

FLORIDA CLEAN MARINA BEST MANAGEMENT PRACTICES



FLORIDA CLEAN BOATING PROGRAMS

Florida's Clean Boating Programs build partnerships with marine facilities and educate boaters about the importance of keeping state waters and shorelines clean, healthy and vibrant. The Florida Department of Environmental Protection oversees the Clean Vessel Act Program, the Clean Marina and the Clean & Resilient Marina programs, and the Clean Boater Program. This booklet is a resource for facilities seeking designation as a Clean Marina, Boatyard or Marine Retailer.

CLEAN VESSEL ACT PROGRAM

This federal program provides grant funds to state governmental agencies, which partner with local governments, private marinas and others to fund eligible projects. The Clean Vessel Act Grant Program is for the construction, renovation, operations and maintenance of pumpout stations and waste reception facilities for recreational boaters, and for educational programs that inform boaters of the importance of proper disposal of sewage.

CLEAN MARINA AND CLEAN & RESILIENT MARINA PROGRAMS

This voluntary designation program takes a proactive approach to environmental stewardship. The Clean Marina Program encourages marinas, boatyards and marine retailers to incorporate best management practices (BMPs) that exceed state regulatory requirements.

The facility types are:

- **Marina** – a facility that provides docking for a fee and marina-related services.
- **Boatyard** – a facility that provides repairs or refinishing site for hull, mechanical or electrical work on recreational vessels.
- **Marine Retailer** – a facility that sells new or used recreational vessels and provides hull/mechanical services.

In addition, the **Clean & Resilient Marina Program** recognizes facilities that voluntarily achieve additional levels of environmental responsibility and sustainability. The program expands on Clean Marina BMPs with recommendations to strengthen a facility's ability to withstand natural and manmade disasters.

CLEAN BOATER PROGRAM

This outreach program educates boaters about how they can protect the state's waters, native vegetation and wildlife. It provides guidance on adopting environmentally-friendly practices, including proper trash management, using bilge socks and fueling collars, and practicing recycling habits. Boaters are encouraged to take a pledge and join the effort to keep Florida waters clean.



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MARINA SITING

Environmental Issue

Because of their waterfront location, marinas are especially vulnerable to the forces of nature. The high winds of hurricanes, tropical storms and tornadoes along with strong waves and storm surge can damage structures on water and land. Shoreline erosion can undermine the strength of the marina's anchoring and mooring facilities and reduce the area available for business.

Goal

Avoid negative environmental impacts to shorelines and waterways from new or expanding marinas. Reduce the exposure of structures on water and land.

Best Management Practices

- Avoid and protect rare and endangered species.
- Have an approved protection plan for identified protected species.
- Avoid disturbing or shading submerged aquatic vegetation, wetlands and indigenous vegetation in riparian areas.
- Control sediment from construction sites. Maintain shoreline vegetation.
- Moor boats at appropriate depths to minimize the need for dredging.
- Maintain all structures in good working order and remove abandoned structures.
- Employ non-structural shore erosion control measures. Practice low-impact development.
- Use environmentally neutral materials.
- Conduct soil stability or geotechnical testing before construction or expansion. Determine maximum potential wind speeds at site.
- Estimate potential heights of elevated tidal and storm surge. Location should provide shelter from water impact and storm surge.
- Align the harbor entrance channel to account for prevailing winds, waves and currents. Locate in area requiring a minimum of excavating, filling and dredging.

Regulatory Requirements

1. Chapter 62-340, F.A.C. – Delineation of the Landward Extent of Wetlands and Surface Waters
2. Chapter 62-330, F.A.C. – Environmental Resource Permitting
3. Chapter 62-302, F.A.C. – Surface Water Quality Standard
4. Section 373.4131, F.S. – Statewide Environmental Resource Permitting Rules
5. Section 327.53, F.S. – Marine Sanitation



MARINA MANAGEMENT

Environmental Issue

Marinas often have water quality problems originating from pollutants associated with plastics, trash, oils, greases, toxic metals, fecal bacteria and nutrients.

Goal

The best way to manage these water quality issues is through customer and staff education. Articles in a marina newsletter addressing oil changes, pumpouts and boat washing can inform the marina customers and prevent accidental pollution problems.

Best Management Practices

- Educated and trained staff are essential for marina management.
- Develop a set of environmental policies that are tailored to your marina. Make walking around the docks every day a top priority.
- Remove floating trash twice a day, either by using dip nets or a pump-operated debris collecting device.
- Prepare a Spill Prevention Control and Countermeasure (SPCC) Plan. Train staff on Stormwater Pollution Prevention Plans.
- Regularly review emergency response procedures with staff and maintain records. Record training dates, topics, and names of employees and instructors.
- Review plans and response procedures with staff at the beginning of each boating season.
- Maximize publicity of the marina's efforts to be environmentally sensitive.
- Run emergency response drills at least twice annually.

Regulatory Requirements

1. 40 C.F.R. 112 – Oil Pollution Prevention
2. 40 C.F.R. 122.26 – Storm Water Discharges
3. Chapter 62-620, F.A.C. - Wastewater Facility and Activities Permitting
4. Chapter 62-621, F.A.C. - Generic Permits
5. Chapter 376, F.S. – Pollutant Discharge Prevention and Removal
6. Section 403.161, F.S. – Prohibitions, Violation, Penalty, Intent
7. Section 327.53, F.S. – Marine Sanitation



EMERGENCY PLANNING

Environmental Issue

A number of situations may occur in a marina or boatyard that require an immediate response. Calling 911 may be appropriate in some instances, but additional staff responses are needed in nearly every emergency situation. Being adequately prepared for an emergency can potentially reduce the overall environmental impact of a spill, fire or other event.

Goal

Plan in advance for emergencies in order to minimize any negative effects of the situation. Familiarize employees with these plans. An Emergency Panic File should be generated specific to the marina or boatyard. It should be organized logically and concisely, including health emergencies, fires, and oil, fuel and chemical spills that might require quick response.

Best Management Practices

- Train and prepare marina staff for emergencies or a spill.
- Keep a file of Material Safety Data Sheets for all products used at the facility.
- Have a written site-specific “Emergency Action Plan” or a “Panic File” in place and readily available that contains:
 - a. Hurricane Preparedness Plan
 - b. Fire-Safety Procedures Plan
 - c. Chemical or Oil Spill Plan
 - d. Spill Prevention Control and Countermeasure Plan (SPCC)
- Review hurricane procedures annually with staff
- Have fire extinguishers clearly marked and readily available throughout the facility.
- Keep all ingress and egress clear of obstacles in case of fire.
- Post warning signs clearly visible from the decks of boats being fueled.
- Store oil spill response equipment in a convenient, readily accessible location.
- Notify Emergency Response to report oil and hazardous substance spills.

Regulatory Requirements

1. 40 C.F.R. 112 – Oil Pollution Prevention Plan
2. Prepare a Spill, Prevention, Control and Countermeasure (SPCC) Plan, which outlines a facility-wide plan to prevent and clean up oil and gasoline spills if the facility stores gas or oil.



HURRICANE PREPAREDNESS

Environmental Issue

High winds and water during a hurricane or tropical storm can cause the release of normally secure pollutants into the environment. Hurricane conditions can damage or sink boats that could spill or vent fuel, oil and other chemicals. Marina and boatyard facilities can be impacted by storm conditions causing the release of fuel, oil, chemicals and recyclables.

Goal

Upon approach of a tropical storm or hurricane, remove sources of pollution from the potentially affected area.

Best Management Practices

- Boats should be evacuated inland or moved out of slips to open waters or protected waters at the earliest time possible, when it is still safe to move the boats.
- Remove portable containers and cans of paint, cleaners, petrochemicals, etc., from vessels and the affected area.
- Have waste haulers pick up all solid waste including recyclables when you first hear of the possibility of an approaching storm.
- Generate basic information regarding tasks and precautions that must be taken in preparation for a hurricane.
- Compile a set of emergency response procedures organized under easily understood headings in a notebook or binder called a "Panic File."
- Fuel tanks that could be floated by a storm surge should be fitted with appropriate tie-downs and topped off.
- Turn off power to fuel tank pumps and close all valves from the fuel tank to piping systems.
- Acquaint all employees with the hurricane plan. Discuss procedures and responsibilities so they can plan accordingly.
- Review the facility's seasonal operations or activities during the hurricane season. Also, review the accuracy of information annually.
- Acquaint all subcontractors with the contents of the hurricane plan and discuss procedures and responsibilities so they can plan accordingly.
- Stock emergency equipment and supplies such as extra mooring lines, lumber for fender boards, chafing gear, screw anchors, flashlights, batteries, and a portable generator.



EVACUATION PROCEDURES

Environmental Issue

Storm surge raises the water level far above normal high tide, cutting off roads, forcing evacuations, and lifting boats to float above their moorings and potentially break free.

Goal

Evacuate boats prior to storm.

Best Management Practices

- Have an active evacuation plan for hurricanes or other disasters. Plan action for the countdown to a major storm.
- Familiarize boaters with the marina's evacuation policies and procedures. Be able to mobilize large number of boats in a short time span.
- Form an active Hurricane Response Team of marine staff, boat owners and volunteers. Boaters should file a clear plan of their intentions in the event of a storm.
- Establish wet slip and/or dry dock evacuation procedures.
- For boats that do not evacuate, storm resistant tie-down procedures and responsibilities should be clearly defined. Identify boat preparedness steps defined in berthing agreement.
- Clearly identify hurricane evacuation routes and safe harbors.



FIRE SAFETY

Environmental Issue

Fires can result from accidents, poor work habits, poor housekeeping, negligence or other factors.

Goal

Develop a fire safety plan, including training, fire department liaison, prevention, controlling and extinguishing.

Best Management Practices

- Educate staff to “Be Smart Before You Start.” Post precautionary signs.
- Provide and maintain adequate, readily accessible and clearly marked fire extinguishers throughout the property and especially at fueling dock.
- Install smoke detectors near flammable material.
- Excess catalyzed resins should be cooled before disposal.
- Clean up all spills of combustible liquid to avoid a fire.
- Have an evacuation plan to ensure the capability to escape in case of a fire and clearly mark all exits.
- Welding, cutting and brazing operations should be done in a designated area. A fireproof containment system needs to be utilized when operating over water.
- Contact your local fire department and the marina or boatyard insurance company for guidance and request a “walk through” of the property.
- Train personnel on fire safety and how to put out fires.
- Post warning signs at the face of each wharf, pier or flat at an elevation clearly visible from the decks of boats being fueled.
- Post emergency numbers such as U.S.Coast Guard, local Port Authority and the local fire department in a visible location.
- Woodworking shops require good housekeeping; sawdust accumulation and dust collection systems may cause fire hazards.
- Include fire safety language in agreements for tenants and subcontractors.
- Include fire safety procedures in the Panic File and ensure all staff are familiar with the contents.

Regulatory Requirements

Fire Code - 69A Division of State Fire Marshal



PETROLEUM CONTROL AND CONTAINMENT



Environmental Issue

Petroleum products introduced in the environment are a chronic problem. Small incremental discharges of petroleum products add up to significant impacts. During fueling operations, an accidental release may occur through the fuel vent, during bilge pumping and from spills. Oil and grease from the operation and maintenance of engines are also sources of petroleum discharges.

Goal

Eliminate or reduce the amount of fuel and oil entering boatyard and surface waters from boat bilges, fuel tank air vents, and spills.

Best Management Practices

- Provide signage and pamphlets that stress the impacts from spills and fueling activities.
- Promote the use of automatic/back-pressure/shut-off nozzles as long as the mechanism that allows unattended fueling is disabled.
- Promote the use of fuel/air separators on air vent/overflow systems installed on inboard fuel tanks and vent/overflow collection devices.
- Promote the use of oil-absorbing materials in the bilge areas of all boats with inboard engines. Encourage boaters to inspect their boats at least once a year and replace absorbents as needed.
- Absorbent pads should be made available in well-marked, easily accessible containers at locations near the fuel dock. The harbormaster should be trained in the use of absorbent pads.
- Recycle or dispose of used absorbents in accordance with petroleum disposal regulations.
- Place used absorbents in a closed drum for proper disposal.
- Place containment berms around fixed pieces of machinery that use oil and gas.
- Provide impervious fireproof containment trays for use when filling small cans. If possible, the product should be immediately returned to the fuel tanks.
- Provide secondary containment for piping (double-wall piping) and a collection tray under dispensing area.
- Provide stationary skids for fueling personal watercraft, which will help eliminate rocking and keep the vessel level in order to minimize spills.
- Have marina staff supervise when customers are fueling.

Contain spills and notify the State Warning Point and the National Response Center. Call 911 when appropriate.

Regulatory Requirements

1. Chapter 62-761, F.A.C. – Underground Storage Tank Systems
2. Chapter 62-762, F.A.C. – Aboveground Storage Tank Systems
3. Chapter 62S-6, F.A.C. - Pollution Discharge Act
4. Chapter 376, F.S. – Pollutant Discharge Prevention and Removal

PETROLEUM STORAGE TANKS

Environmental Issue

The greatest potential threat from leaking petroleum storage tanks is contamination of surface and groundwater. All facilities must have spill prevention and release detection methods for petroleum storage tanks.

Install double-walled or vaulted fuel tanks with aboveground piping. Tanks should meet the following conditions (NFPA 30):

- The capacity of the tank shall not exceed 12,000 gallons (45,420 L).
- All piping connections to the tank shall be made above the normal maximum liquid level.
- Means shall be provided to prevent the release of liquid from the tank by siphon flow.
- Means shall be provided for determining the level of the liquid in the tanks. This means shall be accessible to the delivery operator.
- Means shall be provided to prevent overfilling by sounding an alarm when the liquid level in the tank reaches 90 percent of capacity and by automatically stopping delivery of liquid to the tank when the liquid level in the tank reaches 95 percent of capacity. In no case shall these provisions restrict or interfere with the proper functioning of the normal or emergency vent.
- Spacing between adjacent tanks shall be no less than 3 feet (0.9 m).
- The tank shall be capable of resisting the damage from impact of a motor vehicle, or suitable collision barriers shall be provided.
- Where the interstitial space is enclosed, it shall be provided with emergency venting.
- Single-walled aboveground fuel tanks shall be located within an impervious dike field with volumes equal to 110 percent the capacity of the storage tank(s).
- Containment areas shall be designed with spigots to drain collected materials.
- Single-walled tanks located in a dike shall be covered with a roof to prevent rainwater from filling the containment area.
- Tanks and piping shall be inspected monthly, not to exceed 35 days.

Do

- Register aboveground storage tanks (ASTs greater than 550 gals.) and underground storage tanks (USTs greater than 110 gals.) with the Florida Department of Environmental Protection (DEP). This includes tanks containing motor fuel, new or used oils, or new or used petroleum products.
- UST owner/operators must meet the operator training requirements, Rule 62-761.350, F.A.C. Operability testing for release detection devices and overfill protection devices.
- Complete periodic integrity testing for spill containment devices and sumps.
- Ensure regulated storage tank system equipment is registered.
- Ensure all regulated tanks are secondarily contained. Maintain all records for three years. Make sure you are able to demonstrate financial responsibility.
- Manage liquids collected in secondary containment structures appropriately.
- Label tanks appropriately as to their content.

Do Not

- Remove, close or upgrade any regulated storage tank without first notifying DEP's district office or local program.
- Leave the secondary containment drain valve open.

For more information concerning the proper handling of storage tanks, visit FloridaDEP.gov/waste/storage-tank-compliance.

Regulatory Requirements

1. Chapter 62-761, F.A.C. – Underground Storage Tank Systems
2. Chapter 62-762, F.A.C. – Aboveground Storage Tank Systems
3. Chapter 62S-6, F.A.C. – Pollution Discharge Act
4. Chapter 376, F.S. – Pollutant Discharge Prevention and Removal

PETROLEUM SPILL RECOVERY PLAN

Environmental Issue

Petroleum spills cause pollution and are costly to clean up. Lack of proper containment and a fuel spill response plan can critically delay containing a discharge.

Goal

Develop a petroleum spill response and maintain proper petroleum containment. Coordinate this plan with the U.S. Coast Guard and the Department of Environmental Protection.

Best Management Practices

- Inform your harbor master and fire department about your spill recovery plan and equipment.
- Provide signs informing customers what to do to contain the pollutant in case of a spill when there is no attendant present.
- Have an "Emergency Response Plan" section in the marine Panic File for immediate action at the time of a spill.

Components of a Spill Response Plan should address the following:

Who	Notify within one hour of a spill Your Local Responder USCG National Response Center STATE WARNING POINT 24 hour Florida Fish & Wildlife Commission VHF – Channel 16	1-800-424-8802 1-800-320-0519
What	A Petroleum Spill Response Plan should also include <ul style="list-style-type: none"> • Name, location and hours, telephone numbers, radio frequencies • Facility waterfront and vessel characteristics • Type and amount of petroleum stored; name/phone numbers of owner and trained personnel designated in charge; notification responsibilities and procedures • A list of spill equipment/capabilities on-site • Third-party cleanup organization 	
When	Identify when additional resources should be called for assistance and determine when equipment will be inspected and replaced, if necessary.	
Where	Identify where the petroleum spill response equipment is located in the facility. Identify sources where additional oil response equipment can be quickly obtained (this can include third-party cleanup contractors, if necessary.)	
How	Train staff on how the equipment should be used and, when necessary, disposed of properly. Maintain or have access to containment booms that are 5 times the length of the longest vessel docked and absorbent material to contain the largest potential spill. This equipment may be kept on-site or provided and maintained by a contracted petroleum response company, provided personnel can begin boom deployment within one hour of a spill. The U.S. Coast Guard must be notified any time there is a noticeable sheen present on the surface water. Review plan annually with staff and update for any new technology or equipment.	

Regulatory Requirements

These regulatory requirements apply to any marina, boatyard or marine retailer that transfers diesel fuel and heavy oils over the water.

1. Develop a petroleum spill recovery plan and train personnel in its use in accordance with Chapter 62S-6, F.A.C. The plan should be short with clear directions that can be understood by each employee. Components of a Spill Response Plan example provided in binder.

EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT (EPCRA)

The U.S. Environmental Protection Agency is the lead agency for EPCRA. This section was taken from the EPA website.

The Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986 was created to help communities plan for emergencies involving hazardous substances. EPCRA requires hazardous chemical emergency planning by federal, state and local governments, Indian tribes, and industry. It also requires industry to report to federal, state and local governments on the storage, use and release of hazardous chemicals.

The purpose of this law is to encourage emergency planning efforts at the state and local levels and to increase public access to information about potential chemical hazards that may exist in their communities.

EPCRA has four major provisions:

- Emergency planning (sections 301-303).
- Emergency release notification (section 304).
- Hazardous chemical storage reporting requirements (sections 311-312), and
- Toxic chemical release inventory (section 313).

Information collected from these four requirements helps states and communities develop a broad perspective of chemical hazards for the entire community as well as for individual facilities. Regulations implementing EPCRA are codified in Title 40 of the Code of Federal Regulations, parts 350 to 372. The chemicals covered by each of the sections are different, as are the quantities that trigger reporting.

Regulations, policy memorandums, and answers to frequently asked questions related to EPCRA sections 301 to 312 can be obtained from EPA.gov/emergency-response.

MSDSs, hazardous chemical inventory forms, follow-up emergency notices, and the emergency response plan are available from the SERC or the TERC and LEPC.

EPA has compiled a list of all chemicals covered under these regulations into a single list and published them as The Title III List of Lists at EPA.gov/emergency-response.

*For more information, visit
epa.gov/epcra*

2-CYCLE OUTBOARD ENGINE FUELING

Environmental Issue

Incomplete combustion of lubricating oil from outboard engines can release hydrocarbon pollutants to the surface water and air. These releases are commonly the result of an incorrect gas-to-oil ratio (gas: oil) mix during the fueling process, which typically take place at either the boat owner's regular gas station or at the boatyard. A gas: oil ration of 50:1 is considered a standard mixture, providing adequate lubrication and preventing incomplete combustion of lubricating oil from too high an oil concentration. However, as any recreational boater can attest, it is not uncommon to see bluish-white smoke emitting from an outboard engine, indicating a too high oil concentration and resulting in the discharge of incompletely combusted hydrocarbon byproducts to the environment.

Goal

Reduce the emission of incompletely combusted hydrocarbon byproducts formed as a result of putting too much lubricating oil in the gasoline while refueling the tanks of outboard engine powered boats.

Best Management Practices

- Educate outboard engine owners on the correct gas: oil ratio and stress the importance of keeping this ratio 50:1 or, in some cases, 60:1.
- Point out the economic benefits of using correct mixtures with respect to oil cost and engine maintenance.
- Post notices or make pamphlets available at the boatyard, especially at the fuel pumps, to remind outboard engine owners of the 50:1 ratio. Include a comprehensive list of gas: oil amounts for several engine volumes in a table format that is easy to understand (e.g., "y" ounces of oil to "x" gallons of gasoline).
- Incorporate proper fueling information into boating safety classes, stressing the importance in maintaining a healthy marine and boatyard environment.
- Use an oil-to-gas measuring device for 2-cycle engines, such as Motor Mate part #304495.

Regulatory Requirements

1. 40 C.F.R 279 – Standards for Used Oil Transporter and Transfer Facilities
2. Chapter 62-621, F.A.C. – Generic Permits
3. Section 376.09, F.S. - Removal of Prohibited Discharges
4. Section 403.087, F.S. - Permits; General Issuance; Denial; Revocation; Prohibition; Penalty

Sea turtles and other marine life benefit from clean water and healthy habitats.



FUEL WASTE MANAGEMENT

Environmental Issue

If boaters do not have a convenient means for properly disposing of items such as stale fuel, the fuel may end up in the environment. Fuel disposed in the dumpster is dangerous and can lead to fines if the material finds its way into a water body, or additional removal fees if the waste hauler considers the material hazardous.

Goal

Provide separate, accessible containers for the recycling of waste or stale fuel and the disposal of fuel-contaminated absorbent material.

Best Management Practices

- Store petroleum products in properly labeled containers that are readily accessible and can be disposed of appropriately. Keep in mind that boatyards must control what is being placed in the container. If the container is contaminated with a mixture of fuel and oil, the cost to remove that container escalates.
- All containers used to store petroleum products should have a form of secondary containment. Generally, this backup is provided by constructing a non-leaching berm with an impervious bottom around the containers.
- Other methods may include a fully enclosed holding facility that provides internal secondary containment.
- Properly dispose of used petroleum spill response products and maintain records of proper waste disposal.
- Waste fuel should not be allowed to evaporate; poured on the ground; disposed of in storm sewers, septic systems or publicly owned treatment works; or discharged to surface waters.
- Institute a recycling program for petroleum-contaminated wastes.
- Fuel filters should be drained by placing the filter in a funnel over the appropriate waste collection container to allow the excess petroleum product to drain into the container. Drained filters should be collected and recycled.

Regulatory Requirements

1. 40 C.F.R. 279 – Standards for the Management of Used Oil
2. Chapter 62-710, F.A.C. – Used Oil Management



BILGE WATER

Environmental Issue

Oil and grease from the operation and maintenance of inboard engines are sources of petroleum in bilges. Discharged bilge water is a source of pollution in marinas and boatyards.

Goal

Minimize the occurrences of contaminated bilge water and discharges.

Best Management Practices

- Encourage boaters to check for leaks of oil and fuel into the bilge, and to fix leaks that cause contamination of bilge water. Boaters should inspect lines and hoses for deterioration, and secure and prevent lines from chafing.
- Encourage owners/operators to be aware of how fuel-saturated absorbent pads are stored on-site to avoid fire.
- Discourage the use of emulsifying soaps such as dish detergent to clean the bilge. Emulsified oil and water will foul the filters of oil/water separators, rendering them inoperative.
- Educate boaters on the importance of the proper discharge of contaminated bilge water.
- Unintended discharges can occur when boats are being removed from the water and the drain plug is pulled.
- Have boats pull out and away from the water at the boat ramp so bilge water does not drain into the waterbody. Place absorbents around areas where pollutants drain into the stormwater system.
- If oil and/or fuel gets into the bilge, use absorbent pads to remove as much of it from the bilge water as possible. Take necessary steps to remove pollutants before removing the plug, or drain them ashore into oil/water separators.
- Provide oil/water separators for boaters to purchase and install in their boats, and/or provide land-mounted oil/water separators so boaters can empty their bilges at dockside.
 - a. Bilge water should not be discharged to any waterway or public drain without proper filtration to separate the oil from the water. Any unfiltered bilge water or oil accumulated by oil/water separators should be treated as waste oil and handled accordingly.
 - b. Bilge mounted oil/water separators are available from manufacturers for the purpose of filtering oil from the water that accumulates in the bilge. The filtered water is discharged overboard and the oil is contained for proper recovery.
 - c. Dock or land-mounted oil/water separators are also available. A peristaltic or air double diaphragm pump is used to pump bilge water from the bilge to the oil/water separator. Once again, the water is filtered and discharged while the oil is contained for recovery.
 - d. Do not use a wet-vac system to pump the bilge water from the bilge to the oil/water separator. It will cause mechanical emulsification of oil and water, which will foul the oil/water separator filter and render the system inoperative.
 - e. When the oil/water separator is mounted on a vessel, a boatyard should be able to discharge the filtered water back to the waterway. However, first check local regulations.
 - f. Land or dock-based oil/water separators must meet EPA requirements for discharge to municipal facilities.

Regulatory Requirements

1. 33 C.F.R. 151.10 – Control of Oil Discharges
2. Section 376.041, F.S. – Pollution of Waters and Lands of the State Prohibited
3. Section 403.161, F.S. – Prohibitions, Violation, Penalty, Intent

HAZARDOUS WASTE

Environmental Issue

Improper disposal of hazardous waste can harm human health and the environment and can result in serious penalties and expensive clean-up costs if contamination occurs. Some of the hazardous wastes boatyards may generate include ignitable paint waste, parts-cleaning solvents and waste acetone. These three hazardous wastes may be recycled on-site by using a distillation or filtration unit to reduce waste and recover valuable product. The residue waste from on-site recycling may be hazardous waste.

Goal

Ensure that all hazardous wastes generated at the marina or boatyard are managed and disposed of properly. Hazardous Waste Generators are facilities that produce greater than 100 kilograms (about 220 pounds or 30 gallons) of hazardous waste during one calendar month or that store more than 100 kilograms at any one time. These businesses must submit an EPA Notification 8700-12 FL form to DEP.

Best Management Practices

- Design an adequate waste storage facility as described in the Waste Storage BMP.
- Adopt an inventory control plan to minimize the amount of hazardous material you purchase, store and dispose.
- Do not store large amounts of hazardous materials.
- Use alternative parts-washing products that do not contain listed or ignitable solvents. The waste parts-washing product may still exhibit hazardous waste characteristics due to hazardous constituents such as lead that are removed during parts cleaning.
- Avoid using, if at all possible, products that are corrosive, reactive, toxic or ignitable.
- Provide spill control material and empty containers for emergency clean-up.
- Segregate wastes to ensure that only waste that is hazardous is handled as such.
- Contract with an approved hazardous waste hauler for periodic waste disposal.
- Use a distillation unit to recycle solvents generated in painting operations and from parts washing to minimize hazardous waste generation. Still bottoms are the solids that are separated out of usable solvent. Still bottoms are usually hazardous waste.
- Use snap-top funnels to ensure that containers and tanks are properly closed after waste is added, and clearly label containers and tanks in order to avoid mixing incompatible wastes (40 CFR 265.15t and 16) that may require the use of drums of 26 gallons or less capacity for exemption from the CC emissions requirements for generators.

Hazardous waste transporters must demonstrate the required financial responsibility to operate in Florida. For a list of transporters meeting this requirement, contact your nearest DEP district office.

Regulatory Requirements

1. 40 C.F.R. 260 – Hazardous Waste Management
2. Chapter 62-710, F.A.C. – Used Oil Management
3. Chapter 62-730, F.A.C. – Hazardous Waste
4. Chapter 62-620.710, F.A.C. – Wastewater Facility and Activities Permitting
5. Section 403.721, F.S. – Requirements for Generators and Transporters of Hazardous Waste

SMALL GENERATOR REQUIREMENTS

Very Small Quantity Generator - VSQG 40 CFR 26.14

- The facility operator must determine which waste streams are hazardous using process knowledge, product knowledge or testing.
- Never accumulate more than 100 kilograms (220 lbs.) of hazardous waste at any time.
- Keep records documenting proper disposal (62-730 F.A.C.).
- Ensure delivery of hazardous waste to proper recycling facility or transport/storage/disposal facility.

Small Quantity Generator - SQG 40 CFR 262.16

- More than 100 kilograms but less than 1,000 kilograms in any one month (about one-half to five 55-gallon drums) of hazardous waste.
- Ship stored waste within 180 days after the waste was first put into the container, and never accumulate more than 6,000 kg (13,200 lbs.).
 1. Obtain a DEP/EPA ID Number (262.18) (phone 850-245-8707) (FAC 62-730.900(1)(b)).
 2. Use manifest system (unless there is a reclamation agreement pursuant to 262.20(e)), and ship only to a permitted facility (262, Subpart B).
 3. Never exceed the 6,000 kg (13,200 lbs / 30 drums) accumulation/180-day storage time limit.
 4. Emergency Planning:
 - a. Have an employee or a designee with authority as Emergency Coordinator (EC) on 24-hour call.
 - b. Next to the telephone, post:
 - the EC name and phone number;
 - fire department's number;
 - location of fire extinguishers, spill control equipment/material, and fire alarm (if any).
 - c. Follow emergency procedures in 262.16(b)(8)-(9), including taking necessary steps to address spills and fires, and notifying the National Response Center (24-hour number: 1-800-424-8802) and the State Warning Point (1-800-320-0519).
 - d. Upon request, DEP will provide contingency plan guidance if the facility wishes to develop a more comprehensive emergency plan than required of SQGs.
 5. Training of personnel regarding proper HW handling and emergency response [262.16(b)(9)(iii)].
 6. Keep records (262.44), including manifests, test results, etc., a minimum of three (3) years.
 7. The facility must label all containers and tanks with the words "Hazardous Waste."
 8. An accumulation start date must be placed on each hazardous waste container as soon as hazardous waste is placed inside.
 9. Incompatible wastes must be segregated.
 10. If tanks are used for management of HW, meet the tank requirements of 265 subpart J. This includes daily and weekly inspections, required maintenance, spill response and closure standards.
 11. The facility must provide adequate aisle space for drums so they may be inspected for leaks and missing labels.
 12. The facility must be maintained and operated to minimize the possibility of fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste to air, soil or surface water that could threaten human health or the environment.
 13. The facility must attempt to familiarize local fire department, police and hospitals with the types of hazards and potential emergencies that might occur at the facility.
 14. A facility that uses tanks to store hazardous wastes must meet the requirements of Title 40 Code of Federal Regulation Part 265 Subpart J (for more information, call the nearest DEP district office).
 15. Meet the following requirements under—LQG Requirements, below:
 - a. Items 1, 2, 4, 5, 6, 12 to 15, 17 and 22.
 16. If a SQG fails to meet applicable requirements, the full generator standards (and possibly TSDF standards) may apply.

LARGE GENERATOR REQUIREMENTS

Large Quantity Generator - LQG 40 CFR 262.17

- More than 1,000 kilograms in any one month (about Five 55-gallon drums) of hazardous waste,
- Generate 1 kilogram or more of an acute hazardous waste in any one month, and;
- Ship stored waste within 90 days after the waste was first put into the container unless storage facility permit is obtained.
 1. Perform HW determination (262.11), including LDR waste analyses (268.7).
 2. Obtain a DEP/EPA ID number (262.18) (phone 850-245-8707) (62-730.900(1)(b) F.A.C.)
 3. Use manifest system, and ship to a permitted facility (262, Subpart B).
 4. Meet pre-transport requirements for packaging, labeling, marking and placarding.
 5. Meet satellite accumulation rules (262.15). Close and label these containers.
 6. Label containers and tanks with the words "Hazardous Waste" and indicate the hazards of the contents of the containers, and label containers with accumulation start dates (262.17(a)(5)).
 7. Do not store HW > 90 days (262.17(a)).
 8. Keep all records for at least three (3) years (e.g., manifests, test data, biennial reports, etc.).
 9. File a biennial report for HW shipped off site (FAC 62-730.160).
 10. File exception report for late or missing manifests from the designated facility (262.41).
 11. Meet personnel training requirements, including documentation of training (262.17)(a)(7).
 12. Maintain and operate the facility in a clean, safe manner (265.17)(a)(6).
 13. Emergency equipment:
 - a. telephone or hand-held two-way radio;
 - b. internal communication or alarm system;
 - c. fire and spill control equipment (e.g., fire extinguishers, hoses, sprinklers, etc.);
 - d. neutralizing agents, spill adsorbents, overpack drums, standby 55-gallon drums;
 - e. Test and maintain the emergency equipment.
 14. Maintain adequate aisle space for evacuation, inspecting drums, etc. (no less than three (3) feet).
 15. Attempt to make arrangements with local fire and police departments, hospitals, and emergency response contractors/equipment suppliers with regards to emergency arrangements, hazards of materials handled, layout of facility, etc. (262 Subpart M).
 16. Have a contingency plan that meets the requirements of 262.260. Upon request, DEP will provide contingency plan guidance. Emergencies that require implementation of the contingency plan must be reported to DEP. Updated contingency plans must be distributed when facility conditions or emergency coordinators change.
 17. Containers (e.g., drums, cans, etc.) must be kept closed and in good condition, inspected at least weekly, be compatible with the HW stored, and separated from incompatible wastes (262.17 (a)(1)(v)). Records must be kept of these inspections (62-730.160 F.A.C.).
 18. Ignitable or reactive HW must be stored fifty (50) feet from the facility's boundary line.
 19. Tanks must meet the requirements of 265 Subpart J (structural integrity; containment and detection of releases; inspections; response to leaks or spills; operating requirements; closure and post-closure care; special requirements for ignitable, reactive and/or incompatible wastes; waste analysis and trial tests).
 20. Special cautions ("no smoking" signs) are required for ignitable or reactive wastes (262.17(a) (1)(vi)(B)).
 21. Security (e.g., a locked fence) and bermed containment areas (with roof and impermeable floor) for HW storage areas are strongly recommended.
 22. A Land Disposal Restrictions (LDR) Certification or Notification must accompany the initial manifest for a restricted waste. Generators who treat waste to meet land disposal restrictions must submit a waste analysis plan to DEP.
 23. Meet applicable air emission standards under 40 CFR 265 Subparts AA, BB and CC.

FLARE WASTE MANAGEMENT

Environmental Issue

Commercial and recreational boaters generate waste from distress signal flares that are damaged, water logged or have outlived their shelf life. The waste generated from recreational boaters from distress signal flares are considered household hazardous waste. Household hazardous waste, though exempt from many hazardous waste regulations, must be handled with care and be disposed of properly. The flares are highly reactive and require proper thermal treatment to render them non-hazardous. If waste flares are improperly placed in the marina dumpster for disposal, the marina might be liable for damages and injuries that could occur due to fire or explosion.

Goal

Provide a mechanism for properly managing and disposing of waste safety flares.

Best Management Practices

- For safe destruction of damaged or out-of-date flares, make arrangements with the local sheriff or fire department for thermal treatment of waste flares generated by boaters at your marina or boatyard.
- After notifying the U.S. Coast Guard, use out-of-date flares for boater safety demonstrations.
- Provide a well-marked fire-safe container for waste flares.
- Post signs near solid waste receptacles prohibiting the disposal of waste flares.
- If your local or county government provides a disposal service for waste flares, provide this information to the boaters in your marine facility.
- Organize (or ask local authorities to organize) a local amnesty day for waste flare disposal.

Regulatory Requirements

1. 40 C.F.R. 260-268 - Hazardous waste generated by commercial boaters must be managed and disposed.
2. Chapter 62-730.320, F.A.C. - An "Emergency Thermal Treatment" permit from DEP is required.



BATTERY MANAGEMENT

Environmental Issue

Lead acid and marine gel batteries are used in auto, truck and boating applications for powering starter motors, other electric motors, lights and accessories. Lead acid batteries contain a wet electrolyte sulfuric acid solution. This acid solution can spill if the cell caps are removed or missing, the battery is not properly anchored down or if the battery case cracks. The acid can damage metal, ropes (lines), personal flotation gear, clothing, eyes and skin. These batteries also contain several pounds of lead, which, along with the acid electrolyte, is detrimental to human health and the environment if improperly disposed. Gel cells are similar (same electrolyte sulfuric acid) except they contain a minimum amount of “starved” electrolyte absorbed in the separator or in a gel.

Smaller dry cell nickel-cadmium and sealed lead acid rechargeable batteries are becoming more prevalent as power sources, as opposed to single-use alkaline batteries, in portable electronics such as hand-held camcorders, navigational instruments, cellular phones, laptop computers and portable power tools. The use of rechargeable batteries is encouraged instead of single-use batteries because it results in less battery waste. However, both nickel-cadmium and small sealed lead acid batteries contain toxic heavy metals that can have negative impacts on human health and the environment. Once in the environment, these heavy metals can accumulate in food crops and edible fish as well as appear in drinking water and in the air we breathe.

Goal

Educate the boating public and provide for designated secure areas where rechargeable, lead acid or gel batteries that are no longer usable can be stored for recycling. Gel cells and lead acid batteries are hazardous waste unless they are recycled; then they are exempt from RCRA regulations.

Best Management Practices

- Post signs in the facility to alert the public to the disposal ban on lead acid and rechargeable batteries.
- Include the 1-800-8-BATTERY phone number for nickel-cadmium battery recycling information. The DEP information line phone number (1-800-741-4DEP) and DEP website (FloridaDEP.gov) offer information on recycling batteries or other materials.
- Provide well-marked containers where the public can place unusable rechargeable nickel cadmium and small sealed lead acid batteries. Mark the containers “For Rechargeable Battery Recycling Only,” and keep the containers closed. If located indoors, these containers could be sturdy cardboard, plastic or fiberglass. If located outdoors, they should be plastic, fiberglass or some other material that does not conduct electricity or absorb water, and the containers should be fitted with a lid or cover and protected from the weather. Do not use metal containers.
- Provide a well-marked secure area where lead acid batteries can be brought for recycling. The batteries should be stored on an impervious surface such as concrete, fiberglass or plastic, with sides to contain spilled electrolyte and under cover from rain with all cell caps in place. Lead batteries should not be stored in a manner that exposes them to the elements. Prolonged direct sunlight can weaken the battery casing and lead to an acid release.
- Participate in the national nickel-cadmium rechargeable battery take-back program offered through the Rechargeable Battery Recycling Corp (RBRC) or check the RBRC website at RBRC.org.

Regulatory Requirements

1. Section 403.708, F.S. Prohibition, penalty
2. Section 403.7192, F.S. Batteries, requirements

SPENT MERCURY-CONTAINING DEVICES

Environmental Issue

Many of the float switches that turn bilge pumps and shower water storage tank pumps on and off contain as much mercury as about 100 fluorescent lamps. So do most air conditioning/heating thermostats. Bilge-pump float switches wear out regularly due to the corrosion of wires in marine bilge water. Some boat owners may not know that these switches, which are encased in white or colored plastic, contain mercury, and they unknowingly discard these switches as regular trash. Florida law prohibits the disposal of these mercury-containing devices in the regular trash or overboard.

Mercury poisoning affects the central nervous system of vertebrates, including humans. Mercury in the environment moves up the food chain and bio-accumulates in carnivores. Mercury in the environment has been documented in fresh water and estuarine fish species, leading to health advisories warning people not to consume certain fish under certain circumstances.

Goal

Educate the boating public about the disposal bans and the places where mercury bilge-pump float switches and AC thermostats can be taken for recycling, e.g., county household hazardous waste programs or industry-sponsored take-back programs. Provide for designated secure areas where mercury bilge-pump float switches that are no longer usable can be stored for recycling.

Best Management Practices

- Provide water-tight containers in secure areas where the public can place unusable mercury bilge-pump float switches and AC thermostats.
- Mark the containers "For Mercury Bilge-Pump Float Switch and AC Thermostat Recycling Only," and keep the containers closed and under cover. Use indoor locations that can be monitored by staff.
- Make sure switches and thermostats that are broken and leaking mercury are put into a heavy, sealable plastic bag before being deposited into the container.
- Post signs around the facility to alert the public to the disposal ban on mercury bilge-pump float switches and AC thermostats.
- Provide any local or toll-free phone numbers to access recycling programs such as local household hazardous waste programs and industry-sponsored take-back programs.

Emphasize to boaters that mercury bilge pump float switches, AC thermostats and other wastes should not be thrown overboard as this is a direct route to pollution of the water they enjoy and the fish they catch and eat.

Regulatory Requirements

1. Chapter 62-737, F.A.C. - Management of Spent Mercury-Containing Lamps and Devices
2. Section 403.7186, F.S. – Environmentally Sound Management of Mercury-Containing Devices

Corals provide shelter, nurseries and food for aquatic organisms.



MERCURY-CONTAINING DEVICES

Environmental Issue

Fluorescent lamps and compact fluorescent lamps (CFLs) are used in a wide variety of lighting applications in boatyards and boats. High-intensity discharge (HID) lamps are used in many outdoor lighting applications like parking lots and street lighting and some indoor locations such as high ceiling work areas or boat storage areas.

Compared to incandescent lighting, fluorescent and HID lighting uses less energy and produces less heat. However, fluorescent and many HID lamps contain mercury. This mercury can contaminate our air, surface and ground water. Mercury contamination in Florida is evident in fish consumption advisories issued by the Florida Department of Health due to high levels in certain fish.

Goal

Recycle all discarded fluorescent, CFL and HID lamps used in boatyard business applications by following all appropriate regulations. Educate the boating public about the disposal bans and the places where mercury-containing lamps can be taken for recycling, e.g., county household hazardous waste programs.

Best Management Practices

- Post signs in the facility to alert the public to the incineration ban on mercury-containing lamps. Provide local or toll-free phone numbers to access recycling programs.
- Train employees to handle bulbs without breaking and place mercury-containing lamps in appropriately labeled containers for proper recycling or disposal.
- Contract with licensed contractors to handle recycling of lamps.
- Do not place lamps used in boatyard business applications in the regular trash.
- Store lamps in an area and in a manner that will prevent them from breaking. Do not overfill the shipping container. Do not tape lamps together for storage or shipment.
- Label the lamp storage area and each container as “Spent Mercury-Containing Lamps for Recycling.” Do not intentionally break or crush lamps because mercury may be released.
- If lamps are accidentally broken, immediately store them in a tightly sealed container and label it “Spent Broken Mercury-Containing Lamps for Recycling.”
- Clearly and visibly label each container and the storage area with the starting date of accumulation when the lamps were first placed in the container and storage area.
- If on-site storage is not feasible, lamps may be transported to a central accumulation point at one of your own facilities, to a registered or permitted storage facility or directly to a recycling facility.
- Keep copies of any shipping papers for at least three years.
- Periodically place fliers in customer bills or other correspondence reminding them of the incineration ban on mercury-containing lamps, instructing customers how to identify the various types of fluorescent, CFL and HID lamps, and providing any local or toll-free phone numbers to access recycling programs.

Regulatory Requirements

1. Chapter 62-737, F.A.C. – Management of Spent Mercury-Containing Lamps and Devices
2. Section 403.7186, F.S. – Environmentally Sound Management of Mercury Lamps and Devices
3. Section 403.161, F.S. – Prohibitions, Violation, Penalty, Intent

RECYCLED LIQUID WASTE

Environmental Issue

Boatyards and marinas generate special wastes such as bilge water, used oil, used oil filters, contaminated spill control material and old gasoline, and hazardous wastes such as acetone, paint and parts-washing solvents. Mismanaged waste may lead to spills, mixing of incompatible wastes, and violations of hazardous waste and used oil regulations. At facilities that are used by outside contractors and do-it-yourselfers, wastes are commonly left in the storage area in unlabeled open containers. Releases of liquid waste can degrade water quality and threaten aquatic plants, sea life, and human health and safety.

Goal

Design a waste storage facility that will contain spills, keep rainwater off tanks and containers, and provide adequate aisle space for container inspections. Manage the storage facility to avoid spills and accidental mixing of incompatible wastes.

Best Management Practices

- Keep the storage unit locked except when a trained facility employee is available to monitor proper waste segregation. Some facilities post signs that indicate wastes can be put in storage only under the supervision of facility personnel.
- Provide a spill contingency plan that spells out how to respond to fires and accidental spills and what to do with waste containers in case of an approaching hurricane. This plan can be incorporated into the marina/boatyard's Fueling Contingency Plan.
- Train employees and independent contractors about your waste management policies and your Spill Contingency Plan.
- Use signs, mailings and other means to direct facility patrons as to the proper disposal of all liquid waste.
- Provide spill control material and empty containers for emergency clean-up.
- The waste storage structure should be constructed with berms and a roof to keep rainwater from filling the containment structure. Check with local authorities for fire safety and spacing requirements.
- Provide snap-top funnels to ensure that containers and tanks are properly closed after adding the waste. (40 CFR 265 Subpart CC reg. may require the use of drums of 26 gallons or less capacity for exemption from the CC emissions requirements for generators.)
- Insert language in facility contracts requiring the proper disposal of liquid waste. Document disposal of liquid wastes.
- Provide a hazardous waste site that provides access for tenants and boaters to dispose paint and solvent waste during authorized hours. This site could include a closed container or an inflammable cabinet in which paint cans and containers of waste solvent could be placed until a boatyard employee is available to pour the waste into the hazardous waste container. This temporary storage should not accumulate more than 30 gallons.

Regulatory Requirements

1. Chapter 62-710, F.A.C. – Used Oil Management
2. Chapter 62-621, F.A.C. – General Permits
3. Chapter 62-620, F.A.C. – Wastewater Facilities and Activities Permitting
4. 40 C.F.R. 260-268 – Disposal of antifreeze determined to be hazardous waste
5. 40 C.F.R. 122.26 – National Pollutant Discharge Elimination System
6. Chapter 403 F.S., Chapter 62-740 F.A.C. – Petroleum Contact Rule

USED ANTIFREEZE MANAGEMENT

Environmental Issue

Antifreeze (ethylene glycol) is toxic to animals, humans and aquatic life. When antifreeze is improperly discarded onto the ground or allowed to flow into storm drains or off paved areas into the ground, it eventually finds its way into our waterways. A small quantity of antifreeze poured onto the ground can contaminate a large volume of groundwater, which could lead to expensive clean-up costs and degradation of water supplies. Dogs and other pets have been poisoned from drinking water contaminated with antifreeze. Used antifreeze typically also contains high concentrations of lead (from the solder used in radiators), which also can poison water supplies.

Goal

Provide a convenient mechanism for collecting, managing, and recycling or disposing of used antifreeze.

Best Management Practices

- Use dedicated antifreeze collection equipment. This would include collection funnels, transfer pans or buckets, and storage containers (drums or tanks). Transfer used antifreeze immediately to a dedicated storage container compatible with the antifreeze. Containers must be in good condition and kept closed at all times except when emptying or filling. Label used antifreeze collection equipment and containers with the words "Used Antifreeze."
- Antifreeze containers must be protected from the elements and located in a secured area. Inspect containers at least weekly for signs of leaks or deterioration caused by corrosion or other factors. Replace leaking containers immediately.
- Post signs for marina/boatyard staff and boat owners advising of the prohibition on disposal of used antifreeze and giving directions for the proper collection and management of the used antifreeze.
- Never mix used antifreeze with any other chemicals or substances, which would render it unacceptable for recycling. Keep stored antifreeze free from cross-contamination by oil, fuels and degreasers by providing a separate, well-labeled container.
- Use, where possible, environmentally friendly anti-freeze. Determine if this product must still be recycled or subject to a hazardous waste determination.

If used antifreeze is recycled on-site by the marina or boatyard, a hazardous waste determination must be made on the waste antifreeze filters generated from the recycling process equipment.

Antifreeze may become contaminated with heavy metals, such as lead, and organics, such as benzene, trichloroethylene or tetrachloroethylene, at levels that would render the used antifreeze a hazardous waste. If the antifreeze is not recycled, a hazardous waste determination must be made by the marina or boatyard operator

Regulatory Requirements

1. 40 C.F.R 262.11 – Hazardous Waste Determination and Recordkeeping
2. 40 C.F.R.260-268 – Disposal of antifreeze determined to be hazardous waste
3. Chapter 62-730, F.A.C. – Hazardous Waste

USED OIL AND USED OIL FILTERS

Environmental Issue

If employees, contractors or do-it-yourselfers do not have a convenient means to properly dispose of used oil and fuel, then these pollutants may end up in the environment. Used oil discharges can degrade water quality and threaten aquatic plant and animal life. Small incremental discharges of petroleum products add up to significant impacts. **One gallon of fuel can contaminate more than a million gallons of water.**

Goal

Provide separate, accessible containers for the disposal of used petroleum products. Manage and dispose of used oil and used oil filters properly.

Best Management Practices

- Provide CLEARLY MARKED designated areas for storage of used oil and other petroleum products. This area should be readily accessible.
 - a. Do not pour or spill used oil into soil, waterways, storm drains, etc.
 - b. Do not mix used oil with solid waste.
 - c. Used oil may not be used for road oiling or weed control.
 - d. Register with DEP a Public Used Oil Collection Center (PUOCC).
 - e. Do not mix used oil with other waste liquids. Keep used oil separate and recycle.
- Direct marina/boatyard patrons as to the proper management of used oil and used oil filters through the use of signs, pamphlets, mailings, lease/rental agreements and other means.
- Used oil containers must be stored on an oil-impermeable surface. Boatyard operators must control what is placed into the containers. If fuel is contaminated with oil, the cost to remove this contaminant escalates.
- All containers used to store petroleum products must be double-walled or have a form of secondary containment, with the capacity to hold 110 percent of the largest container. Structure should be roofed to prevent accumulation of stormwater.
- Institute a recycling program for used petroleum products, such as used oil, used oil filters and other petroleum-contaminated wastes.
- Used oil or diesel fuel filters should be drained by placing the filter in a funnel over the appropriate labeled waste collection container to allow the excess petroleum product to drain into the container. Drained filters should be collected and recycled.
- Contract with a used oil hauler to have used oil and used oil filters transported off-site for recycling. Maintain records of used oil recycling.
- Insert language into facility contracts requiring proper used-oil management.
- Provide recognition and incentives to those boaters who use proper used-oil management techniques.

Regulatory Requirements

1. 40 C.F.R. 112 – Oil Pollution Prevention
2. Chapter 62-710.850, F.A.C. – Management of Used Oil Filters
3. Chapter 62-710.401, F.A.C. – Used Oil Management Prohibitions
4. Section 403.751, F.S. – Prohibited Actions; Used Oil

REFRIGERANTS

Environmental Issue

Improper handling of refrigerants can result in harm to the atmosphere and humans.

Goal

Handle material containing refrigerants carefully and in accordance with applicable regulatory requirements.

Best Management Practices

- Purchase and use approved refrigerant recycling equipment to recover refrigerants from vessel and boatyard refrigeration systems. Ensure appliance contractors who do business at the boatyard use recovery equipment.
- A hazardous waste determination can be made using product and process knowledge or through waste analyses. Supporting documentation is required.

Regulatory Requirements

1. Chapter 62-281, F.A.C. – Motor Vehicle Air Conditioning Refrigerant Recovery and Recycling
2. Chapter 62-625, F.A.C. – Pretreatment Requirements for Existing and Other Sources of Pollution



PAINTING

Environmental Issue

Painting of vessel hulls or application of topside coatings and activities associated with paint handling can result in the concentrated release of harmful vapors and liquids. Wastes generated from painting activities will probably be hazardous wastes if the paints contain solvents and/or heavy metals (lead, cadmium, barium or chromium). Water-based paints containing heavy metals also can generate hazardous wastes. Disposal of hazardous waste is expensive. Mismanagement of hazardous waste can cause pollution of the environment and lead to costly penalties and cleanup costs if discharges occur.

Goal

Reduce the amount of harmful vapors released into the air. Minimize the generation of hazardous waste through recycling and product substitutions. Properly manage and dispose of all hazardous waste. A hazardous waste determination can be made using product and process knowledge or through waste analyses. Supporting documentation is required.

Best Management Practices

- Vessel painting should be as environmentally safe as possible. Use low-solvent/high solid content paints or water-based paints that do not contain environmentally harmful solvents. The use of rollers or brushes may be an alternative to spray painting. When possible, painting should be done indoors.
- When spray painting, emissions may be reduced by employing techniques that ensure a good transfer efficiency of paint to surface. Some of these include:
 - a. Keeping spray guns and lines clean and well-maintained.
 - b. Outdoor spray painting should not be conducted under adverse wind conditions.
 - c. Keeping guns perpendicular to the surface being painted, maintaining a uniform distance from the surface, and moving the gun at a uniform speed to keep spray patterns consistent.
- Painting on land should occur over an impermeable surface and in such a manner that overspray does not fall on open ground or surface water. A boom should be available to contain any overspray that reaches surface waters. Overspray on water must be removed immediately from the surface of the water.



PAINTING (CONT.)

- Waste solvents from cleaning spray equipment must be placed into a labeled container with a lid to prevent evaporation into the atmosphere. All hazardous waste from painting operations must be properly containerized, managed and disposed of in accordance with hazardous waste regulations. To avoid exceeding the accumulation time periods, the paint shop can establish a satellite accumulation container (not to exceed 55 gallons) to collect hazardous waste. The container must be labeled and kept closed except when adding or removing waste. Once the container is full, it must be dated with the accumulation start date and moved to the waste storage area so a new satellite container can be started.
- Empty paint and thinner cans must be completely dry before they are placed in the dumpster for disposal. Some solid waste management facilities may not accept this waste stream, so verify before disposal.
- Perform major hull and topside work inside buildings whenever possible to assist in containing contaminants, reducing wind dispersal, and minimizing exposure to rain and runoff into the waterbody. (Note: Specific OSHA safety precautions may be required.)
- Minimize hazardous waste and extend the life of your product by recycling solvent paint waste with a solvent distillation unit. The distillation bottoms will be hazardous waste and must be managed and disposed of accordingly. The solvent that is recovered can be used to clean equipment, saving the facility the cost of new solvent.
- If spray painting over water is performed, every effort must be made to keep paint from falling in the water. Some facilities construct wet sheds to contain overspray and keep paint and debris out of the water. Wet sheds are enclosed with a roof and curtains to control fugitive emissions. A boat inside a wet shed slip is encircled with floating rafts secured against the hull to capture any falling paint drops, overspray and debris. The area should be boomed such that all overspray that accidentally reaches the water can be collected and removed via skimming or other effective methods.
- Solvent soaked rags should be placed in fireproof storage bins and recycled through an industrial laundry service.
- When spray painting, use high-volume/low-pressure (HVLP) spray guns that have transfer efficiencies of about 85 percent (transfer efficiency, or TE, is the percentage of paint sprayed that actually reaches the surface being painted). What doesn't reach the surface is lost as overspray; therefore, the higher the TE, the better paint coverage and lower the paint consumption.
- As long as the painting operations use less than the regulated thresholds (i.e., 6 gallons of paint per day for the full exemption and 44 pounds per day of VOC for the conditional exemption from Title V), there are no restrictions on what kind of equipment they use to apply the paint or whether they use the equipment inside or outside. You usually can find out how much VOC is in each gallon of paint from the label. Simply multiply the pounds of VOC per gallon by the number of gallons used per day to get the pounds of VOC emitted per day.

Regulatory Requirements

1. Chapter 62-730, F.A.C. – Hazardous Waste
2. Chapter 62-296, F.A.C. – Stationary Sources – Emission Standards
3. Chapter 62-210.300, F.A.C. – Permits Required
4. The Federal Clean Water Act and the Oil Pollution Act of 1990 prohibit the discharge of paint into waters subject to the Coast Guard's or the Environmental Protection Agency's jurisdiction

PAINT CHIPS

Environmental Issue

Paint chips may contain hazardous material.

Goal

The boatyard operator must determine whether the paint chips generated are hazardous waste. If the paint chips are hazardous waste, the operator must comply with applicable hazardous waste regulations. If the paint chips are not hazardous waste, they must be sent for disposal in a lined landfill at the discretion of the landfill operator. Paint chips may not be disposed in soil or surface waters. Hazardous waste paint chips may not be placed in the dumpster for disposal. Hazardous waste paint chips must be properly containerized and sent to a permitted transfer/storage/disposal facility.

Best Management Practices

If the generator does not know the formulation of the paint being stripped, the paint chips must be containerized until a waste determination is made. If the boatyard is a conditionally exempt Small Quantity Generator of Hazardous Waste (generates less than 220 pounds/month), 2,200 pounds (about five 55-gallon drums) of paint chips can be accumulated before a representative sample is collected and sent to a certified lab for TCLP analysis. If the boatyard is a Small Quantity Generator of Hazardous Waste (220 to 2,200 pounds/month), the waste determination must be made within six months of generation since hazardous waste cannot be accumulated for more than six months.

Regulatory Requirements

1. 40 C.F.R. 262.11 – Hazardous Waste Determination
2. 40 C.F.R. 122.28 - General Permits (State NPDES Programs)
3. Chapter 62-620.710, F.A.C. – Procedures for All Generic Permits
4. Chapter 62-621, F.A.C. – General Permits
5. Section 403.708, F.S. – Prohibition; Penalty

Paint should be properly disposed of in hazardous waste containers.



SOLVENT-CONTAMINATED WIPES FINAL RULE SUMMARY CHART

This chart summarizes federal regulations for managing solvent-contaminated wipes under 40 CFR 261.4(a)(26), which conditionally excludes from the definition of solid waste solvent-contaminated wipes that are cleaned and reused (“reusable wipes”), and under 40 CFR 261.4(b)(18), which conditionally excludes from the definition of hazardous waste solvent-contaminated wipes that are disposed (“disposable wipes”).

This chart is a guidance document provided by the EPA.

Summary	Solvent-Contaminated Reusable Wipes	Solvent-Contaminated Disposable Wipes
Regulation Citation	40 CFR 261.4(a)(26) (Solid Waste Exclusion)	40 CFR 261.4(b)(18) (Hazardous Waste Exclusion)
Description	Solvent-contaminated wipes that are sent for cleaning and reuse are not solid wastes, provided the conditions of the exclusion are met.	Solvent-contaminated wipes that are sent for disposal are not hazardous wastes, provided the conditions of the exclusion are met.
Includes	<p>Wipes containing one or more F001-F005 listed solvents listed in § 261.31 other corresponding P- or U- listed solvents found in § 261.33, including:</p> <ul style="list-style-type: none"> - Acetone - Benzene - n-Butanol - Chlorobenzene - Creosols - Cyclohexanone - 1,2-Dichlorobenzene - Ethyl acetate - Ethyl benzene - 2-Ethoxyethanol - Isobutyl alcohol - Methanol - Methyl ethyl ketone - Methyl isobutyl ketone - Methylene chloride - Tetrachloroethylene - Toluene - 1,1,2 - Trichloroethane - Trichloroethylene (*For reusable wipes only.) - Xylenes <p>Wipes that exhibit a hazardous characteristic resulting from a solvent listed in part 261</p> <p>Wipes that exhibit only the hazardous characteristic of ignitability when containing one or more non-listed solvents.</p>	
Does not include	<p>Wipes that contain listed hazardous waste other than solvents.</p> <p>Wipes that exhibit the characteristic of toxicity, corrosivity or reactivity due to non-listed solvents or contaminants other than solvents.</p>	<p>Wipes that contain listed hazardous waste other than solvents.</p> <p>Wipes that exhibit the characteristic of toxicity, corrosivity or reactivity due to non-listed solvents or contaminants other than solvents.</p> <p>Wipes that are hazardous waste due to the presence of trichloroethylene.</p>

SOLVENT-CONTAMINATED WIPES FINAL RULE SUMMARY CHART (CONT.)

Summary	Solvent-Contaminated Reusable Wipes	Solvent-Contaminated Disposable Wipes
Storage Requirements	Wipes must be accumulated, stored and transported in non-leaking, closed containers that can contain free liquids, should they occur.	
Labeling	Containers must be labeled "Excluded Solvent-Contaminated Wipes."	
Accumulation Time Limits	Generators may accumulate wipes up to 180 days from the start date of accumulation prior to being sent for cleaning or disposal.	
Record keeping	Generators must maintain documentation that includes: name and address of the laundry, dry cleaner, landfill or combustor documentation that the 180-day accumulation time limit is being met description of the process the generator is using to meet the "no free liquids" condition.	
Condition of Wipes Prior to Transport	Wipes must contain no free liquids prior to being sent for cleaning or disposal and there may not be free liquid in the container holding the wipes. "No free liquids" condition is defined in 40 CFR 260.10 and is based on the EPA Methods Test 9095B (Paint Filter Liquids Test) or other authorized state standard.	
Management of Free Liquids	Free liquids removed from the wipes or from the wipes container must be managed according to applicable hazardous waste regulations in 40 CFR parts 260 through 273.	
Eligible Handling Facilities	Must go to a laundry or dry cleaner whose discharge, if any, is regulated under sections 30 and 402 or section 307 of the Clean Water Act.	Must go to a combustor regulated under section 129 of the Clean Air Act or to a hazardous waste combustor, boiler or industrial furnace regulated under 40 CFR 1 parts 264, 265, or 266 subpart H. Must go to a municipal solid waste landfill regulated under 40 CFR part 258 (including § 258.40) or to a hazardous waste landfill regulated under 40 CFR parts 264 or 265.
Storage at Handling Facilities	Must store wipes in non-leaking, closed containers that are labeled "Excluded Solvent-Contaminated Wipes." Containers must be able to contain free liquids should they occur.	
Management of Free Liquids by Handling Facilities	Free liquids removed from the wipes or from the container holding the wipes must be managed according to applicable hazardous waste regulations in 40 CFR parts 260 through 273.	

DISPOSING OF SHOP CLOTHS

Environmental Issue

Shop cloths soaked with ignitable solvents pose a fire hazard when improperly stored and can be considered hazardous waste. A solvent-contaminated wipe is one that, after use or after cleaning up a spill, either:

- Contains one or more of the F001 through F005 solvents
- Exhibits a hazardous characteristic that results from a listed solvent
- Exhibits only the hazardous waste characteristic of ignitability due to the presence of solvents that are not listed.

Goal

Correctly store and launder shop cloths soaked with ignitable solvents or used oil.

Best Management Practices

- Store ignitable rags in fire-safe, labeled containers until they can be laundered or properly disposed.
- Provide cloth rags that can be recycled by an industrial laundry service.
- Contract with a permitted industrial laundry service that will pick up soiled rags and deliver clean rags on a regular basis.

Regulatory Requirements

1. Chapter 62-730.020 and 62-730.030, F.A.C.
2. 40 CFR 261.4(a)(26) and (b)(18)
3. Chapter 62-625, F.A.C. – Pretreatment Requirements for Existing and Other Sources of Pollution
4. Chapter 62-710, F.A.C. – Used Oil Management
5. Chapter 62-621, F.A.C. – Generic Permits

Shop cloths soiled with used oil are subject to state rules for management and disposal of oily wastes. Shop cloths soiled with hazardous waste solvents are subject to hazardous waste regulations if they are not recycled by an industrial laundry service. If a facility decides to launder its own contaminated cloths, it should seek permission to discharge the wash water to the local sewage treatment works if it is connected. If the facility is not connected to a sewage treatment works, on-site rag laundering should not be considered. Some facilities that have laundered their own rags have inadvertently contaminated their septic tank systems and groundwater with solvents.

SERVICE AND REPAIR OPERATIONS

Environmental Issue

General upkeep of boats generates household hazardous wastes such as solvent paint waste, used antifreeze, used oil, old gasoline, batteries, mercury-containing bilge-pump switches and out-of-date flares. These wastes pose a threat to the environment if they are improperly disposed into the water, air or ground. Gasoline engines that are not properly maintained can emit high levels of hydrocarbons, carbon monoxide and nitrous oxides, and diesel engines that are not properly maintained can emit high levels of particulate matter into both the air and aquatic environment. Engine service and repair operations generate waste that when handled incorrectly can cause human hazards, endanger the environment and be costly to clean up.

Goal

Implement a “low emissions” policy, encouraging boat owners to maintain engine systems in a manner that is friendly to the environment through regular maintenance schedules and tune-ups. Properly handle and dispose of waste generated from engine service and repair.

Best Management Practices

- Perform all engine repair/maintenance in the designated work area only, never over bare ground or in the water.
- Maintain and inspect engine repair area regularly for cleanliness and safety hazards.
- Maintain absorbent materials for boaters, employees or contractors to clean up spills.
- Provide labeled disposal containers for used oil, used oil filters, anti-freeze and stale gasoline.
- Train employees on proper waste control and disposal procedures.
- Keep solvent-containing parts washers closed when not in use to avoid loss of product and evaporation into the atmosphere.
- Have all contractors/mechanics sign an environmental agreement that outlines how all materials are to be handled on marina or boatyard property.
- Facility service and repair operations should promote lower-emissions technology as a primary goal of servicing and repair procedures.
- Promptly transfer used engine fluids to the proper labeled container; do not leave full drip pans or other open containers in the shop.
- Used engine fluids should be segregated to prevent cross-contamination of waste streams (i.e., used engine fluids should not be mixed together).
- Store used batteries with all caps intact, out of the weather in a non-leaking secondary container.
- If your facility’s engine maintenance and repair operations generate a lot of used oils and coolants, consider investing in an on-site recycling system that cleans, filters and reconditions used fluids for reuse. If not, look into an off-site recycling service.
- Oil or diesel fuel filters should be drained by placing the filter in a funnel over the appropriate waste collection container to allow the excess petroleum product to drain into the container. Drained filters must be collected in a labeled container and recycled.
- Plug floor drains that are connected to the storm or sanitary sewer, and install a sump that is pumped regularly, if necessary.

Regulatory Requirements

1. 40 C.F.R. 260-268 – Hazardous Waste Management System
2. Chapter 62-710, F.A.C. – Used Oil Management
3. Chapter 62-730, F.A.C. – Hazardous Waste
4. Section 403.751, F.S. – Prohibited Actions; Used Oil Section
5. B403.727, F.S. – Violations; Defenses, Penalties, and Remedies for Hazardous Waste

LAND-BASED HULL PAINT REMOVAL

Environmental Issue

Boat scraping and sanding produces solid waste such as paint chips and dust that can contaminate air, soil, surface waters and bottom sediments. Conducting these operations outdoors increases the potential for pollutants to be dispersed into the environment by wind, rain and/or runoff. Paint chip accumulation in soils and sediments has led to hazardous waste contamination and costly clean-ups at some sites.

Goal

Adopt pollution prevention measures to prevent the release of contaminants produced during hull maintenance activities from reaching the soil, air and surface waters of the boatyard.

Best Management Practices

- For outdoor hull maintenance areas that do not have sealed or hard surfaces, the work should be performed over tarps or drop cloths. Special attention should be paid to climatic conditions, and tarps should be cleaned by manual sweeping or vacuuming frequently. Waste must be disposed of properly.
- Suggested methods for the removal of paints and fiberglass/gelcoat products from wooden and fiberglass hulls are:
 - a. Dustless vacuum sanding machines are highly efficient in reducing airborne dust concentrations. Capturing the dust at the source has many benefits, including the reduction of cleanup time and the volume of any hazardous waste generated. This reduction of hazardous waste in turn will save on disposal fees.
 - b. Alternative paint strippers such as Peel Away or Nu-Strip.
 - c. Mechanical methods such as gel peeling.
- Perform major hull and topside work inside buildings whenever possible to assist in containing contaminants, reducing wind dispersal, and minimizing exposure to rain and runoff into the waterbody. *Specific OSHA safety precautions may be required.*
- Provide and clearly mark designated work areas for hull scraping and sanding. Ideally these areas should be tarped or have sealed asphalt or concrete flooring. Hull maintenance areas should be located a sufficient distance away from the water to prevent escape of materials into the water. Allow work only inside such designated areas. *Specific OSHA safety precautions may be required.*
- Provide clearly marked receptacles for receiving the sandings or paint chips. (See Paint Chips BMP for proper disposal techniques.)
- Require contractors and boat owners to clean up their work area after hull maintenance activity.
- Require do-it-yourselfers and contractors to use tarps on impervious surfaces.
- Use a “billy goat” vacuum to periodically sweep impervious surfaces used for hull maintenance on a routine schedule.

Regulatory Requirements

1. Chapter 62-296, F.A.C. – Stationary Sources – Emission Standards
2. Section 403.708, F.S. - Solid Waste Prohibition; Penalty
3. NPDES industrial stormwater permits are required for marinas and boatyards that conduct certain boatyard activities over land that ultimately discharge to surface waters.

LAND-BASED HULL SANDBLASTING

Environmental Issue

Abrasive dry grit used in sandblasting operations to remove paint from ship hulls is a significant source of pollutants entering waterways from boatyard stormwater. Spent sandblast grit is contaminated with hull paint, which contains toxic heavy metals, such as copper and zinc, that are used as anti-fouling agents.

Goal

Adopt pollution prevention measures to prevent the release of contaminants produced during sandblasting from reaching the soil, air and surface waters of the boatyard.

Best Management Practices

- Suggested methods for the removal of paints and fiberglass/gelcoat products from wooden and fiberglass hulls are:
 - a. Replace traditional sandblasting material (e.g., silica sand) with recoverable and reusable plastic medium blast (PMB), which can remove anti-fouling paint without stripping fiberglass gelcoat (unless desired). Old paint dust is separated from reusable PMB for disposal, resulting in waste minimization and lower hazardous waste disposal fees for the facility. For example, a 50-foot boat generates about 1 gallon of paint dust instead of several gallons of mixed paint and sand for disposal.
 - b. For fiberglass hulls, use a sponge blast system that uses urethane foam mixed with plastic chips. The blast media is reusable, and the benefits are the same as those listed for plastic mediums and vacuum sanding systems.
- When sandblasting, the facility must provide “reasonable and adequate” measures to contain overspray and sandblasting waste. These practices should be carried out over impervious surfaces and shall not take place under windy conditions. Spray booths, plastic tarp enclosures or other methods should be utilized to prevent residue from being carried into the air or onto surface waters. Sandblasting should be carried out by personnel trained in the proper operation of blasting equipment and should be conducted from the top of the vessel down with the nozzle blast directed downward, except when blasting underneath the vessel or on small parts where it is impractical.
- Perform major hull and topside work inside buildings whenever possible to assist in containing contaminants, reducing wind dispersal, and minimizing exposure to rain and runoff into the waterbody. *Specific OSHA safety precautions may be required.*
- Provide and clearly mark designated work areas for hull scraping and sandblasting. Ideally these areas should be tarped or provided with a sealed asphalt or concrete floor. Hull maintenance areas should be located a sufficient distance away from the water to prevent escape of materials into the water. Allow work only inside such designated areas.
- Use a “billy goat” vacuum to periodically sweep impervious surface used for hull maintenance at the yard on a routine schedule.
- The marina or boatyard operator must determine which waste streams are hazardous using process knowledge, product knowledge or testing (Title 40 CFR, Part 262.11).
- Require do-it-yourselfer boat owners and contractors to use tarps or impervious surfaces.
- Require contractors and boat owners to clean up their work area after hull activity.

Regulatory Requirements

1. Chapter 62-296, F.A.C. – Stationary Sources – Emission Standards

BOAT CLEANING IN THE WATER

Environmental Issue

Boatyard employees and boat owners use a variety of boat cleaners, such as teak cleaners, fiberglass polishers and detergents, that can contribute to pollution and nutrients to the water. Excess nutrients degrade water quality by promoting nuisance aquatic plant growth and reducing dissolved oxygen levels needed for aquatic life. Additionally, scrubbing anti-fouling paints can release toxic metals into the water that can contaminate boatyard bottom sediments. The removal of contaminated sediments can be very costly.

Goal

For boats that are in the water, use cleaning methods that prevent or contain the release of pollutants to surface waters.

Best Management Practices

- Educate customers on the negative impact of many traditional cleaners and, when possible, supply for sale to boatyard patrons biodegradable spray type cleaners that do not require rinsing.
- When possible, remove the boat from the water to perform cleaning where debris can be captured and properly disposed.
- Promote the use of dry slips and boat lifts in order to reduce the need for in-the-water cleaning.
- Prohibit pressure washing for boat cleaning in or over the water.
- Encourage the use of sponges or soft towels to clean the underwater hull on a regular basis.
- Wash the boat hull above the waterline by hand. Detergents and cleaning compounds used for washing boats should be phosphate-free and biodegradable, and amounts used should be kept to a minimum.
- Prohibit the use of traditional sudsing cleaners that must be rinsed off, and discourage the use of detergents containing ammonia, sodium hypochlorite, chlorinated solvents, petroleum distillates or lye.
- For boats that are in the water, use cleaning methods that prevent or contain the release of pollutants to surface waters.
- Avoid in-the-water hull scraping and any abrasive process that occurs underwater which may remove anti-fouling paint from the boat hull. Underwater scraping can result in adding nutrients and spreading fouling organisms in the marina.
- Make environmentally compatible cleaning products and information available to boaters.



OUT-OF-THE-WATER SALT WATER RINSING

Environmental Issue

Water used to rinse the salt and scum off boats taken out of the water for upland storage can add pollutants to surface waters.

Goal

Contain rinse water from cleaning and washing of boats on the uplands where possible.

Best Management Practices

- Do not discharge any rinse or wash waters into surface waters or storm drains. Boat rinse or wash waters could carry contaminants into surface waters or stormwater.
- Rinse boats in a designated area designed to contain and collect rinse water for recycling, such as an impermeable surface (sealed asphalt or concrete) with a sloping grade and a drain sump to direct the rinse water to a recycling system.
- Designated areas for boat rinsing should be designed to prevent discharge of rinse water to surface waters and prevent contamination of stormwater (e.g., an upland permeable surface such as gravel or grass that allows water to percolate). Solids and debris should be picked up to prevent contamination of stormwater.
- Wastewater from rinsing and washing may be discharged to infiltration areas or other stormwater treatment systems capable of treating rinse waters.
- Rinse water may be discharged to a wastewater treatment facility. The marina or boatyard must obtain permission from the local wastewater treatment facility to discharge wastewater from rinsing to the sanitary sewer. Contact the local wastewater treatment facility for permission and guidelines.

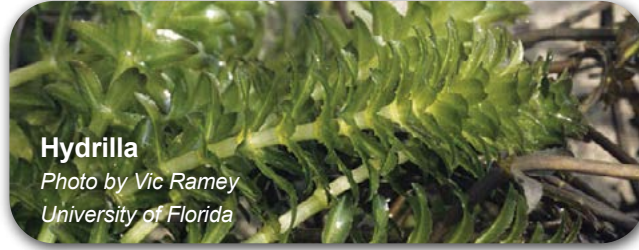
Unintended discharges can occur when boats are being removed from the water and the drain plug is pulled. Do not pull the drain plug on boat ramps or over the water. Pull the boat out and away from the water or the boat ramp so bilge water does not drain back into the water.

Before pulling the drain plug, bilges should be checked for petroleum or other pollutants that may have collected during operation. If oil or pollutants are found, take necessary steps to remove them before removing the plug or drain them ashore into oil/water separators. There are a number of treatment components available on the market for recycling of wastewater and for grease and oil removal systems.

EXOTIC PLANTS/SEALIFE



Green mussels growing on a crab trap retrieved from Tampa Bay, 2009.
Photo by Florida Sea Grant



Hydrilla
*Photo by Vic Ramey
University of Florida*



Hyacinth
Photo by George May

Environmental Issue

Exotic plants and animals may become attached to vessels and trailers and can be accidentally introduced into pristine waterways. Once introduced, exotics can be very invasive and difficult, if not impossible, to control. When exotic plants or animals spread, they contribute to the degradation of water quality and of fish and wildlife habitat by outcompeting native species and by shading submerged vegetation. This adversely impacts water quality, recreational and commercial fishing, and presents navigational difficulties as waters can become choked with vegetation.

Goal

Minimize the introduction of exotic plants and animals, such as water hyacinth, hydrilla and green mussels, from one waterway to another.

Best Management Practices

- Educate the public with signs and pamphlets at all boat ramps and marinas where exotics are a potential problem. Post signs emphasizing the need to inspect vessels thoroughly and to remove exotics from hulls and trailers, particularly below the waterline.
- Emphasize to boaters the need to thoroughly clean trailers and hulls, particularly that part below the waterline and to inspect it after cleaning to ensure that no plants or animals are attached. When cleaning boats, exotic organisms on the vessel hull and engines should be removed, collected and discarded to upland disposal sites.
- Have boaters check bilges, live wells and trailers at ramps to minimize spread of exotics to unaffected areas. Each of these should be empty or the water pumped out and treated for larvae/spore removal. Remove all plant fragments from trailers, props, bait wells, fishing tackle, dive gear, etc., for disposal in an upland facility or receptacle.
- Have boaters flush raw water through cooling systems and clean sea strainers before launching boats trailered or motored from other states or nations.
- For marinas located in waterways where exotic aquatic plants are present, mainly those in fresh water, provide facilities for complete rising of vessels, trailers, bait wells, etc., and for the proper disposal of collected exotic plants and animals.

Regulatory Requirements

1. Chapter 369.25 – Aquatic Plants, 372.26, 370.081 Saltwater animals

PRESSURE WASHING VESSELS

Environmental Issue

Washing and boat cleaning can remove oils and greases, paint chips, barnacles and other sources of water quality degradation. If these contaminants are allowed to flow into a waterbody, toxic heavy metals can pollute the water column and sediments. Additionally, associated organic matter can add to the biochemical oxygen demand (BOD) of the water body, and suspended solids may decrease available sunlight for aquatic plant life.

Goal

Contain and direct industrial wastewater from washing to a recycling system or to a wastewater treatment facility.

Best Management Practices

- Do not discharge industrial wastewater from pressure washing to surface or ground waters, storm drains or septic systems. Avoid contaminating stormwater with such wastewater by establishing and using a Stormwater Pollution Prevention Plan.
- Industrial wastewater may be discharged to a wastewater treatment facility. The marina must obtain permission from the local wastewater treatment facility to discharge industrial wastewater from pressure washing to the sanitary sewer.
- If a wastewater treatment facility is not available or the operator refuses to give permission, install a recirculating pressure wash system that recycles the industrial wastewater.
- Designate shore-side washing and pressure washing areas where wash waters can be collected or contained for treatment or recycling. Areas should have sloping impermeable surfaces (such as sealed asphalt or concrete) that allow wastewater from these activities to be recycled for reuse or treated before discharging.
- Wash and rinse water should be:
 - a. collected for recycling and reuse or;
 - b. collected for discharge to a wastewater treatment facility. (Contact the local wastewater treatment facility for permission to discharge wash and rinse waters to the sanitary sewer and for further guidelines. If a wastewater treatment facility is not available or refuses to give permission, install a recycling system.) or;
 - c. in the case of rinse waters only, discharged to stormwater retention areas capable of necessary treatment or;
 - d. pretreated prior to discharge in accordance with water quality standards, permit required by DEP.
- Provide and clearly mark designated work areas for pressure washing. Do not permit pressure washing outside designated areas. Do not allow off-site contractors to bring pressure washing equipment on-site unless they understand where and how this activity can be performed.
- A marina may obtain an industrial wastewater permit from DEP to discharge wastewater from pressure washing into the environment. An industrial waste permit may require pretreatment of the wastewater and quarterly monitoring to analyze the concentration of contaminants that are entering the environment.
- Use diagonal trenches or berms to contain and collect wash water at marine railways.
- Use solid decking, gutters and sumps at lift platforms to contain and collect wash water for possible reuse.
- Wastewater from pressure cleaning or steam cleaning should not be discharged to surface waters.

PRESSURE WASHING VESSELS (CONT.)

- Designate shore side engine-pressure or steam cleaning areas where wash waters can be contained and collected for treatment or recycling. Such areas should have sloping impermeable surfaces, such as sealed asphalt or concrete, which allow wastewater from these activities to be recycled for reuse or treatment. The use of detergents or solvents as additives for pressure or steam cleaning should be discouraged. Wash or rinse waters should be either:
 - a. collected for recycling and reuse
 - b. collected for discharge to a wastewater treatment facility (Contact the local wastewater treatment facility for permission to discharge the wastewater to the sanitary sewer and for further guidelines. If a wastewater treatment facility is not available or refuses to give permission, install a recycling system.)
- Restrict maintenance activities to designated work areas.
- Contain dust from sanding/use vacuum sanders.
- Perform blasting only in enclosed area.
- Outdoor hull maintenance area has hard, impervious surface or uses tarps or other methods to collect paint.
- Promptly contain spent abrasives for proper disposal.
- Capture and contain for proper disposal all waste from blasting or sanding over water.
- Contain and manage waste waters from pressure washing activity.
- Conduct engine and maintenance repair over an impervious surface.
- Facility has permit to operate a non-discharging/closed loop recycle system.
- Facility has industrial wastewater permit for chemical treatment discharge to sewer system.
- Facility has industrial wastewater permit for groundwater discharges.
- Facility has designated pressure washing area.
- Prohibit in-water pressure washing and hull scraping.
- Recommend bottom coatings with minimal environmental impact.
- Prohibit major repairs/refitting of vessels within mooring field.
- Inboard/IO vessels have absorbents in bilge.

Regulatory Requirements

1. Chapter 369.25 – Aquatic Plants, 372.26, 370.081 Saltwater animals
2. Chapter 62-522, F.A.C. – Ground Water Permitting and Monitoring Requirements
3. Chapter 62-520, F.A.C. – Ground Water Classes, Standards, and Exemptions

STORMWATER POLLUTION PREVENTION PLAN

Environmental Issue

Many boatyards were constructed prior to implementation of stormwater management rules. As a result, many of these facilities discharge untreated stormwater directly to surface waters. Normal activities occurring at boatyard work areas (painting, hull scraping, sanding, pressure washing) are sources of pollution that might be discharged into surface waters during rainfall. These discharges continually degrade water quality and contribute to violations of standards for turbidity, oils and grease, nutrients, metals and dissolved oxygen. The highest concentration of these surface pollutants occurs in the runoff associated with the first 1 inch of rainfall, called the “first flush” effect.

Goal

Reduce the discharge of pollutants in stormwater runoff.

Best Management Practices

- Create separate stormwater treatment areas where boat hull cleaning, wash downs and motor repairs are performed. This will help segregate industrial stormwater from the runoff from other parts of the boatyard.
- Develop and implement a stormwater pollution prevention plan. This plan will help identify potential sources of pollutants that can get into stormwater, identify the areas where stormwater is generated and show where the stormwater flows.
- Where possible, modify an existing stormwater system to treat the “first flush” runoff from all impervious surfaces and reduce the discharge of untreated stormwater. Stormwater treatment practices include sand filters, wet ponds, vegetated filter strips, grassed swales, porous pavement, oil-grit separators, holding tanks, swirl concentrators, catch basins, chemical and filtration treatment systems, and absorbents in drain inlets.
- Check to ensure that all stormwater and sanitary sewer systems are separate. If your stormwater system has water draining during dry weather, perhaps a sewer pipe or other non-stormwater discharge is going into the stormwater conveyances.
- Inspect your stormwater system regularly, especially after large storms, to ensure that it continues to work properly. Remove debris and other materials that have accumulated, especially on discharge structures.
- Plug floor drains that are connected to the storm or sanitary sewer; install a sump that is pumped regularly, if necessary.
- Prevent liquid wastes from entering floor drains, sinks or outdoor storm drains.
- The use of brick pavers in areas where concrete is normally used, or replacing broken concrete, can dramatically reduce the amount of water runoff to the retention ponds. It does not cause the water to runoff somewhere else. The foundations layers must be compacted correctly for the pavers to work properly.
- Keep updated by visiting FloridaDEP.gov for Total Maximum Daily Loads (TMDLs) for impaired water bodies.

Regulatory Requirements

1. Chapter 62-621 F.A.C. - General Permits
2. Chapter 373, F.S. – Water Resources
3. The MSGP requires the implementation of a stormwater pollution prevention plan (SWPPP).
4. The Clean Water Act and the Florida Watershed Restoration Act requires the development of Total Maximum Daily Loads (TMDLs) for pollutants entering impaired water bodies.

STORMWATER POLLUTION PREVENTION PLAN (CONT.)

Specific requirements for stormwater plans are contained in the Multi-Sector Generic Permit (MSGP) for stormwater discharge associated with industrial activity. What follows are some of the typical elements found in a stormwater plan.

Pollution Prevention Team

Each facility needs to select a Pollution Prevention Team from its staff. The team is responsible for developing and implementing the SWPPP.

Components Of The Plan

The plan should include a description of potential pollutant sources and a description of the BMPs to prevent or minimize pollution of stormwater. The description of the potential pollutant sources typically includes:

- A map of the boatyard indicating areas that drain to each stormwater discharge point.
- A description of the industrial activities (i.e., engine maintenance, boat repair or cleaning) that occur in each drainage area.
- A description of the likely sources of pollutants from the site.
- An inventory of the materials that may be exposed to stormwater.
- The history of spills or leaks of toxic or hazardous materials for the past three years.

The BMPs to prevent or minimize pollution of stormwater usually include:

- Good housekeeping or upkeep of industrial areas and material storage areas that are exposed to rain and stormwater.
- Preventive maintenance of stormwater controls and other boatyard equipment.
- Spill prevention and response procedures to minimize the potential for the impact of any spills.
- Visual inspection of all stormwater outfalls during dry periods to ensure there are no cross connections (only stormwater discharged).
- Training employees on pollution prevention measures and controls and record keeping.

The plan also typically:

- Identifies areas with a high potential for erosion, and the BMPs to be used to limit erosion in those areas.
- Implements structural stormwater BMPs (i.e., retention, detention, filters, etc.) where appropriate for the site.

Inspection/Site Compliance Evaluation

Boatyard staff need to inspect the boatyard equipment and industrial areas on a regular basis.

At least once every year a more thorough site compliance evaluation should be performed by boatyard staff.

- Look for evidence of pollutants entering the stormwater system.
- Evaluate the performance of pollution prevention efforts.
- Identify areas where the Stormwater Pollution Prevention Plan should be revised to reduce the discharge of pollutants.
- Document both the routine inspections and the annual site compliance.

SEWAGE

Environmental Issue

Overboard discharges of domestic sewage from marine heads or holding tanks contribute significantly to water quality degradation and introduce dangerous pathogens into the water. Poorly maintained pumpouts and waste dump receptacles limit their use and discourage the proper disposal of sanitary wastes.

Goal

Encourage the proper use of pumpout facilities and waste dump receptacles by boaters, particularly liveaboards and overnigheters. Ensure that sewage pumpout facilities and waste dump receptacles are maintained in good operational and sanitary condition to encourage their use.

Best Management Practices

- Install pumpout connections at convenient locations or at each slip, and provide clear instructions for operating them. This is especially important where there are liveaboards.
- For small boats with porta-potties, install waste dump receptacles at boat ramps and clearly label them with instructions for their use. Instruction should include warning against the disposal of toxic materials.
- Boats with a Marine Sanitation Device (MSD) should be encouraged to use shore-side facilities.
- For all marinas with pumpout facilities, literature advertising the marina should indicate pumpouts are available.
- Develop regular inspection schedules.
- Have personnel on hand to monitor and ensure the proper use of the equipment.
- Arrange maintenance agreements with contractors competent in the repair and servicing of pumpout and waste dump receptacle equipment.
- Keep sewer lines clean to avoid plugging (a common problem with high-strength waste).
- Provide convenient pumpout services free of charge or for a nominal fee in order to encourage use.
- Services may include portable or stationary units or pumpout boats.
- Make the charge part of dock fee, if necessary, to recover cost.
- Add language to slip leasing agreements promoting the use of pumpout facilities.
- Provide signage for proper disposal of marina patron's pet waste.
- Maintain a dedicated fund for the repair and maintenance of pumpout stations and receptacles.

Regulatory Requirements

1. 33 C.F.R. 151.10 – Control of Oil Discharges
2. 33 U.S.C §1251 et seq. (1972) - Clean Water Act
3. Chapter 62-303, F.A.C. – Impaired Surface Waters
4. Section 327.53, F.S. – Marine Sanitation
5. Section 376.041, F.S. – Pollution of Waters and Lands of the State Prohibited
6. Section 403.161, F.S. – Prohibitions, Violations, Penalty, Intent

Responsible boaters protect water quality by properly disposing of waste.



GRAY WATER

Environmental Issue

Gray water is defined as wastewater from sinks and showers. Direct discharges of gray water increase biological oxygen demand and nutrients in the water, lower dissolved oxygen and may lead to undesirable algal blooms.

Goal

Reduce the volume of gray water discharges and the concentrations of pollutants contained in gray water discharges at marinas.

Best Management Practices

- Encourage use of shore-side showers and laundry.
- Educate boaters to use biodegradable, phosphate-free detergents and soaps on vessels.
- Minimize food wastes overboard by providing regularly maintained, accessible trash receptacles.
- Encourage boaters to conserve water and use water-saving devices such as low volume showerheads.
- Maintain marina design depths as necessary in order to prevent damage to adjacent areas.

Regulatory Requirements

1. Chapter 62-303, F.A.C – Impaired Surface Waters
2. 33 C.F.R. 151.10 – Control of Oil Discharges – No Discharg
3. Section 376.041, F.S. – Pollution of Waters and Lands of the State Prohibited
4. Section 403.161, F.S. – Prohibitions, Violation, Penalty, Intent

MOORING FIELDS

Environmental Issue

Vessels that anchor in the waters of Florida can potentially damage seagrass, coral colonies and other fragile elements of the marine floor environment.

Goal

Encourage the use of managed areas or mooring fields to place recreational vessels in areas that will minimize or eliminate damage to the floor of the marine environment.

Best Management Practices

- Provide appropriate management for the mooring areas or mooring fields, which includes enforcing provisions of the management plan, permits, and facility rules and regulations and coordinate a hurricane preparedness plan.
- Provide appropriate personnel to inspect vessels for compliance, assign mooring space and report environmental compliance to regulatory agencies.
- Only allow vessels in seaworthy condition, capable of maneuvering under their own power or sail to moor in the managed area.
- Only allow vessels compliant with U.S. Coast Guard, Florida Fish and Wildlife Conservation Commission, and local laws and regulations regarding safety equipment, current registration, sanitation equipment, and observance of idle speed/no wake zone and protected wildlife/endangered species with no harassment or feeding of wildlife.
- Allow the vessels to moor only in designated areas and have moorings assigned by the harbormaster.
- Prohibit the anchoring of vessels in the mooring field or managed areas as well as the use of additional anchors.
- Provide facilities for the proper disposal of human or pet waste as well as other trash.
- Provide containment area for waste oil, rags, absorbents, anti-freeze and batteries.
- Allow fueling only at designated fueling stations and not in the mooring field.
- Allow the cleaning of vessels only with biodegradable, environmentally clean products.
- Provide product information for customers and carry such products in the ship's store.
- Major repairs or refitting vessels must not be allowed in the mooring field.
- Oil spills must be reported to the harbormaster and USCG National Response Center immediately; use of detergents prohibited; inboard & I/O vessels must have absorbents in the bilge. Provide number to USCG response.
- Vessels are encouraged to evacuate mooring fields and seek safe harbor areas in the event of hurricane or tropical storm.

Regulatory Requirements

1. Chapter 62-303, F.A.C. – Impaired Surface Waters
2. 33 C.F.R. 151.10 – Control of Oil Discharges
3. 33 U.S.C §1251 et seq. (1972) - Clean Water Act
4. Section 327.53, F.S. – Marine Sanitation
5. Chapter 376, F.S. – Pollutant Discharge Prevention and Removal
6. Section 403.161, F.S. – Prohibitions, Violation, Penalty, Intent

*46 CFR 162.050 or listed in the current International Maritime Organization (IMO)
Marine Environment Protection Committee (MEPC) Circular summary of
MARPOL 73/78 approved equipment*

SOLID WASTE

Environmental Issue

Marinas and boatyards generate various solid wastes that can be a nuisance and an eyesore if not properly containerized. Improper disposal of solid waste also can cause pollution and hazards to wildlife and may lead to fines and cleanup costs. Hazardous wastes and used oil improperly placed in solid waste receptacles contaminate the solid waste and pose a threat to human health and safety and to the environment.

Goal

Manage and dispose of all solid waste properly. Check with your local solid waste authority for information on what materials are allowed in dumpsters.

Best Management Practices

- Install adequate signs identifying waste disposal practices.
- Keep areas litter-free.
- Provide wind-proof and wildlife-proof covers for all receptacles.
- Train facility staff on proper waste management and storage procedures.
- Provide convenient trash disposal and recycling facilities for boatyard patrons. Covered dumpsters or other covered receptacles are preferred. Ensure an adequate number of receptacles are placed around the boatyard at convenient locations, and clearly mark these receptacles.
- Schedule walk-throughs of the facility, picking up stray litter and removing of netting debris from the water. Encourage boaters to assist in this effort, perhaps in the form of monthly recognition of patrons who routinely assist.
- Implement recycling and trash reduction programs for appropriate materials such as glass, aluminum, plastic, trash, fishing line, newspapers, batteries and oil.
- Organize a shoreline cleanup along the facility's water body.
- Provide recognition and incentives to those boaters who use proper waste management techniques.

Regulatory Requirements

1. 40 C.F.R. 243 - Guidelines for storage and collection of residential, commercial and institutional solid waste
2. Chapter 62-701, F.A.C. – Solid Waste Management
3. Section 403.708, F.S. – Prohibition; Penalty
4. Regulations for the prevention of pollution by garbage from ships (MARPOL 73/78 Annex V):
5. Disposal of all plastics into the sea is prohibited (MARPOL 73/78 Annex V Regulation 3).
6. Dunnage, lining and packing materials that float can be dumped outside of 25 nautical miles from land (MARPOL 73/78 Annex V Regulation 3).

FISH WASTE MANAGEMENT

Environmental Issue

The amount of fish waste disposed into a small enclosed basin such as a marina can exceed that which exists naturally in the water at any one time. In small quantities, this fish waste is fed upon by scavenging fish (such as catfish) and is not a problem. However, in sufficient quantities where water circulation is restricted, the decomposition of this fish waste can deplete the water of dissolved oxygen, leading to water quality degradation and fish kills. This is most often a problem at marinas with large numbers of fish landings or at marinas that have limited fish landings but poor flushing.

“Fish feeding” with bait or cleaned fish similarly loads marina basins with nutrients, but also can disrupt the feeding behavior of wild animals and spread diseases among them. Release of fish waste in the marina also can attract unwanted predators such as alligators.

Goal

Promote sound fish waste management through a combination of fish-cleaning restrictions, public education and proper disposal of fish waste.

Best Management Practices

- Provide facilities for fish cleaning and carcass disposal.
- Educate boaters regarding the importance of proper fish cleaning practices. Provide signage at fish cleaning stations.
- Provide garbage containers for fish carcasses, and empty garbage containers regularly.
- Encourage boaters to dispose of unwanted bait offshore and to eviscerate (gut) fish and dispose of contents at sea.
- Use a macerator for fish waste disposal to the central sewer, or arrange for crabbers to take the carcasses.
- Establish fish cleaning stations with trash receptacles and wastewater hookups.

Regulatory Requirements

1. Section 403.161, F.S., prohibits discharges that cause pollution to waters of the state.



LANDSCAPING TECHNIQUES

Environmental Issue

Excess pesticides and fertilizers on your lawn can eventually run off into the marina basin and harm marine and aquatic life. Landscaping techniques can reduce environmental impacts on marina basins, and can save money by requiring less water and maintenance while creating an attractive location for customers.

Goal

Use environmentally-friendly landscaping techniques that feature plants and turf suited to the site's climate and conditions. These landscapes need less maintenance and water, thereby reducing potential stormwater pollutants and lowering costs.

Best Management Practices

- Use native plants for landscaping. Plants native to the region compete well with weeds and other pests. They also require less fertilizer and pest control than non-native plants.
- Plant a vegetated filter strip or buffer between impervious areas and the marina basin. A vegetated filter strip is a densely vegetated strip of land engineered to accept runoff from upstream development as overland sheet flow.
- Minimize fertilizer use; more is not better! The excess nutrients from unused fertilizer will run off into the marina basin and potentially cause an algal bloom.
- Avoid planting invasive plant species. They multiply rapidly and take over areas very quickly. Exotic invasive plants such as Brazilian pepper, Australian pine and melaleuca, to name a few, are illegal to plant in Florida and should be removed from your property. Other undesirable species include the carrotwood tree, Java plum, Chinese tallow, and wedelia (a ground cover).
- Contact the University of Florida Extension Service in your county and ask about the Florida Yards and Neighborhood or Environmental Land Management programs.
- Select slower growing species. These may take longer to provide the desired look for your property but will need less pruning, create less yard waste and have a longer lifespan.
- Select drought-resistant plants to minimize irrigation needs.
- If chemical fertilizers are needed, use a slow-release variety in which at least 30 percent of the nitrogen is water insoluble. DO NOT use varieties containing herbicides or insecticides.
- Pesticide dusts and sprays are highly susceptible to wind drift. If they must be used, apply only during early morning or late evening hours when there is little or no air movement.
- DO NOT wash pesticide application equipment over paved surfaces that drain to water bodies. Use a pressure washing pad or other suitable permeable surface. Follow the instructions found on labels for disposal.
- If you employ a professional landscape maintenance service, make sure it uses environmentally-friendly methods.
- Integrated pest management is an environmentally-friendly alternative to the use of conventional pesticide products. Examples of safer solutions for landscape pests include insecticidal soap; horticultural oil; *Bacillus Thuringiensis* (BT), a bacterium that controls caterpillars and mosquito larvae (available at nurseries) and shallow pans of beer to help control slugs.
- Create a compost area for yard debris. Compost is a good alternative to chemical fertilizers.

Regulatory Requirements

1. Section 373.185, F.S. – Florida Friendly Landscaping Ordinances

SENSITIVE HABITAT

Environmental Issue

Vessel operation in shallow water can result in groundings and turbidity (murky water) as a result of props and hulls striking or churning up bottom sediments. Prop dredging can directly pull up and destroy sensitive submerged resources, including corals and grasses that are extremely valuable as shelter, nurseries and food for aquatic organisms. Turbidity reduces water clarity, which reduces sunlight penetration through the water column (adversely affecting the growth of submerged vegetation) and interferes with feeding/respiration by aquatic organisms. Careless operation of motorized vessels can result in injury or death of endangered species such as manatees.

Goal

Where necessary, restrict boating activities to avoid shallow waters that may be affected by props and boat hulls and to reduce the risk of injury or death to endangered species.

Best Management Practices

Post signs, maps or charts showing the location of known shallow bottoms, speed zones, seagrass beds or the occurrence of endangered species in the vicinity.

- For the protection of the environment and boater safety, maintain private aid to navigation of channels that access the marina.
- Provide educational materials to vessel operators about the damage that may result from prop dredging, which can cause turbidity and damage valuable underwater resources such as seagrass.
- Provide educational materials to vessel operators about the risks to endangered and threatened species, such as manatees, from boating.
- Reduce wildlife attractants, such as light freshwater flows (hoses, etc.), and encourage patrons to not feed or annoy mammals.
- Install a tide or water level gauge at an easily accessible and visible location so boaters can see what current tides are. Make current tide tables available for patrons at the facility.
- Provide monofilament line recycling collection boxes.

Report manatee, dolphin and marine turtle injuries, deaths, tag sightings or harassments to the Florida Fish and Wildlife Conservation Commission at 1-888-404-3922 (FWCC) or #FWC on your cellular phone.

Regulatory Requirements

1. Section 369.25, F.S. – Aquatic Plants
2. Section 379.26, F.S. – Illegal Importation or Possession of Nonindigenous Marine Plants
3. Section 379.2431, F.S. – Marine Animals; Regulation
4. The manatee is protected under federal law by the Marine Mammal Protection Act of 1972 and the Endangered Species Act of 1973
5. Catching, molesting, injuring, killing, annoying or otherwise interfering with the normal activity and well-being of manatees, mammalian dolphins or marine turtles is prohibited by Section 370.12
6. Dredging, including inadvertent prop dredging, is regulated under Part IV of Chapter 373, F.S.

CLEAN BOATER TIPS

Environmental Issue

There is no formal written document for the education of boaters. The boating population varies among different marinas.

Goal

Help inform and educate boaters about sewage pumpouts, oil change facilities, used oil recycling centers, fueling, bilge pumpouts and boat-to-boat environmental services.

Best Management Practices

- Provide boaters with clean boating tips.
- Distribute Clean Boater Program information or welcome packets to patrons. Post environmental signs in high-visibility areas.
- Encourage patrons to review contracts.

Fueling

- Fill fuel tanks just before leaving on a trip.
- Use oil-absorbent material to catch drips from the fuel intake and the vent overflow.
- Fill portable fuel tanks ashore where spills are less likely to occur and easier to clean up. Add a fuel conditioner to tanks if the engine is used infrequently.

Controlling Oil

- Place oil-absorbent material or a bio-remediating bilge “sock” in the bilge to prevent oil leakage into waterways; replace regularly.
- Place an oil-absorbent pad under the engine.
- Check fuel lines for damage; replace with alcohol-resistant hoses. Secure fuel hoses to prevent chafing and leaks.
- Never discharge bilge water with a sheen; it is illegal and harms the environment.

Cleaning

- Wash boats with a sponge and plain water.
- Use phosphate-free, biodegradable and non-toxic cleaners.
- Wax boats; a good coat of wax prevents surface dirt from becoming ingrained. Conserve water; use a spray nozzle on hoses.

Vessel Maintenance

- Share leftover paint and varnish with fellow boaters rather than disposing in the trash. Take used solvents and waste gas to hazardous waste collection sites.
- Keep vessel engine clean to spot and repair leaks. Use premium two-cycle engine oil.
- Use alternatives to toxic bottom paints.
- Never discharge raw sewage.
- Use marina pumpout stations, and rinse holding tanks regularly. Use shore-side restrooms.
- Use approved Marine Sanitation Devices (MSDs) when underway. Conduct regular maintenance for MSDs.
- Use enzyme-based products to control odor and reduce solids in holding tanks.
- Avoid holding-tank products containing quaternary ammonium compounds and formaldehyde.
- Proceed slowly in shallow areas and do not disturb wildlife.
- Avoid contact with submerged aquatic vegetation such as fragile seagrass beds. Watch the wake; it can lead to shoreline erosion and disturb wildlife.

MONOFILAMENT FISHING LINE

Environmental Issue

Monofilament line is a single-strand, strong, flexible plastic that is clear and therefore difficult to see. Improperly discarded monofilament fishing line is hazardous to marine life. Marine animals can become tangled up in the line and starve or drown. Most monofilament line can take up to 600 years to degrade, depending on the environmental conditions.

Goal

Decrease the amount of fishing line entering the environment and increase boater education about the impacts fishing line has on marine life and water quality. Increase participation in the Monofilament Recovery and Recycling Program.

Best Management Practices

- Have monofilament recycling bins at your facility
- Participate in and encourage monofilament line clean up events
- Educate patrons about the dangers of monofilament line.
- Distribute educational brochures to your patrons
- Display posters and/or signs to targeted audiences on the dangers of monofilament line.

Regulatory Requirements / Recommendations

The Florida Fish and Wildlife Commission has a Monofilament Recovery and Recycling Program. To participate and learn more visit MRRP.MyFWC.com.

Florida Department of Environmental Protection
FloridaDEP.gov/CleanMarina