the Club.
 - 7. Properly dispose of all trash on-shore, e.g., bring home or use trash cans or the covered dumpster at the Club where you can dispose of you waste.

 - ii. Recycle
 - 1. Recycle cans, glass, newspaper, etc. using the Club's recycling bins, or by taking it home and using your own recycling bins.

 - 2. Recycle antifreeze, oil, oil filters, and lead batteries. Call 1-

800-4-RECYCLE for locations. Visit menv.com to locate a free, public collection center for used oil and antifreeze.

3. Dispose of the following items according to the recommendations listed below. Call 1-800-4-RECYCLE or contact your county solid waste department for recycling center locations.
 - a. Oil - Recycle.
 - b. Oil Filters - Puncture and hot drain for 24 hours. Recycle oil and canister.
 - c. Antifreeze – Recycle
 - d. Batteries - Recycle. Boatyards and battery stores often accept them.
 - e. Paint and Varnish - Allow to dry completely, i.e., solidify. Dispose in regular trash.
 - f. Solvents, Gasoline and Pesticides - Bring to a household hazardous waste collection day.
 - g. Expired Emergency Flares - Contact local Coast Guard Auxiliary or Power Squadron who may be able to us in a demonstration or take to a household hazardous waste collection day with your county solid waste department.

8. Vessel Cleaning and Maintenance

- a. **General** - As a boater, you are well aware of the care your vessel requires. In order to keep your boat safe, reliable, and attractive, you must clean and maintain it. As you do so, minimize environmental impacts by following the recommendations listed here.
- b. **General “above water” Cleaning Tips** – Caution is necessary because your choice of products and activities can have serious impacts on water quality and aquatic life. For example, if paint chips from a hull are not contained, they may end up in the water. The heavy metals in the paint chips may then harm worms, oysters, and other bottom-dwelling creatures and, thus, disrupt the aquatic food chain.
 - i. Clean Carefully
 1. Wash frequently with a sponge or nonabrasive pad and plain water. This approach is very effective at removing salt. Additional “elbow-grease” is required to remove stains.
 2. When detergents are necessary, use soaps that are phosphate-free, biodegradable, and non-toxic. Any soap should be used sparingly because even non-toxic products

can be harmful to wildlife. For example, detergents will destroy the natural oils on fish gills, limiting their ability to breathe.

3. Wax your boat, if appropriate. A good coat of wax prevents surface dirt from becoming ingrained.
4. Clean teak with a mild soap and abrasive pads or bronze wool. This method is safe for the environment and better for the boat than the solvents in standard teak cleaners which tend to eat away at the wood and to damage seam compounds.
5. Avoid detergents that contain ammonia, sodium hypochlorite, chlorinated solvents (bleach), petroleum distillates, and lye.
6. Maintain Mindfully
 - a. Collect all paint chips, dust, and residue. Dispose in regular trash.
 - b. Share leftover paint and varnish.
 - c. Use less toxic propylene glycol antifreeze.
 - d. Avoid overkill. Select a bottom paint developed for the mid-Atlantic region.
7. Recycle Regularly
 - a. Recycle used oil, oil filters, and antifreeze.
 - b. Bring used solvents and waste gasoline to local hazardous waste collection days.
 - c. Call 1-800-4-RECYCLE for locations of recycling centers.
 - d. Visit menv.com for locations of free, public collection tanks for oil and antifreeze.

c. Underwater Hull Cleaning Tips

- i. Take advantage of “quick haul-out specials” if offered by a nearby marina.
- ii. Be aware that colored plumes should NOT be visible in the water near underwater cleaning activity. They indicate that paint, rather than just marine growth, is being rubbed off of your boat.
- iii. Let divers know you expect them to minimize pollution while working on your boat. Ask them to follow the best management practices for divers listed above.
- iv. If you know you will want a diver to clean your hull, select a hard or slick paint. Never hire a diver to clean a hull painted with ablative (i.e., sloughing) paint.
- v. Before hiring a diver, get local references from a marina operator or other boaters who know the diver’s work.
- vi. Be knowledgeable about your antifouling paint. When you have your boat’s bottom painted, ask the yard manager to provide a

written statement describing the name and type of paint used, health and safety warnings, maintenance requirements, and date applied. Keep a record of this same information if you paint your own hull.

- vii. Consult product labels to know how long to wait after applying fresh, hard bottom paint to have the hull safely cleaned underwater.
- viii. Consider low copper hard paints or non-toxic slick coatings and regular underwater hull cleaning instead of high copper content paints.

9. Use of Recyclable Materials for Club Functions

With the Club's limited facilities it is difficult to utilize washable/reusable dishware and flatware for Club events. That said, we should make every effort to use recyclable materials whenever possible, and to ensure those materials are placed in the marked recycle containers so that they can be handled responsibly. Items such as toilet paper, paper towels, napkins, paper cups and plates are now available with significant quantities of post-consumer recycled content. The purchase and use of recycled paper products plays a significant role in sustaining recycling efforts. To the extent possible, we should avoid purchasing and using disposable products that are not recyclable, or that tend to find their way into our waterways (e.g. plastic straws, plastic bags, etc.). Anne Arundel County maintains a comprehensive list of what materials can be recycled at http://www.aacounty.org/departments/public-works/waste-management/Materials_Accepted.

Appendix A - Clean Boating Tip Sheet

Vessel Cleaning and Maintenance

As a boater, you are well aware of the care your vessel requires. In order to keep your boat safe, reliable, and attractive, you must clean and maintain it. As you do so, minimize environmental impacts by following the recommendations listed here.

Caution is necessary because your choice of products and activities can have serious impacts on water quality and aquatic life. For example, if paint chips from a hull are not contained, they may end up in the water. The heavy metals in the paint chips may then harm worms, oysters, and other bottom-dwelling creatures and, thus, disrupt the aquatic food chain.

Clean Carefully

- Wash frequently with a sponge or nonabrasive pad and plain water. This approach is very effective at removing salt. Additional “elbow-grease” is required to remove stains.
- When detergents are necessary, use soaps that are phosphate-free, biodegradable, and non-toxic. Any soap should be used sparingly because even non-toxic products can be harmful to wildlife. For example, detergents will destroy the natural oils on fish gills, limiting their ability to breathe.
- Wax your boat, if appropriate. A good coat of wax prevents surface dirt from becoming ingrained.
- Clean teak with a mild soap and abrasive pads or bronze wool (bronze wool doesn't leave metal shards behind). This method is safe for the environment and better for the boat than the solvents in standard teak cleaners, which tend to eat away at the wood and to damage seam compounds.
- Avoid detergents that contain ammonia, sodium hypochlorite, chlorinated solvents (bleach), petroleum distillates, and lye.

Maintain Mindfully

- Collect all paint chips, dust, and residue. Dispose in regular trash.
- Share leftover paint and varnish.
- Use less toxic propylene glycol antifreeze.
- Avoid overkill. Select a bottom paint developed for the mid- Atlantic region.

Recycle Regularly

- Recycle used oil, oil filters, and antifreeze.
- Bring used solvents and waste gasoline to local hazardous waste collection days.
- Call 1-800-4-RECYCLE for locations of recycling centers.
- Visit menv.com for locations of free, public collection tanks for oil and anti-freeze.
- Contact your county solid waste department to inquire about household hazardous waste collection days.

Be a Conscientious Consumer

- Read product labels. Labels convey information about the degree of hazard associated with a particular product. For example, DANGER equates to extremely flammable, corrosive or toxic; WARNING indicates that the material is moderately hazardous; and CAUTION signals a less hazardous product.
- Select products that contain no warnings or which merely CAUTION consumers. Be wary of unqualified general claims of environmental benefit, e.g., “ozone friendly.” A better, more meaningful label would read, “This product is 95 percent less damaging to the ozone layer than past formulations that contained chlorofluorocarbons (CFCs).”
- For additional information about environmentally responsible products, contact Green Seal. Green Seal is an independent, nonprofit organization that sets environmental standards for consumer goods. Products that meet their criteria are awarded a “Green Seal of Approval.” You may search Green Seal’s database of Green Seal-certified, environmentally responsible products at greenseal.org or call (202) 872-6400.

Appendix B – Oil Spills

Here are some vendors of spill response equipment. *This list is not comprehensive and independent research will locate other vendors as well.*

In our Spill Response Kit (located in the Upper shed) the Club provides enough oil absorbent sweep to encircle our largest and a small quantity of oil absorbent pads to contain incidental spills.

The kit is clearly marked and includes emergency phone numbers and instructions.

Gloves, trash bags, goggles, life jackets, flash lights etc. should also be considered in the event of an incident at night or in foul weather. Be prepared!!

The following information is meant to be for the Fleet Captain and individual boat owners:

The Department of Natural Resources and the State of Maryland neither recommend nor endorse any product or service.

Oil Absorbents/ Bioremediation		
Absorbent Material Supply 5757 Willnean Drive Milford, OH 45150	Ph: 513-965-8693	<ul style="list-style-type: none"> • Oil-sorbs • Spill response kits
Advanced Aquatic Products International, Inc. 1107 Key Plaza #201 Key West, Florida 33040	Ph: 305-292-3070 Fax: 305-292-3771	Absorbs oil, gas & diesel from bilge Converts petroleum to rubber for safe disposal or recycling
Biocontrol Technology, Inc. 2275 Swallow Hill Road Building 2500 Pittsburgh, PA 15220	Ph: 800-260-0538 Ph: 412-429-1932 Fax: 412-279-1367	Bioremediating bilge sock (dehydrated microbes in a fabric sack) Converts petroleum to water and carbon dioxide
Blue Ribbon Environmental 6310 North Pittsburg St. Spokane, WA 99217-7552	Ph: 800-436-1050 Fax: 509-489-1785 www.bre-products.com info@bre-products.com	Bilge booms & mats Booms/sweep Fueling bibs
Breg Environmental Kate Tryon 20 Joseph Mills Drive P.O. Box 595 Fredericksburg, VA 22404	Ph: 1-800-433-1013 Direct Line: 540-479-4550 Email: kate@bregintl.com www.bregenvironmental.com	<ul style="list-style-type: none"> • Oil-sorbs (socks, booms, pillows, matting) • Spill response kits

Centek Industries PO Box 3028 Thomasville, GA 31799 www.centekindustries.com	Distributed through: MESCO: 800-257-7908 Oceana: 410-269-6022 or 800523-8890 Paxton Co.: 757-858-1812	Patented Mycelex technology in <ul style="list-style-type: none"> ▪ Fuel collars ▪ Spill response kits ▪ Pads and booms ▪ Bilge filtration systems
Chemtex Inc. 110 King Philip Road East Providence, RI 02916	Ph: 877-431-0200 Fax: 401-431-0090 www.chemtex-inc.com	Absorbents Booms/sweeps
Clean Water Solutions 40 Parker Avenue Newport, RI 02840	Ph: 401-846-4141 Fax 401-846-1008	Bioremediation Products (booms, etc. various sizes)
Dawg Inc. 80 Turnpike Drive Middlebury, CT 06762	Ph: 800-935-3294 www.dawginc.com	Absorbents Booms/sweeps
Eagle Marine 8117 Burch Park Road Evansville, IN 47711	Ph: 800-441-3470 Ph: 812-867-4150 Fax: 812-867-4152	Bioremediating bilge boom (dehydrated microbes in oil absorbent fabric) Converts petroleum to water and carbon dioxide Also, standard oil absorbent pads and booms
Enviro-Marine 3609 River Road Johns Island, SC 29455	Phone: 843-557-8000 Fax: 843-557-8001 Email: blehr@enviromarine.com	Oil absorbent material Preassembled spill response kits Fueling kit to capture backsplash and overflow System for recovering and recycling fuel and oil from used material
Tom Hime Enviro Supply & Service, Inc. 1791 Kasier Ave. Irvine, CA 92614	P/949.732.3321 F/949.757.0363 thime@envirosupply.net www.envirosupply.net	• Bilge socks
Immediate Response Spill Technologies 11760 Commonwealth Dr. Louisville, Kentucky 40299	Ph: 800-255-6073 Ph: 301-318-8172 www.ciagent.com	Powders, booms, pillows that absorb petroleum & solidifies into “rubber”
Lab Safety Supply PO Box 1368 Janesville WI USA 53547-1368	Ph: 800-356-0783 Fax: 800-543-9910 www.labsafety.com	Absorbents Booms/sweeps Stormwater controls Oil and antifreeze recycling tanks

New Pig One Pork Avenue Tipton, PA 16684-0304	Ph: 800-HOT-HOGS (468-4647) www.newpig.com	Absorbents Booms/sweeps Stormwater controls Oil/antifreeze recycling tanks, etc.
Oil Spill Containment Systems	Captain Ben G. Forrest 410-310-1987	Complete emergency spill kits designed for marinas
Oceana Ltd. 1811 Virginia St. Annapolis, MD 21401	Ph: 410 269-6022	Absorbents Booms/sweeps
Petrol Rem Universal Remediation 1405 Parkway View Drive Pittsburg, PA 15205	Ph: 412-788-0111 http://www.petrolrem.com/biosok.htm	
WYK Sorbent Products 10715 Kahlmeyer Drive St. Louis, MO 63132	Ph: 800-248-7007 Fax: 314-426-0145 www.sorb.com	Absorbents Booms Spill kits
Wale Environmental Products 400 Front St. PO Box D Hellertown, PA 18055	610-838-7047 800-444-WALE WaleEnvironmental.com	Absorbents Booms Spill kits