Barataria -Terrebone National Estuary Program

MARINA ENVIRONMENTAL MEASURES GUIDE

www.btnep.org

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2003

Barataria-Terrebonne
National Estuary Program

Marina
Environmental Measures Guide

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NATIONAL ESTUARY PROGRAM

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BTNEP Marina Environmental Measures Guide

BTNEP logo, EPA, gom Program logos

Southern Louisiana's recreational boaters enjoy one of the most popular settings on the Gulf Coast for boating, swimming, windsurfing, sailing and fishing. From Sabine Pass to Pass Rigollets, this region offers thousands of miles of navigable waterways and a vast coastline of natural beauty. The ecosystem here is intricate and delicately balanced. From the tiniest microscopic plants and animals to the largest marine creatures, life in Louisiana coastal waters depends upon the health of each organism in the food chain. Destruction of wetlands, losses in spawning grounds, impaired water quality and declining food sources can have devastating effects on the entire food chain, threatening many species, including humans.

Louisiana offers some of the nation's most scenic coastlines, but preventing degradation of our seascape requires balanced, common sense management. Understanding the complexities of our resources and learning how we affect our environment, for better or for worse, will improve how we manage our coastal environment. We have implemented ecosystem management by introducing marinas, boatyards and boaters to simple, innovative solutions called the Barataria-Terrebonne National Estuary Marina Environmental Measures Program.

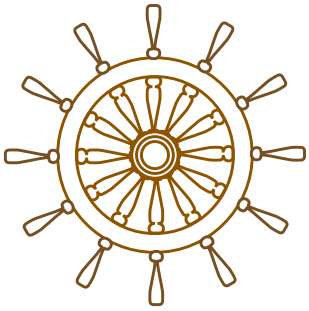
Pollutants enter the Gulf of Mexico from a wide range of sources, including chemical, oil, fuel and sewage discharges from recreational boats. Many boaters feel environmental and regulatory efforts unfairly single them out and that efforts should focus on pollution discharges from large industry and sewage from municipalities, i.e., "the big polluters." However, these "point source" dischargers have long been regulated by federal and state governments. The impacts resulting from many "non-point sources" of pollution must also be recognized. Such sources include urban and agricultural runoff, failing septic tank systems, commercial shipping and recreational boaters, all of which can significantly contribute to contamination of our inland and coastal waters.

Remember your behavior has an effect on the quality of the water that surrounds us!!

By preventing oil and sewage discharges, managing hazardous and solid waste safely and using less toxic products, you can help to preserve the beauty and bounty of the Barataria-Terrebonne National Estuaries coastal waters.

What Can You Do?
Be Part of the Solution!

Whether you do all the work yourself, or hire someone else to maintain your boat, following these top ten tips can make a difference.



There are over

327,000

Louisiana boaters.

Your boating habits can

make a difference!

Top Ten Clean & Green Tips

1. Non-toxic doesn't mean non-effective.

   Reduce use of toxic cleaning products. Most marine stores carry a full line of non-toxic products for bilge cleaning, holding tanks, and boat maintenance and repair.

2. Keep it out of the water.

   Be careful to not let dust from sanding, debris or liquids from maintenance activities enter the water. Use tarps or other covers to safely contain dust, debris and cleaners when doing slip-side maintenance.

3. Don't throw it away.

   Recycle oil, oil filters, paint, lead-acid batteries, paper, aluminum, plastic and glass. Use refillable and reusable items whenever possible.

4. Spills aren't slick - soak or wipe it up.

   Place an absorbent pillow or pad in the bilge to prevent oily bilge-water discharges and never apply detergents or other chemicals to an oil sheen on the water. Use absorbents instead. Prevent oily leaks through proper engine maintenance.

5. Know where it goes.

   Dispose of hazardous wastes at a household hazardous waste collection center or event. (See Who to Call.)

6. Plan ahead.

   Use sewage pumpouts, dump stations or shoreside facilities whenever possible. Never discharge untreated sewage anywhere within the 3-mile territorial limit or into shallow waters, or treated sewage into shallow waters, bays and marinas.

7. Pump it right.

   Don't overflow or "top off" the gas tank, and use a rag to wipe up any drips. Install fuel tank vent whistles or fuel/air separators to avoid spills.

8. Stow it. Don't throw it.

   Keep trash and other disposable items on board and securely stowed for shore-side disposal. Pay special attention to plastics, styrofoam and other non-biodegradable products that may blow overboard.

9. Keep your dock box clean.

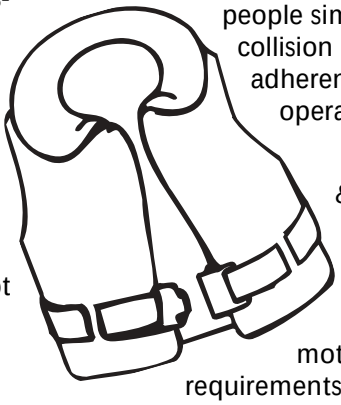
   Line the bottom of your dock box with tarps and absorbent pads to contain spills. Make sure all chemicals are clearly and properly labeled and store them safely in closed containers.

10. Don't keep it to your self.

    Share your knowledge of environmentally safe products and practices with others. Ask them what alternatives they've found. Remember, "pier pressure" really works.

Emergencies and Safety

Some situations that occur in marinas may require immediate response. Calling 911 may be appropriate in some instances, but additional staff response is necessary in nearly every emergency situation. Preparation and preplanning are important and without a quick reference guide, occasional situations and problems may not be handled with the best results.



1. Generate the basic information for handling emergencies by conferring with all emergency responders in the area.
2. Compile a set of emergency response procedures in a notebook organized with easily understood headings.
3. Acquaint all marina employees with the contents of the Emergency Booklet and the responsibilities for all situations. Review the contents annually, review for accuracy and evaluate the effectiveness of the procedures.

Boat Safety

It Wont Work if You Don't Wear It

In the 1990s an average of 40 fatalities a year included boaters just riding, skiers, fishermen and women, duck hunters, deer hunters, canoeist, and sailors. Many people simply fall overboard or are involved in a collision that is avoidable if a PFD is worn and adherence to some basic rules of boating operation are followed.

The Louisiana Department of Wildlife & Fisheries offers a boating basics class that lasts between 6 to 8 hours that is usually completed in a day. The course includes information on choosing a boat, classification, hulls, motors, legal requirements and equipment requirements, many navigation rules, navigation charts, trailering, sailboats, and related subjects that include canoeing, personal watercraft and more. Completion of the course will result in the student being issued a vessel operator's license.

http://boatsafe.com/

Hurricane Preparations

The high winds and water that occur with tropical storms and hurricanes can cause the release of normally secure pollutants into the environment. Hurricane conditions can damage or sink boats that would spill or vent fuel, oil, or other chemicals and marinas can be impacted by releases of paints, fuels and wastes.

GOAL: Remove sources of pollution from areas that may be affected by the storm. Secure everything that could blow into the water and cause contamination.

1. Evacuate boats inland or move out of slips to open or protected waters at the earliest possible time, while it is still safe to move them.
2. Remove portable containers and cans of paint, cleaners, petrochemicals, etc. from the affected areas.
3. Have waste haulers pick up all solid waste when the possibility of an approaching storm is evident.
4. Underground or aboveground fuel tanks that could be flooded by storm surge should be fitted with appropriate tie-downs and topped off with fluids.

Hazardous Waste Disposal

Many of the products used to maintain boats are considered hazardous waste. And, like the products we use at home, they must be disposed of in an environmentally safe manner (i.e., taken to a hazardous waste collection center, facility or roundup event). Additionally, some cities offer regular curbside collection programs for specific hazardous wastes, such as motor oil.

By adhering to the 3 "Rs": **Reduce, Reuse, Recycle!**, you can help control the generation of hazardous waste and minimize impact to the environment.

- Reduce the amount of hazardous materials used, both on your boat and at home.
- Reuse any leftover products - save them or give them to someone else.
- Recycle everything possible.

Federal law requires that most hazardous products include specific types of information on their labels. A signal word, such as "danger/poison," "warning" or "caution," can give you a general indication of the toxicity of a product. If you want more information on a product's contents, ask your retailer or contact the manufacturer for the Material Safety Data Sheet (MSDS). The MSDS will list any constituents considered a hazardous substance by the federal government.

It is illegal to dispose of hazardous materials into a dumpster or trash can, on the ground or in the water. Leftover oils and fluids, batteries, antifreeze, paints, varnishes, strippers, thinners, wood preservatives, turpentine, cleaners, pesticides and other chemicals should always be reused or properly disposed of at an appropriate facility. To find out more information about disposal of these and other hazardous wastes, contact your local city or county or the Household Hazardous Waste Collection Program at www.deq.state.la.us/assistance/earthday/swapday.htm or call 225/389-5194) or 800/CLEAN-UP nationwide. Additional local reference numbers are located at the end of this section under Who to Call.

Clean & Green Solutions

1. Waste oil & oil filters.

Recycle used oil and drained used oil filters. Most marinas offer oil recycling services for their tenants and guests. If not, call 800/CLEAN-UP for the location of an oil recycling center near your home or the harbor. Don't throw oil-soaked rags and absorbents overboard or into trash receptacles or dumpsters; they are also considered solid or hazardous waste and must be disposed of safely.

2. Antifreeze.

Antifreeze is usually recyclable and must be kept separate from other wastes to be recycled. All antifreeze recyclers will accept ethylene glycol (blue or green) and some will also accept propylene glycol (pink). Use your marina's collection program if one is available. If not, bring these wastes to a local household hazardous waste disposal site or collection event.

3. Transmission & hydraulic fluids.

Some oil recyclers allow transmission or hydraulic fluid to be mixed with waste oil for recycling. Check with the collection service before mixing transmission or hydraulic fluid with any other waste.

4. Lead acid batteries.

Never store old batteries on the dock or where they may be exposed to storm water or wash water. If your marina does not collect batteries for recycling, they can be brought to a local recycling center or household hazardous waste collection event. Any retailer that sells new batteries must accept old ones for disposal and recycling.

5. Freon.

Venting Freon into the atmosphere is illegal. Only certified technicians may purchase Freon, service units using Freon and remove or dispose of old units using this agent.

6. Zincs.

When having the zinc anode removed from your boat's bottom, either at a boat yard or by a diver, ask that the zinc be saved and recycle it! Scrap metal recyclers may pay for the metal. Installing a corrosion control system will reduce the corrosion rate of zincs. Talk to a marine supplier for information about corrosion control systems.

7. Paints, varnishes & wood preservatives.

Many bottom paints, varnishes and wood preservatives contain chemicals that are toxic to marine life and can

even be carcinogenic if ingested. Limit the use of these products by purchasing only the amount needed to get the job done. More information on these products can be found under Boat Maintenance and Repair on page ?.

Smart Shopping

Hazardous Boating Products

Hazardous boating products contain ingredients that, because of their chemical properties, have the potential to harm people and/or the environment. In addition to the materials identified under Hazardous Waste Disposal, other types of hazardous products are typically used for:

- Boat maintenance & repair
- Boat cleaning
- Hull cleaning & antifouling coating
- Sewage treatment

Personal Protection

Even though products used in these operations can be easily purchased at your local boat supply or hardware store, many of the cleaners, solvents, degreasers, paints, strippers and other products used to refinish or clean a boat are toxic both to you and the environment if used or disposed of improperly. They contain chemicals that are poisonous, corrosive, flammable and/or chemically reactive, and many have not been tested for potential long-term health effects on humans or on the marine environment. Always wear protective clothing and use a respirator, gloves and proper eye protection when handling these products to prevent direct contact. Remember, proper disposal of all household products and boating supplies is necessary to protect both yourself and the environment, in and out of the water. Recreational boaters can make a difference! Since the cumulative impact of small sources of pollution can have a significant impact on the marine environment, choosing less toxic products for cleaning, maintenance and repair of your boat will help protect the marine environment.

Vote With Your Dollars!

As an informed consumer, you can encourage manufacturers to develop less toxic products for both recreational boating and home use. By purchasing less toxic or non-toxic alternatives, you send a powerful message to manufacturers that encourages them to produce safer alternatives to hazardous boat and household products. If your local marine supply store does not stock less toxic products, ask the store manager to make them available. It is important to note that some of the materials recommended throughout this section may not be non-toxic, but rather are less toxic and safer alternatives to more hazardous products.

Clean & Green Solutions

Become a Smart Consumer

1. Use elbow grease instead!
2. Use less toxic alternatives whenever possible.
3. Buy only the amount that you need.
4. Properly handle and store hazardous materials.
5. Dispose of hazardous waste legally and safely.
6. Take time to read the label

Talking Cents!

In addition to the adverse effects marine debris can have on marine life, it can threaten the safety of boaters and result in costly repairs. Discarded nets and monofilament fishing lines have been known to obstruct propellers, and plastic sheeting and bags can block cooling intakes. Insurance companies estimate that more than $50 million has been spent for repairs from damage caused by marine debris.

Plastics & Trash

Marine debris and beach litter are serious problems. Many types of marine life, including fish, otters and seabirds often mistake plastics and other trash for food. According to the Marine Mammal Center, commonly mistaken items include cigarette butts, six-pack rings, plastic bags, discarded nets, Styrofoam, bottle caps, fishing line and other refuse. In addition to eating these items, birds and mammals often feed them to their young. Either way, the result is the same - starvation, suffocation or poisoning. Some types of debris, such as discarded nets, fishing tackle and plastics also cause death by entanglement.

Each American discards 1,500 POUNDS of trash annually

The Ocean Is Not A Dump!

In 1973, a treaty known as the Marine Pollution Act (MARPOL) was enacted to protect the ocean environment. To date, 85 countries, including the United States, have signed this international treaty. MARPOL specifically prohibits the dumping of any plastics into the ocean or navigable waters. Dumping of other types of refuse, including garbage and food, is not permitted anywhere within the three-mile territorial limit and is restricted outside that limit.

- All boats over 26 feet must display a MARPOL placard in a clearly visible location. These placards address federal marine pollution prevention laws and are available at most marine supply stores if your boat does not already have one.
- Boats over 40 feet that are ocean-going, equipped with a galley or berthing or engaged in commerce are required by MARPOL to have a written waste management plan describing the procedures for collecting, processing, storing and discharging garbage.
- MARPOL violations are subject to a maximum civil penalty of $25,000, a fine up to $50,000 and imprisonment up to five years per violation. Additional requirements for waste management apply to boats over 40 feet. For more information and to obtain free MARPOL placards, contact the Marine Safety Office of the U.S. Coast Guard at 562/980-4444 or the Louisiana Department of Wildlife and Fisheries at 225/765-2800.

DID YOU KNOW…

The amount of trash dumped at sea in one year (14 billion pounds) is more than double the total US fish catch in one year (6 billion ponds).

Clean & Green Solutions

1. Leave it ashore.

Whenever possible, remove unnecessary packaging before leaving shore and recycle what you can.

2. Avoid excess packaging.

Purchase items in bulk. Choose products with recyclable or minimal packaging.

3. Prevent overboard disposal.

Don't let fishing lines, Styrofoam, plastic bags or six-pack rings get released or blown overboard. Stow trash securely and always bring it back to shore.

4. Clean up litter and debris.

While on your boat, pick up any litter or marine debris that can safely be reached with a net and dispose of it properly (recycle it if possible). On shore, volunteer for a beach or marina cleanup event.

5. Report sightings of marine debris (if you can't pick it up).

Better yet, take a video or photograph and contact the U.S. Coast Guard on channel 16 or the National Response Center at 800/424-8802.

Oil & Fuel

Large oil spills, such as the Exxon Valdez spill, have received much public attention in recent years. However, according to the National Research Council, these large spills account for only about 10 percent of all the oil that ends up in our waters each year. The other 90 percent comes from contaminated urban runoff and other non-point sources, which include improper disposal of used oil products, bilge water, outboard motors and careless fueling habits. Oil pollution causes severe damage to the marine environment. A single pint of oil released into the water can cover one acre of a waterbody. It creates a sheen on the water and kills surface-dwelling organisms such as plankton, part of the first link in the aquatic food chain. Toxic heavy metals in engine oil can also be absorbed by aquatic organisms and bioaccumulate in the food chain, contributing to seafood and shellfish contamination. In addition, improper handling and storage of oil and fuel may pose risks to your own health and safety. Solvent or oil soaked rags and absorbents can be extremely flammable if not stored properly! Read the directions on the container of any chemical for proper storage recommendations. Otherwise, put these rags/absorbents into a metal container with a tightly closed lid until they can be properly disposed. Hydrocarbons and heavy metals, which are present in petroleum products, are toxic even in minute quantities. Always be careful when using any petroleum products around the water!

DID YOU KNOW...

Federal law requires all boats 26 feet or longer to display an oily waste discharge placard in the engine compartment or near the fuel tank.

Clean & Green Solutions

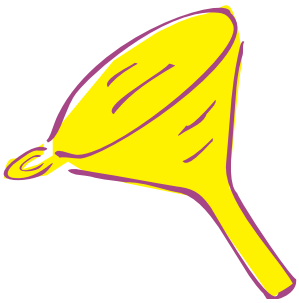
For Outboard Engines

1. Use the premium TC-W3 oil recommended by your engine's manufacturer.

Premium TC-W3 oils contain more detergents and burn cleaner than older type TC-W2 oils, so look for a "biodegradable" TC-W3 oil. Clean burning is especially important for an engine that runs only intermittently and sits idle for long periods (like a sailboat auxiliary). If the engine is used only occasionally, add fuel conditioner to the gas at "operational concentration" to keep it from going stale (see the instructions on the container).

2. If your engine does not have oil injection, carefully measure oil before mixing it with gasoline.

Use funnels for pouring oil and keep a supply of absorbent pads on board for cleaning up spills. Remember that too much oil causes inefficient burning, while too little oil can cause engine damage.



Clean & Green Solutions

For all Boaters

1. Don't pump oily bilge water overboard.

- Practice preventive maintenance. Regularly inspect lines and hoses for deterioration and fix small leaks that drip oil into the bilge.
- Repair water leaks to reduce the volume of water entering the bilge and mixing with oil drips.
- Put an absorbent pad or pillow in the bilge. Wring out the pads onshore into a container designated for recycled oil and reuse the pads if possible. Discard oil-soaked absorbents as hazardous waste. Ask your marina to collect used absorbents if they don't already. Otherwise, safely store them until they can be brought to a household hazardous waste disposal facility or collection event.
- If the problem is too large for an absorbent pad, use a bilge pumpout service.
- Do not add detergents or bilge cleaning chemicals to bilge water before pumping it out. These chemicals merely disperse the oil in bilge water and foul bilge pumps and absorbent pads.

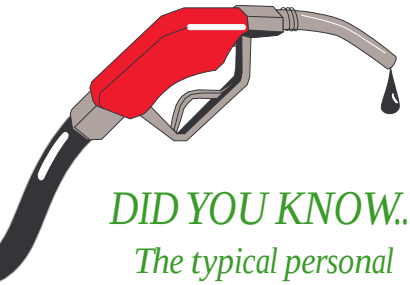
2. Keep a clean machine.

Whether doing the work yourself or using other maintenance services, make sure the following practices are implemented for maintaining your boat's engine.

- Keep your boat's engine tuned and operating at peak efficiency. Check lines and hoses for possible chafing or deterioration. Rubber fuel lines tend to quickly deteriorate due to the alcohol content of unleaded fuels. Signs of deterioration include dry and cracked or soft and mushy spots. Replace those in poor condition with any hose marked "USCG Type A." The U.S. Coast Guard has approved an alcohol resistant fuel line hose, identified as SAEJ1527, which is now widely used.
- Replace oil pan gaskets and oil seals whenever the motor has been removed for maintenance. This will reduce leakage and save you money in the long run.
- Avoid or reduce use of engine cleaners. Steam cleaning, if available, is a better alternative.
- Bring your waste oil and used oil filters to a used oil recycling center. For information on oil and other hazardous waste recycling, call 800/CLEAN-UP.
- Don't mix waste oil with water, paint, gasoline, solvents, antifreeze or other substances as it makes the oil non-recyclable and increases the disposal cost.

Illegal dumping of harmful quantities of oil into the water can result in civil penalties of up to $25,000 per violation under the provisions of the Federal Water Pollution Control Act (Clean Water Act), which is enforced by the U.S. Coast Guard.

Report spills of oiil or other hazardous substances to the national Response Center at 800/422-8802.



DID YOU KNOW...

The typical personal watercraft vessel operated for 7 hours pollutes as much as a 1998 automobile driven 100,000 miles.

3. Be careful at the fuel dock.

"Topping off" the tank at the fuel pump means waiting for fuel to spill out of the overflow vent. There's no need to cause this type of discharge - just follow these tips.

- Try using a long dipstick to check the boat's gas tank.
- Install a fuel/air separator, a fuel gauge or a tank whistle in the fuel tank vent line - these devices help prevent fuel spills.
- Learn to gauge your boat's fuel tank capacity, slow down the fuel pump and keep a watchful eye during fueling.
- Always have a rag ready to wipe up any fuel spills.
- Ask your marina operator to install an automatic shut-off valve on the fuel pump.

4. Recycle antifreeze.

Antifreeze can be recycled if it's kept separate and not mixed with any other wastes. Although few marinas collect antifreeze, some boat repair yards do. Local household hazardous waste collection programs will also accept and recycle these fluids. Where manufacturer specifications

5. Recycle transmission and hydraulic fluids.

Transmission and hydraulic fluids can be recycled. Some waste oil recyclers permit mixing transmission or hydraulic fluid with waste oil, but check with the collection center or recycler prior to mixing these wastes. If they can't be recycled at your marina, keep them separate from other fluids until they can be brought to a household hazardous waste disposal center or collection event. Hydraulic fluid can also be very harmful to the marine environment if it leaks into the bilge or if it's accidentally spilled. Try to find one that is "biodegradable." hazard.

Sewage Discharges

The Louisiana coast and inland waters offer boaters a variety of on-the-water experiences - from exploring the region's bays, bayous, lakes and estuaries to sailing the Gulf of Mexico. Unfortunately, recreational boaters add to the pollution problem when they don't dispose of boat sewage properly.

Recreational Boat Sewage Discharges - What's the Effect?

Human sewage from boats creates environmental and human health problems, especially in shallow or poorly flushed inlets or marinas, because this type of discharge introduces disease-carrying bacteria and viruses into the water. Swimming, skiing or surfing in polluted waters or eating raw or partially cooked shellfish taken from contaminated waters can make you sick.

Untreated boat sewage also lowers oxygen levels in water, making it more difficult for fish and other aquatic life to survive, and it creates an aesthetic problem as well. Although it's illegal to discharge untreated sewage into any navigable U.S. waters, some recreational boaters still discharge raw wastes into coastal and inland waterbodies. You might think an individual boater's contribution to the overall pollution problem is small, but when you consider that there are over 84,000 boats are registered in the Barataria-Terrebonne National Estuary, it's easy to see that those individual contributions can add up to a significant total.

MSD's - Preventing Pollution

A Marine Sanitation Device (MSD) is designed to keep untreated sewage out of the water. All boats with installed marine toilets must have an operable U.S. Coast Guard approved MSD. There are three types:

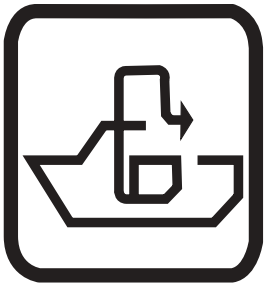
- Type I MSDs chemically treat sewage so that the discharged effluent meets specified standards for bacteria content and contains no visible floating solids.
- Type II MSDs are similar to Type I MSDs, but meet a higher sewage treatment standard. Type II MSDs are typically found on larger boats. Without treatment, discharge from a Type I or II MSD is considered raw sewage - an illegal discharge within the three-mile limit.
- Type III MSDs (holding tanks) retain sewage for shore based disposal at a pumpout station or for overboard discharge beyond the three mile territorial limit.

Boats 65 feet or less in length may install a Type I, II or III MSD. Vessels over 65 feet must install a Type II or III MSD.

Connecting your marine toilet to an MSD is a fairly straightforward process that doesn't require removing the boat from the water. For more specific information, ask your marine retailer, consult recent boating magazines or call the American Boat and Yacht Council at 410/956-1050 for the detailed booklet, Sewage Holding Tank Systems for Recreational Boats. An alternative way to deal with vessel sewage on small boats is to keep a portable toilet on board. Portable toilets require minimal space, have the added advantages of being inexpensive, reliable and simple to operate and can be emptied at pumpout or dump stations. Environmentally speaking, a Type III MSD or a portable toilet may be best sewage can be retained on board until it's conveyed to a treatment plant and on board chemical use is minimized.

The untreated discharge from one weekend boater puts the same amount of bacterial pollution into the water as does the sewage of 10,000 people whose sewage passes through a municipal sewage treatment system.

The New National Pumpout Symbol



Look for the symbol and remember,

"Don't Dump, Use the Pump."

The "Y" Valve

"Y" valves are used as part of the MSD system to direct waste either overboard, into the holding tank or to a deck pumpout fitting. If your holding tank (Type III) is plumbed with a Y-valve for overboard discharge and you're operating within the three-mile limit, you must secure the Y-valve in the closed position with a padlock or non-releasable wire tie, or remove the handle entirely to prevent the possibility of a discharge overboard.

Additive Advice

Chemical disinfectants and deodorizers used in many MSDs can contain chlorine, quaternary ammonia and formaldehyde - all harmful to aquatic life. It only takes one-tenth of a part per million of chlorine to harm or kill aquatic organisms in the vicinity of a discharge. Read labels carefully and take advantage of the many environmentally friendly products now available without these ingredients. Use only the amount recommended to ensure adequate treatment.

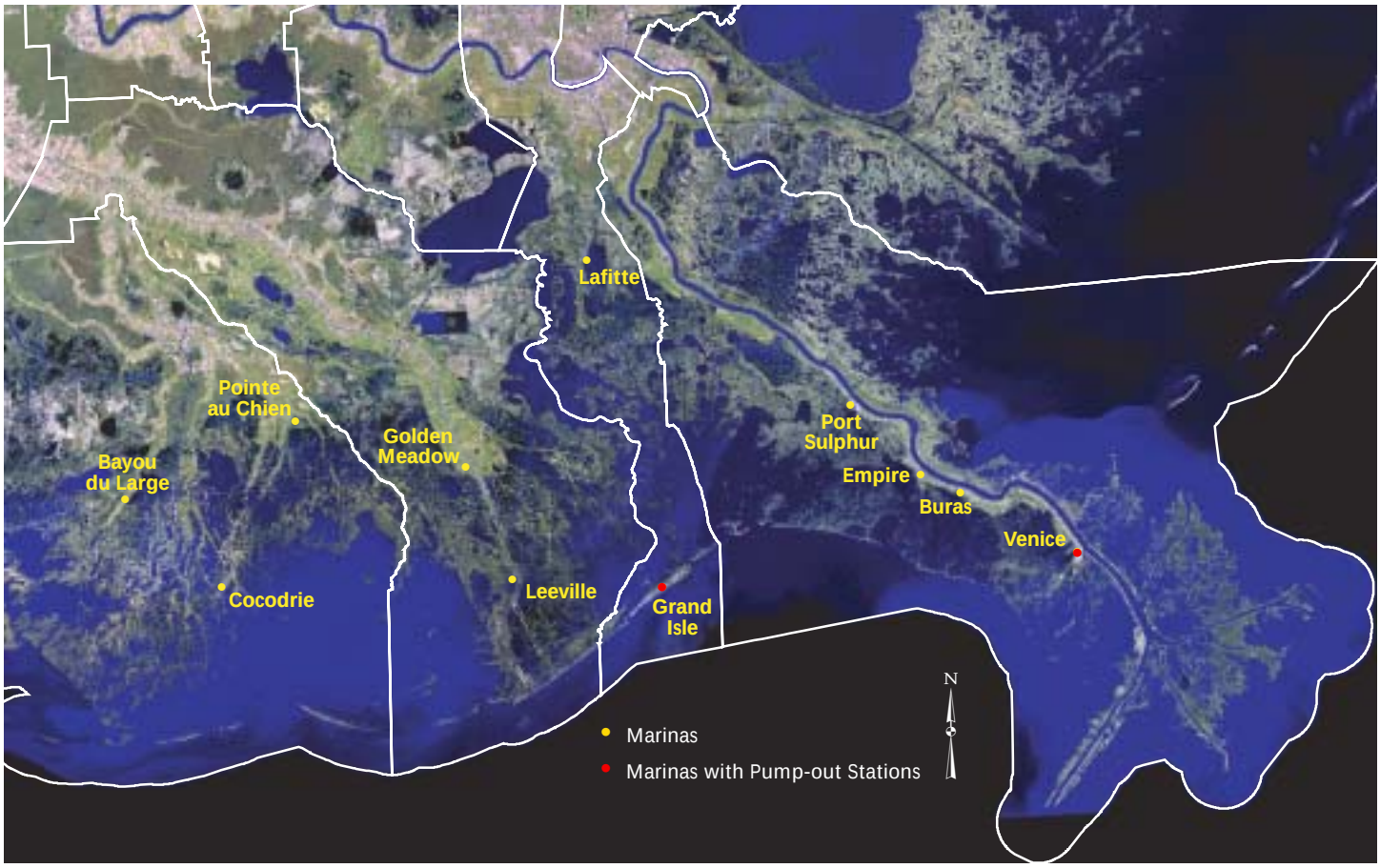
"No-Discharge" Zones

In most cases, it's legal to discharge treated wastes from Types I and II MSDs directly overboard. Always avoid discharging near sensitive shellfish beds, in shallow coves and marinas or around swimming, surfing and wading areas. Also keep in mind that it's illegal to release even treated wastes into a federally or locally designated No-Discharge zone. If operating in these waters, your Type I or II MSD must be connected to a holding tank or secured to prevent any sewage discharge.

For more information about this law, contact the Louisiana Department of Wildlife and Fisheries at (225)765-2800 or the Louisiana Department of Health and Hospitals at . and local ordinances preventing the discharge of other waste (such as grey water) into their waters. If unsure, check with the marina operator or Harbor Master for a complete list of local ordinances.

Places to Pump & Dump

When it's time to empty your holding tank, look for the new national pumpout symbol - it will guide you to a pumpout facility. Additionally, public pumpout locations can be found in the harbor section



of this Guide or by calling 800/ASK-FISH, which identifies pumpout stations nationwide. It only takes a few minutes to pump the waste from your holding tank. If you've never used a pumpout before, follow posted instructions or ask the marina operator for help. If the pumpout appears to be out of order, it's possible that the previous user did not properly flush the line. To do this, simply put the hose into the water, open the valve and flush the line for 45 seconds. A pumpout line should always be flushed both before and after use to prevent clogging and/or breakdown. Call a mobile pumpout service if you don't want to pump the tank yourself. Empty portable toilet waste at one of the local pumpout/dump stations or into your toilet at home.

If your marina doesn't have a pumpout station, encourage them to install one. Clean Vessel Act grant funds are available to construct and/or renovate a pumpout or dump facility. For more information and grant guidelines, contact the Clean Vessel Act Program of the Louisiana Department of Wildlife and Fisheries at (225) 765-2605.

The Louisiana Department of Wildlife and Fisheries has already cost-shared the construction of boat sewage disposal facilities at 14 marinas and boat ramps across Louisiana, using CVA grant funds from the U.S. Fish and Wildlife Service (USFWS). These grants reimburse the marina operator up to 75% of the cost of installing or renovating boat sewage disposal systems. Most costs associated with the installation of pumpout and/or washdown stations are eligible for reimbursement under the grants, including design and engineering, permits, equipment, electrical/water/sewer hookups, and construction/installation. The only expenses expressly forbidden by federal regulations are those associated with the purchase and installation of sewage treatment plants or systems.

Clean Waterways

Keeping Louisiana waterways clean and healthy has never been more important. By properly disposing of human sewage from your boat, you make a real water quality difference and help protect the resources we all enjoy so much along the Southern Louisiana coastline.

Clean & Green Solutions

1. Know the law.

It's illegal to discharge untreated sewage anywhere within the three-mile territorial limit (a region that includes the entire Southern Louisiana coastline) or even treated sewage into any designated "No Discharge" zone.

2. Get equipped.

Get a U.S. Coast Guard-approved Marine Sanitation Device (MSD) for your boat or consider using a port-a-potty. When used correctly, these are the best choices for the environment because the waste can be discharged into an on-shore sewage treatment system and there is no need to use toxic additives or chemicals.

3. Use shore-side facilities.

Even if you have a Type I or II MSD, consider using restroom facilities at your marina, at locations along the way or a port-a-potty first. Type I or II discharges, although treated, add chemicals and organic matter to the marine environment.

4. Don't discharge in sensitive areas.

Never discharge treated or untreated wastes into small bays, marinas, areas with little tidal flushing, or into recreational swimming, fishing and shellfish bed areas.

5. Read labels.

Make sure holding tank deodorizers and disinfectants purchased do not contain formaldehyde, ammonia or chlorine, and use only the specified amount.

6. Use enzyme-based treatments.

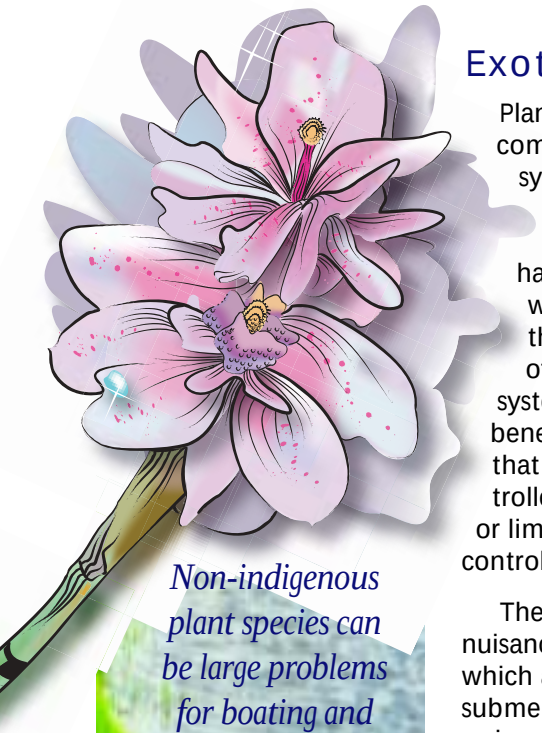
Instead of chemical additives, use enzyme-based treatments to break down solids and reduce odor.

7. Use high quality hoses.

Rubber hoses tend to retain odors. Choose a high quality PVC hose instead of rubber.

8. Buy the right toilet tissue.

Choose rapidly dissolving toilet tissue, preferably made from recycled paper. Better yet, keep a mini-trash can on board for used toilet tissue. This approach not only helps the environment, but it also helps prevent potential clogging of your boat's system.



Non-indigenous plant species can be large problems for boating and marine and estuarine habitats.

Exotic Plants

Plants are an important component of aquatic systems. These plants provide food, shelter and reproductive habitat for fish and wildlife and enhance the aesthetic beauty of environmental systems. Most plants are beneficial native species that are usually controlled by natural means or limiting factors that control their growth.

The spread of aquatic nuisance species, many of which are floating and submersed plants, often seriously alter freshwater and estuarine habitats. They are increasing at a very alarming rate and have become a nuisance in many areas across Louisiana. These plants interfere with recreational activities such as hunting, fishing and boating by occupying thousands of acres of waterways, ponds, bayous and lakes. The spread of these species seriously alter aquatic habitats by reducing the natural production of valuable aquatic species such as game and commercial fishes or by reducing the attractiveness to wintering waterfowl by floating vegetation such as *Salvinia* sp. and water hyacinth. Submersed non-indigenous species such as *Hydrilla* sp. may grow in thick mats that serve as porous barriers, which reduce stream flow through a given habitat. When water currents are slowed down, water quality may be reduced. These thick mats of *Hydrilla* sp. changes the population balance of fishes. In most cases the predator-prey ratio changes in the favor of the prey species. Thick submersed aquatic vegetation provide more cover, which allows prey species to hide from predators. Since most popular game fish are predators, such as large-mouth bass, sport fishing success is greatly reduced.

Non-indigenous plant species can seriously affect boating. Exotic plants can be spread to new locations by becoming trapped on boat trailers or wrapped around the propellers of inboard and outboard motors. We often do not think of the many organisms that are contained within natural waters that often are contained in live wells or become ballast water in boats. Water moved from one system to another in live wells or ballast become part of that system. An organism that is controlled in one system by predation or other limiting factors may become a nuisance in a new environment due to the lack of these natural means of control

Remember to check and remove all organic debris from your boat and trailer and to drain your live well water prior to moving your boat to a new location. It is important that everyone recognize the dangers of spreading organisms from one system to another, especially species that are not native to Louisiana.

Boat Maintenance & Repair

Maintaining a boat is not only necessary, it's never-ending. As soon as you've finished one project, the list of things that need attention has grown two-fold. Many boat cleaning, maintenance and repair products, however, can be particularly harmful to the marine environment and are typically more toxic than most household cleaners because they contain potent caustics and corrosives. These items can adversely affect the marine environment if not used cautiously and conservatively. For example, soaps and detergents contain phosphates that can cause excessive algae growth and thereby deplete the oxygen necessary to sustain aquatic life. A high concentration of phosphate soaps can also cause fish to suffocate by destroying the natural oil on fish gills that help them take in oxygen. Many detergents contain heavy metals, which may bioaccumulate through the food chain and eventually effect us. Although keeping a boat clean and in good operable condition is important, no one wants to pull their boat out of the water every time the brightwork, decks or cabin sides need to be refinished or an engine needs servicing. To help minimize the impact of maintenance and repair tasks on the surrounding marine environment, follow these tips to reduce the need for heavy-duty cleaning products, to

control leaks, spills and discharges and to find alternatives to toxic products.

Clean & Green Solutions

Top side:

1. Save it for the boat yard.

Plan for maintenance so it's done all at once when your boat is out of the water. Most maintenance can easily wait until the end of the season.

2. Limit in-water activities to those which can be contained.

Marina tenants should check whether or not their marina has established guidelines for the type of boat maintenance work that can be done in the slip. Always limit slip-side maintenance to projects that do not cause harmful discharges to the water. All other projects should be performed in a boat yard that is equipped to control air emissions while painting, collect and treat waste from hull cleaning and recycle or properly dispose of all types of hazardous wastes.

3. Frequent cleaning.

In addition to phosphates and heavy metals, boat cleaning products often contain other toxics such as arsenic anddegreasing agents, which are lethal to fish. To lessen the impact of boat cleaning:

- Reduce the need for soap by scrubbing and rinsing with freshwater after each trip.
- Use only phosphate-free and chlorine-free biodegradable soaps.
- Use products conservatively rather than dousing the deck with soap; apply small amounts with a cloth and wipe it up rather than hosing it off.

4. Sensible surface preparation.

With any kind of surface preparation, the goal is to prevent all fugitive dust, paint or wood chip particles, chemical strippers and metal shavings from falling into the water. Here are some tips for keeping toxics and debris out of the water:

- Save the project for when the boat is hauled out and do the work in a boat yard.
- Use vacuum sanders or grinders which automatically collect and store paint, varnish or wood dust before it can get into the marine environment (or eyes or lungs). Some boat yards have them for rent.
- Keep absorbent pads or rags within reach to wipe up spills.
- Suspend a tarp or visquine sheet between the boat and the dock to catch any spills, dust or debris that would otherwise end up in the water.
- Don't prep or paint on the far side of the boat. Turn the boat around in the slip to avoid the challenge and the mess of working on the far side.
- Whenever possible, mix paints on land, not on the dock. Use drip pans and containment trays. Always mix paints on a tarp or some other form of containment.
- Use smaller containers (e.g., one gallon cans). The smaller the can, the smaller the spill and the less you have leftover. Limit the amount of paint or other product open at any one time to one gallon and make sure the can is in a tray that could hold all the paint if it spills.

4. Teak decks? Think gray

Many people love the look of bleached teak decks. However, the teak cleaners used to restore the bleached look are mostly acid-based products which are hazardous. Their impact on aquatic life, if improperly used or disposed of, can be devastating. In addition, teak cleaners can wear away the grain of the wood and damage seam compounds. Here are some alternatives to bleaching teak:

- Learn to appreciate grey. Untreated grey teak makes an excellent nonskid deck. Simply washing the deck down with biodegradable soap removes the dirt and a saltwater rinse helps preserve the natural oils of the wood.
- Try using a mild powder soap with bronze wool to clean teak.
- If you must use teak cleaners in the slip, look for ones that are environmentally safer.
- Save the job for the boat yard if you must use more caustic teak cleaners.

5. Preserve your boat's wood trim.

To minimize the use and harmful impact of varnishes, consider having covers made for exposed wooden parts such as teak railings. While the initial investment may seem costly, you may save money on the cost of refinishing the wood. You can also feel good about supporting a local marine business and protecting the environment!

Tips for Top Side Cleaning

Clean & Green Solutions

Bottom side:

1. Choose the right bottom paint.

Conventional antifouling paints release biocides which inhibit marine growth. There are two types of paints that do this: 1) "contact leaching paints," which leach biocide from an insoluble paint mixture and 2) "ablative paints," which are designed to be soft-sloughing - that is, both the paint and the biocide are water soluble and begin to dissolve when immersed in water. Copper compounds are primarily used as the biocide or antifouling agent in these paints and, when released, they directly contribute to the contamination of shellfish beds and bottom sediment.

As marine suppliers have recognized the need to supply more environmentally friendly bottom coatings, boaters have an increasing number of alternative choices to these conventional antifouling paints. Here are some of the alternatives available:

- Epoxiated vinyls offer good adhesion to many traditional paints and still contain antifouling properties to control marine growth.
- Copper co-polymer or "hard copper" paints are effective and long-lasting.
- New coatings, such as Silicon and Teflon are also available and rely upon their physical properties, rather than toxic biocides, to inhibit marine growth.

2. Frequent cleaning.

Minimize marine growth and extend the life of your bottom coating by giving the bottom a good wipe with a soft, non-abrasive sponge.

3. Save it for the boat yard.

Underwater hull cleaning can cause a release of copper and other pollutants that contaminate sediments. Hull maintenance work should be performed in a boat yard that has a proper waste collection and treatment system. However, if you do choose to have underwater hull cleaning performed on your boat, hire a diver who uses environmental Best Management Practices (BMPs) for boat bottom cleaning. A diver should not create a colored plume when cleaning the bottom of your boat.

4. Consider storage alternatives.

If your boat isn't used often, consider keeping it in dry storage or installing a hoist that floats in the slip to minimize marine growth. Otherwise, surround the hull in the slip with a boat liner or bath. Filling the bath with freshwater suppresses marine growth and taking it into saltwater kills freshwater growth.

5. Choose paints with low VOC content.

Whether using bottom paint, topside paint or varnish, approximately 40 percent of its volume may consist of solvents and other ingredients that evaporate while the film is curing. Look for water-based and/or low-VOC antifouling paints and varnishes.

6. Read the paint can label.

Once bottom paint is applied, don't clean the bottom of the hull before the amount of time prescribed by the paint manufacturer.

7. Use only what you need.

If purchasing bottom paint at a boat yard and doing the work yourself, you may be allowed to

return the unused portion for credit.

Teak Cleaner

Use a biodegradable soap to remove the dirt and salt-water.

Tips for wood Treatment & Tips for Painting and Stripping

Clean & Green Solutions

General:

1. Elbow grease is cheaper!

The more caustic a cleaner is, the greater the potential hazard to you and the environment. Use more elbow grease and go easy on caustic cleaners.

2. Remember the law.

Louisiana Department of Environmental Quality enforcement personell may impose a penalty of up to $25,000 per violation for discharge of a hazardous substance into any State waters.

3. Control runoff contamination.

Don't use the street or parking lot for boat maintenance and repair. These areas often have no drainage control and contaminated discharges almost always enter nearby storm drains, which then lead directly into local waterways, bays and the Gulf.

4. Prevent accidental spills.

If you do accidentally dump paint or varnish into the water, it must be treated as a hazardous waste spill. Procedures for reporting the incident and cleanup are the same as for a fuel or oil spill. To report a hazardous waste spill, call the U. S. Coast Guard (800/424-8802). Failure to report the spill can result in penalties of up to $25,000 and/or imprisonment.

Bon Ami.

Tips for Cleaning Metal Surfaces

What is Boat Greywater?

Greywater is the soapy water from boat sinks and showers. The term is also used to describe the dirty rinse water created when washing a boat. The bleaches, detergents and soaps used aboard may be the same as those you use at home. However, some boat cleaning products are even more caustic or corrosive than household cleaners. As mentioned previously, soaps and deck cleaners can contain a variety of toxics, including chlorine, phosphates, inorganic salts and metals. Even though household and boat cleaning products may be similar, the environmental impact of boat-generated greywater is worse for one simple reason...home-generated shower, laundry and dish water is diverted to the sanitary sewer system for treatment prior to being released into local waterways (unless you have a septic system). Boat-generated greywater is not! Most boats do not have the technology required for containing greywater in order to prevent its discharge. So, to minimize the impact of greywater on the marine environment, follow these Clean & Green Solutions:

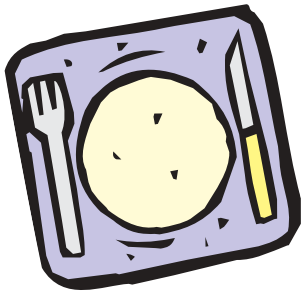
Clean & Green Solutions

1. Use shore-side facilities whenever possible.

If you're just out for a day trip, bring home any dirty dishes and take your shower at home to minimize the amount of greywater generated.

2. Less is more.

When washing the boat, use less product and more elbow grease. A quick freshwater rinse and scrub after each trip minimizes the need for harsh cleaners. When using cleaning products, use the smallest amount possible to get the job done.



3. Use only phosphate-free and biodegradable soaps.

Check the shelves of your local supermarket or marine supply store for alternative soaps. These products are no longer hard to find.

Who to Call:

General:

Barataria-Terrebonne National Estuary Program
985/447-0868

U.S. Coast Guard Marine Safety Office
225/342-1234

Louisiana Department of Wildlife and Fisheries
225/765-2983

Reporting Spills:

U.S. Coast Guard National Response Center
800/424-8802 or 800/OILS-911

Office of Emergency Services
800/852-7550

Louisiana Department of Environmental Quality Hotline
818/551-2800

Hazardous Waste Disposal:

EPA National Hotline • 800/CLEAN-UP

Louisiana Department of Environmental Quality Hotline
818/551-2800

Sewage Pumpout & Dump Stations:

The Sewage Disposal section contains a list of available pumpout and dump station locations and/or mobile services in the Barataria-Terrebonne National Estuary. Facility locations can also be obtained by calling any one of the numbers listed below:

Nationwide • 800/ASK-FISH

Louisiana Department of Wildlife and Fisheries
Clean Vessel Act Program • 225/765-2605

Louisiana Department of Health and Hospitals
225/342-8092

Wildlife Services:

Louisiana Department of Wildlife and Fisheries
225/765-2800

Whale Rescue Team (any distressed marine life)
800/39-WHALE

Barataria-Terrebonne
NATIONAL ESTUARY PROGRAM