



GEORGIA CLEAN MARINA PROGRAM

Marina Best Management Practices

georgiacleanmarina.org

Best Management Practices (BMPs)

The Georgia Clean Marina Program supports the implementation of Best Management Practices (BMPs) as a means to **minimize potential pollution of waterways during daily marina operations.**

Following are brief descriptions of the 12 areas of focus included on the Clean Marina Program checklist along with photos showing the BMPs in action.



STORMWATER MANAGEMENT

The primary pollutants in runoff from marina parking and operations areas are oil and grease, as well as toxic metals from boat hull scraping and sanding.

An impervious surface such as concrete or asphalt will hasten the flow of contaminated runoff to the closest waterbody. A pervious surface is an effective buffer between the shoreline or wetlands and the upland facility.

Pervious surfaces are best installed during initial construction, but may be retrofitted with practices including sand filters, wet ponds, constructed wetlands, infiltration basins/trenches to increase ground water recharge, porous pavement, vegetated filter strips, and grassed swales.



FUELING OPERATIONS

Fueling operations can release gas, diesel, and oil into the water and ground through spillage and through the fuel tank air vents that flow overboard. Prevention measures to reduce the chance of spillage include proper fuel station design, well-maintained equipment, leak detection, implementing proper procedures, and user training.

Underground storage tanks (UST) must comply with federal regulations, including leak detection, spill and overfill detection and corrosion protection. UST installation, maintenance program, and record keeping should meet the basic US Environmental Protection Agency (EPA) requirements and any other standards set by the Georgia Environmental Protection Division for your facility.

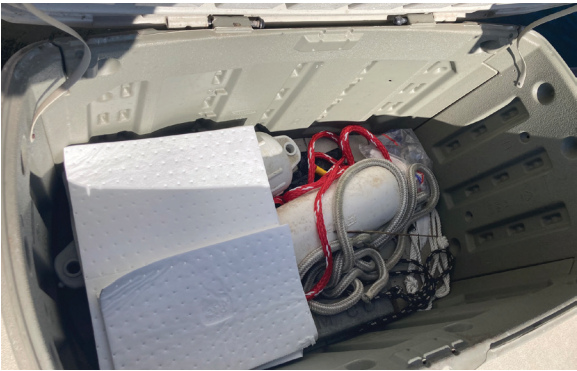
Non-emergency and emergency shut off valves should be maintained in the line at strategic locations to allow quick and easy shut down for system maintenance, filter changes, or to stem the flow of leaks before and during repairs.

Accurate tracking of daily fuel sales and reconciliation with inventories verifies that fuel is not being lost through leakage. Creating a form on paper or on computer to record beginning and ending gallon and dollar readings for each dispenser help monitor fuel sales and use. These totals can be compared to sales ticket totals for the day and confirmed against periodic “stick” or electronic inventory measurements of tank levels. Any inventory shortage should be investigated.

Spills must be controlled immediately. U.S. Coast Guard regulations require all spills that cause a visible sheen on the water be reported. Straw, sawdust, and absorbent commercial products can contain land spills, but spills in the water will require commercial products. It is also wise not to try to handle a spill alone. Contact the Coast Guard and the Georgia Department of Natural Resources (DNR) for assistance. State and Federal regulations require the prompt reporting of spills.



Fuel Procedures



Spill Response Materials



Petroleum Storage

T 1:UNLEADED	
VOLUME	= 1762 GALS
ULLAGE	= 1238 GALS
90% ULLAGE	= 938 GALS
TC VOLUME	= 1749 GALS
HEIGHT	= 36.40 INCHES
STK HEIGHT	= 36.40 INCHES
WATER VOL	= 13 GALS
WATER	= 1.22 INCHES
TEMP	= 69.8 DEG F
T 2:UNLEADED	
VOLUME	= 1799 GALS
ULLAGE	= 1201 GALS
90% ULLAGE	= 901 GALS
TC VOLUME	= 1786 GALS
HEIGHT	= 37.03 INCHES
STK HEIGHT	= 37.03 INCHES
WATER VOL	= 22 GALS
WATER	= 1.73 INCHES
TEMP	= 70.1 DEG F
T 3:DIESEL	
VOLUME	= 2260 GALS
ULLAGE	= 740 GALS
90% ULLAGE	= 440 GALS
TC VOLUME	= 2250 GALS
HEIGHT	= 45.12 INCHES
STK HEIGHT	= 45.12 INCHES
WATER VOL	= 25 GALS
WATER	= 1.90 INCHES
TEMP	= 69.8 DEG F
MANIFOLDED TANKS	
INVENTORY TOTALS	
T 1:UNLEADED	
T 2:UNLEADED	
VOLUME	= 3561 GALS
TC VOLUME	= 3535 GALS
***** END *****	

Fuel Tracking

WASTE HANDLING

- NONHAZARDOUS SOLIDS & LIQUIDS

Marinas should properly dispose of solid wastes produced by the operation, cleaning, maintenance, and repair of boats to limit entry of solid wastes into surface waters. Marina operators are responsible for determining what types of wastes will be generated at the marinas and ensuring proper disposal. Marina operators are responsible for the contents of their dumpsters and the management of solid waste on their property.

The Marine Pollution Treaty (MARPOL) requires reception facilities for garbage at ports, which includes recreational boating marinas. Management of solid waste to satisfy MARPOL conditions means balancing the requirements of boaters and the facility itself.

While some marinas meet MARPOL criteria by having one dumpster in a central location, others use many small receptacles in special protective coverings and more than one dumpster. Inefficient methods include: (1) too many receptacles, which requires intensive labor for emptying; (2) receptacles too close to the water, which requires additional labor to remove trash from the water; and (3) inconvenient location of receptacles.



Contained Waste Storage Facility



Trash Disposal

WASTE HANDLING

- HAZARDOUS SOLIDS & LIQUIDS

Hazardous waste disposal is a more involved disposal process than for nonhazardous materials. You may be surprised at the amount of hazardous wastes you are disposing of in violation of the Georgia Hazardous Waste Management Act - more than likely unintentionally on your part.

FISH CLEANING WASTES

Fish wastes are biodegradable, but improper disposal of fish waste can degrade water quality and cause odor and aesthetic problems. Fish waste should not be placed in areas that will degrade the water quality. For example, fish waste may become trapped or washed ashore if disposed of in poorly flushed locations such as dead end lagoons and in between docks.

BOAT BILGE PETROLEUM CONTROL

Fuel and oil pollution from boat bilges can come from many sources, including sinkings, sloppy maintenance and repair procedures, engine and equipment leaks, oil line ruptures, and careless fueling. Any discharge of contaminated bilgewater is the responsibility of the vessel owner or captain. The marina operator's duty is to ensure that the vessel owner or captain remains aware of this responsibility and to be prepared in the event of oily discharge.

BOAT CLEANING

Boat cleaning tends to be done by customers or marina employees. Cleaning operations include simple scrubbing of the decks or hull to more extensive pressure washing prior to painting. Many cleaning jobs require the use of chemicals, cleaners or petroleum-based products, all of which can be spilled or otherwise released into marina waters. Some jobs create potentially hazardous liquid and wastes that must be disposed of properly.



Fish Cleaning Site



Inventory of Absorbents



Eco Friendly Soaps

SANITARY WASTE MANAGEMENT

Boat sewage, when pumped overboard without proper treatment, introduces bacteria and nutrients into the water. Bacteria can lead to health problems in swimmers and shellfish consumers. Excess nutrients in the water can use dissolved oxygen through direct decomposition, or through stimulation of algal growth which may further deplete oxygen levels. When large numbers of boats are present, this waste can become significant. The Clean Vessel Act of 1972 makes it illegal to discharge untreated sewage overboard.

SERVICING BOATS AND EQUIPMENT

Your maintenance standards for marina vehicles, boats and equipment are a visible badge of the professionalism of management. Many customers view keeping these items clean and non-polluting as an indicator of your business's commitment to safety and to the environment which, in turn, can have a bearing on the environmental consciousness and actions of customers at your marina.



Grounds maintenance



Pumpout



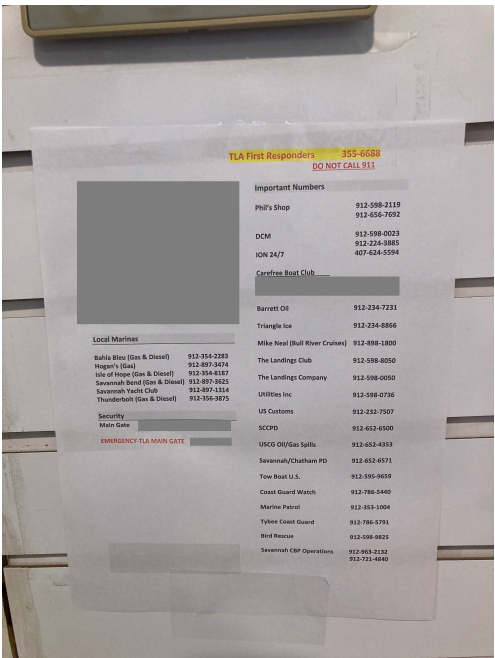
Maintenance standards

HERBICIDES, PESTICIDES, AND FERTILIZERS

Grounds maintenance can result in the release of toxic substances and nutrients directly or indirectly into the surface water. All instructions regarding application should be closely followed.

RETAIL OPERATIONS

The marina store is an excellent place to demonstrate commitment to environmental responsibility by promoting the use of environmentally friendly products (e.g., degradable soaps) and practices (e.g., recycling, proper waste disposal). The promotion of environmentally friendly products in your store makes the consumer more aware of what products they should and should not be using. The retail operation has the potential to impact the environment through practices of purchasing, selling, packaging and return, and recycling of specific used products.



Emergency Numbers



Battery Recycling

EMERGENCY PREPAREDNESS & RESPONSE

Emergency preparedness planning is a primary aspect of environmental management. Devastating consequences can result from the failure to properly respond to an emergency.



GEORGE

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RGIA
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COASTAL RESOURCES DIVISION



Marine Extension and
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UNIVERSITY OF GEORGIA



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