

# Safe Boating Tips

## FACT SHEET

Pennsylvania Sea Grant, as part of the National Sea Grant Program, promotes efforts to improve the environmental and economic health of Pennsylvania's coastlines.

Focusing on the Lake Erie and Delaware River watersheds, Pennsylvania Sea Grant works to increase public awareness of coastal environmental and economic issues through extension, communication, applied research, and education activities.

The National Oceanic and Atmospheric Administration (NOAA) administers the National Sea Grant College Program. Pennsylvania Sea Grant is also supported by the Pennsylvania State University and the Commonwealth of Pennsylvania.

**Pennsylvania Sea Grant**  
Penn State Erie  
5091 Station Road  
Erie, PA 16563  
Tel. 814-898-6420  
Fax 814-898-6462

**Delaware Estuary Office**  
1450 Edgmont Avenue  
Suite 150  
Chester, PA 19013-3934  
Tel. 215-806-0894  
Fax 501-637-2923



Boating can be very dangerous if operators do not know the rules, follow the rules, or have the proper safety equipment. As a boater, you have the responsibility of keeping yourself, your passengers, and other boaters safe while in the water. It is the boat operators job to make sure that the proper safety equipment is on board, that the boat is operated in a safe manner, and that the boat is operated in a courteous manner in respect to other boaters. To improve your quality of safe boating, refer to the following safe boating tips and equipment requirements.

### Safe Boating Tips

- **Alcohol:** Be a sober boater. Alcohol adversely affects vital body functions such as balance, coordination, vision, and judgment. It may also slow your reaction time and increase your susceptibility to hypothermia.
- **Weather Awareness:** Always know the current weather forecast and wave conditions before getting underway. Sudden wind shifts, lightning flashes, and choppy water all can mean a storm is brewing. When bad weather approaches try to get off the water or get as close to a safe harbor as possible. Always bring a portable radio to check weather reports.
- **Tell Someone:** Let someone on shore know where you are going, who is with you, and when you plan on returning. Too often, the Coast Guard has to search for an "overdue" boat when the owner has already returned to shore.
- **Check Equipment:** Before leaving shore make sure that your boat and any equipment are functioning properly. Always make sure you have enough fuel and as a precaution have a reserve gas supply on board.
- **Ventilation:** After fueling your boat open hatches, run the blower, and sniff for gasoline fumes in the fuel and engine areas before starting your engine.
- **Radio/Cell Phone:** Every boat should have a marine radio and preferably a cellular phone in case the radio stops functioning. The ability to contact the Coast Guard or another boater is your first line of defense in an emergency.
- **Positioning:** Bring charts and maps of the area where you will be boating. This will help ensure that you remain in the correct location. Bring a Global

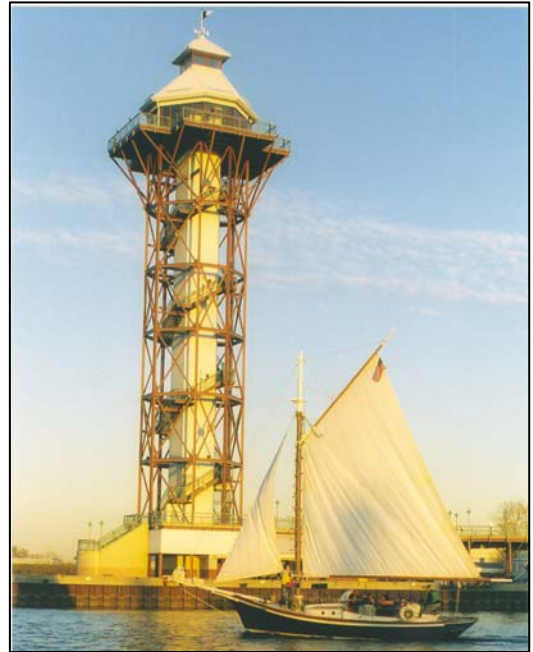


Figure 1. Pennsylvania Sea Grant floating classroom *Momentum*

Position System (GPS) unit to record accurate positions. Your position is the first thing the Coast Guard or towing service will ask you. GPS units also serve as a compass. This will enable you to know your orientation.

- **Anchor/Line:** Always anchor from the bow of your boat, and use anchor line length at least five times longer than water depth. If your boat breaks down be sure to drop the anchor so that your boat will remain in the same position.
- **Extra Gear:** Bring a flashlight and extra batteries, flares, sun tan lotion, first aid kit, extra sunglasses and store the items that need to be protected in a watertight container that floats.

**Pennsylvania Equipment Requirements** Before leaving on a boating trip, first and foremost make certain that your boat, whether you own it or are renting it, is equipped with the minimum safety equipment required by the United States Coast Guard and Pennsylvania Law. You are required by federal and Pennsylvania State law to have the following items and meet the following requirements:

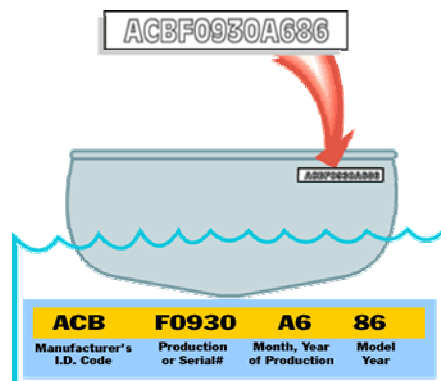
**Numbering:** Boats propelled by machinery must be numbered, regardless of length and type of motor. Boats excluded from numbering include un-powered kayaks, sculls, and sailboards; documented vessels; and vessels with a valid temporary certificate. However, documented vessels are required to be registered. Documented vessels are large pleasure boats, usually called “yachts,” which are registered with the U.S. Coast Guard. Boats must be numbered in the state of principal use.

**Boat Registration:** All motorboats must be registered in Pennsylvania. Registrations are renewed on a two-year cycle and expire on March 31 of the second year. Registration forms may be obtained from the Pennsylvania Fish & Boat Commission’s Web site, regional offices, or Licensing and Registration Section; most county treasurers; certified issuing agents; and from many marine dealers.

**Titling:** A certificate of title is a legal document that proves ownership. Boat titling is different from boat registration because a certificate of registration does not prove ownership. Boat titling is required for all inboard motorboats with a model year of 1997 or newer (including personal watercraft), and all outboard motorboats 14 feet or more in length with a model year of 1997 or newer. All inboard-powered boats, including all 1997 or newer personal watercraft are subject to the titling requirement, regardless of length. At the request of the owner, the commission will issue titles to any boat, regardless of the length, power source, or year the boat was manufactured. However, once a title is issued that boat must remain titled by future owners. Also, anyone with a boat currently titled in another state must obtain a Pennsylvania title when Pennsylvania becomes the state of principal use, regardless of the age, size, or length of the boat.

**Hull Identification Number:** This number is federally required and is located on or near the boat transom’s upper starboard (right) side. Also, one is hidden by the manufacturer on the vessel for recovery purposes. Identification numbers are 12 characters in length, or on newer boats they may be 17 characters.

**Capacity Plates:** A capacity plate is required on all single hull boats, less than 20 feet in length designed to carry two or more persons and propelled by machinery or oars as their main source of power. Boats exempt from having to display a capacity plate include pontoon boats, canoes, kayaks, inflatables, hydroplanes, personal watercraft, and boats considered by the commission to be of unusual or unique design. The capacity plate must be positioned close to the operator where it can be easily read.



**Figure 2. Hull Identification Number:**  
Courtesy of Pennsylvania Boating Handbook

**Personal Flotation Devices:** Personal flotation devices (PFDs, life jackets, life preservers, life vests) are the most important piece of equipment on a boat. There are five types of PFDs (Figure 1).

- **Type I:** Off-shore life jacket — over 20 pounds of buoyancy, designed to turn an unconscious person face-up.
- **Type II:** Near-shore buoyant vest — minimum 15.5 pounds of buoyancy, designed to turn an unconscious person face-up.
- **Type III:** Flotation aid — minimum 15.5 pounds of buoyancy, not designed to turn an unconscious person face-up; more comfortable for water sports. This type also includes most inflatables.
- **Type IV:** Throwable device — minimum 16.5 pounds of buoyancy, designed to be grasped, not worn.
- **Type V:** Special-use device — must be used in accordance with any requirements on the approved label.

All boats must have a U.S Coast Guard (USCG) approved wearable (Type I,II,III, or V) life jacket on board for each person. In addition to wearable life jackets, boats 16 feet and over must have a throwable device (Type IV) on board. Canoes and kayaks, regardless of length, are not required to carry a throwable device. A throwable device may not be used as a substitute for a wearable device. Type V life jackets must be used in accordance with any requirements on the approval label. All life jackets must be in good and serviceable condition and legibly marked showing the USCG approval number. Wearable type life jackets must be “readily accessible,” which means that the PFDs are stowed where they can be easily reached, or that they are out in the open ready for wear. Type IV (throwables) must be “immediately available,” which means that the PFD cannot be in a protective covering and shall be within arm’s reach of the operator or passenger while the boat is operated. A PFD that is sealed in its original packaging is not readily accessible or immediately available. Life jackets must be the appropriate size for the person intended.



Figure 3. Type I PFD, Type II PFD, Type III PFD, Type IV PFD, and Type V PFD (from left to right)  
Image courtesy of: <http://www.mpcnetwork.com/marinersinfo/marinerinfo/flotation.html>

**Sound-Producing Device:** Motorboats less than 40 feet must carry some mechanical means of making a sound signal. This device may be hand-, mouth- or power-operated. An athletic coach’s whistle is acceptable. Motorboats more than 40 feet in length must carry a whistle and a bell. Operators of un-powered boats are required to have some means of making an efficient oral or mechanical sound signal that can be heard by another boat operator in time to avoid a collision.

**Visual Distress Signal:** In Pennsylvania, visual distress signals (VDS) are required only for boats operating on Lake Erie. Between the hours of sunset and sunrise, boats less than 16 feet in length must carry VDS suitable for use at night. Boats 16 feet and over in length must at all times, carry devices suitable for day use and devices suitable for night use, or devices suitable for use both day and night. Approved day-use-only devices include orange smoke (hand-held or floating) and orange signal flags. Flares are approved for both day and night use. If flares are selected, a minimum of three must be carried. Three day/night signaling devices meet both requirements.

**Ventilation and Fueling:** All motorboats, except open boats, must have at least two ventilator ducts with cowls (intake and exhaust). Exhaust blowers are part of most boat ventilation systems. Permanently installed fuel tanks must be vented. Most boat explosions occur from improper fueling. Portable gas tanks should be filled on the dock or pier, not on board. The vent on the tank should be closed and the gas pumped carefully, maintaining contact with the nozzle and the tank’s rim. Any spills should be cleaned up, the tank secured, and the vent reopened.

**Carburetor backfire flame control:** Gasoline engines, except outboards, must have an approved backfire flame control on the carburetor to prevent ignition of gasoline vapors in case the engine backfires. It should be maintained regularly and can be cleaned with hot, soapy water or a commercial cleaner.

**Fire Extinguisher:** Fire extinguishers must be carried on powerboats that have one or more of the following conditions: closed compartments, permanently installed fuel tanks, double bottoms not sealed to the hull or completely filled with flotation materials, and closed living spaces. Fire extinguishers must be: Coast Guard approved, immediately available and mounted away from the fuel source, and fully charged and in good condition.

**Noise restrictions and muffling devices:** It is illegal for a boat to be so loud that it is an extraordinary annoyance or distraction to persons in the vicinity of that boat. Boat motors must be equipped with an efficient muffling system or device in good working order. Most boats and motors that come directly from the manufacturer are adequately muffled. Boat exhaust systems may not be modified in any manner that will reduce or eliminate the effectiveness of the muffler or muffler system. Cut-outs (muffler bypasses) are illegal in Pennsylvania. Boats without a muffler or muffling system must be backfitted before being operated.

**Marine sanitation device:** The Water Quality Act of 1987 requires the installation of a marine sanitation device (MSD) on all vessels with installed toilet systems operating in the navigational waters of the United States. Marine toilets are a source of pollution if not designed correctly. They must be of a sealed construction so no waste can be discharged from the toilet directly or indirectly into the water. All MSDs must be Coast Guard approved. Discharge of sewage, treated or untreated, is prohibited in all fresh water impoundments lying entirely within the boundaries of the state.

**Recommended Equipment** In addition to all the equipment that the U. S. Coast Guard and Pennsylvania Law require, certain equipment and supplies just make common sense to have. The following are items that should be carried aboard:

- ✓ VHF Radio
- ✓ Anchor and ground tackle
- ✓ Bilge pump and or bailer
- ✓ Boat hook
- ✓ Charts and navigation publications
- ✓ Compass
- ✓ Detectors and alarms
- ✓ Fenders
- ✓ Lines
- ✓ First aid kit
- ✓ Flashlight and searchlight
- ✓ Spare parts and tools
- ✓ Windshield wipers

**Information for this fact sheet was adapted from a variety of sources, including:**

*Pennsylvania Fish and Boat Commission - [http://sites.state.pa.us/PA\\_Exec/Fish\\_Boat/bookboat.htm](http://sites.state.pa.us/PA_Exec/Fish_Boat/bookboat.htm)*

*California Department of Boating and Waterways - <http://www.dbw.ca.gov/>*

\* For boating equipment requirements in your state, visit: [http://www.boatsafe.com/nauticalknowhow/boating/10\\_0.htm](http://www.boatsafe.com/nauticalknowhow/boating/10_0.htm) \*

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