



APPLICATION FOR A PENNSYLVANIA BOATING SAFETY EDUCATION CERTIFICATE

Please check the appropriate box and follow the instructions below.

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Applicant's Signature or Parent/Guardian Signature if Applicant is Younger than 18 Years of Age

PFBC Law Enforcement Region Offices



Northwest Region

11528 State Highway 98, Meadville, PA 16335 814-337-0444 Fax 814-337-0579 Counties: Butler, Clarion, Crawford, Erie, Forest, Lawrence, Mercer, Venango, Warren.

Southwest Region

236 Lake Road, Somerset, PA 15501 814-445-8974 Fax 814-445-3497 Counties: Allegheny, Armstrong, Beaver, Cambria, Fayette, Greene, Indiana, Somerset, Washington, Westmoreland.

Northcentral Region

595 East Rolling Ridge Drive, Bellefonte, PA 16823 814-359-5250 Fax 814-359-5254 *Counties:* Cameron, Centre, Clearfield, Clinton, Elk, Jefferson, Lycoming, McKean, Montour, Northumberland, Potter, Snyder, Tioga, Union.

Southcentral Region

1704 Pine Road, Newville, PA 17241 717-486-7087 Fax 717-486-8227 Counties: Adams, Bedford, Blair, Cumberland, Dauphin, Franklin, Fulton, Huntingdon, Juniata, Lebanon, Mifflin, Perry, York.

Northeast Region

5566 Main Road, Sweet Valley, PA 18656 570-477-5717 Fax 570-477-3221 *Counties:* Bradford, Carbon, Columbia, Lackawanna, Luzerne, Monroe, Pike, Sullivan, Susquehanna, Wayne, Wyoming.

Southeast Region

P.O. Box 9, Elm, PA 17521 717-626-0228 Fax 717-626-0486 Counties: Berks, Bucks, Chester, Delaware, Lancaster, Lehigh, Montgomery, Northampton, Philadelphia, Schuylkill.

For More Information:

UNITED STATES COAST GUARD AUXILIARY: www.cgaux.org/boatinged

UNITED STATES POWER SQUADRONS: www.americasboatingcourse.com

AMERICAN SAILING ASSOCIATION: www.asa.com

AMERICAN RED CROSS: www.redcross.org

AMERICAN CANOE ASSOCIATION: www.americancanoe.org



Boaters who have a need to communicate with a Pennsylvania Fish and Boat Commission (PFBC) Waterways Conservation Officer should contact the appropriate region office. Hours are 8:00 a.m. to 4:00 p.m., Monday through Friday.

Contents

Boating in Pennsylvania 4
Pennsylvania Fish and Boat Commission/
Pennsylvania's Boating Opportunities4
Pennsylvania Water Trails4
Boat Motors and Hull Types4
Boating Terminology4
Legal Requirements 5
Boat Operator Responsibilities5
Boat Classification5
Boat Operation Requirements5
Homeland Security5
Minimum Age of Operation/Mandatory
Boating Education6
Life Jackets6
Boat Numbering and Registration7
Launch Permits/Boat Titling8
Capacity Plates/Hull Identification
Number(HIN)9
Night Operation and Lights9
Sound-producing Devices/
Visual Distress Signals (VDS)10
Minimum Required Equipment/
Recommended Equipment11
Fire Extinguishers/Fire Extinguisher Use11
Carburetor Backfire Flame Control/Noise
Restrictions and Muffling Devices11
Boat Operation 12
Pre-departure Checklist/Preventative
Boat Maintenance12
Leave a Float Plan/Trailering12
Launching and Retrieving/Boarding/
Boat Trim/Boat Handling/Docking13
Departing/Boat Navigation Rules14

- Publications 717-705-7835
- Boat Registration/Titling 866-262-8734
- Law Enforcement 717-705-7861
- Boating Safety Education 888-PaFish1 (888-723-4741)

PLEASE NOTE: This information was prepared to provide boaters with information they need to know when operating watercraft on Pennsylvania waterways. It reviews the Commission's boating regulations and includes information and tips to follow while boating. It does not present the actual laws and regulations. This handbook is the text for the Commission's Pennsylvania Basic Boating and Boating and Water Safety Awareness courses.

The Pennsylvania Fish and Boat Commission receives federal financial assistance from the United States Fish and Wildlife Service. Under Title VI of the 1964 Civil Rights Act, Section 504 of the Rehabilitation Act of 1973, Title II of the Americans with Disabilities Act of 1990, the Age Discrimination Act of 1975 and Title IX of the Education Amendments of 1972, the United States Department of the Interior prohibits discrimination on the basis of race, color, national origin, age, sex or disability. If you believe that you have been discriminated against in any program, activity or facility, or if you need more information, please write to: Office of Diversity, Inclusion and Civil Rights Department of the Interior, 1849 C Street, NW Washington, D.C. 20240.

Persons with disabilities who wish to participate in a Pennsylvania Fish and Boat Commission program and who anticipate the need for special accommodations should telephone 717-705-7833. This publication is available on our website at **fishandboat.com** and may also be obtained as a computer file (alternate accessible format) by contacting the phone number above. People using a TTY should dial Pennsylvania Relay telephone number 711 to contact us.

Rules for Power-driven Boats	
Underway	15
Sound Signals	15
Other Important Rules of the Road	16
VHF Radio	16
Anchoring	16
Locks and Dams	17
Boat Theft	17
Other Water Activities	18
Personal Watercraft (PWC)	18
Paddlesports	18
Boat-towed Watersports	19
Swimming and Diving	19
Sailing	19
Hunters and Anglers	19
Safety and Rescue	20
Ventilation and Fueling/Carbon	
Monoxide	20
Running Aground	
Water Hazards	
Dams/Weather	20
Capsizing and Falls Overboard	
Propeller Strikes	21
Rescue and Survival	
Cold Water Shock/Hypothermia	
Alcohol and Boating	
Courtesy Vessel Safety Checks	
Boating Accidents	
Resource Protection	2 3
Law Enforcement	23
PFBC Lakes and Access Areas	23
Permits	23
Marine Sanitation Devices (MSD)	



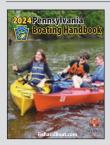


Littering and Pollution.....23

Float Plan.....24

Boat and Gear Cleaning Requirements.....25

On the cover



Paddlers enjoying Letort Spring Run, Cumberland County. *Photo-PFBC* archives.

10/2023

Pennsylvania Fish and Boat **Commission**

The PFBC is responsible for promoting fishing and boating, and regulating and enforcing fishing and boating laws and regulations in Pennsylvania. Established in 1866, the PFBC is primarily funded by Pennsylvania's boaters and anglers through boat registration fees and fishing license revenues.

Pennsylvania's Boating **Opportunities**

Pennsylvania provides nearly unlimited opportunities for the recreational boater. The Commonwealth has over 85,000 miles of rivers and streams ranging from headwaters to major river systems. It has 76 natural lakes that provide 5,266 acres of flat water. An additional 2,300 constructed impoundments provide another 200,000 acres of boatable waters. Lake Erie has 63 plus miles of shoreline and 735 square miles of waters within Pennsylvania's boundaries. The Delaware River provides 56 miles of tidal waters within Pennsylvania and access to the Atlantic Ocean.

The number of recreational boats on Pennsylvania waters continues to increase. In 1982, fewer than 200,000 boats were registered. The number of registered boats peaked in 2012 at more than 332,000 and has remained mostly stable. Over half of the registered boats in the Commonwealth are less than 16 feet in length. Pennsylvania is primarily a small-boat state. Launch permits (for unpowered boats) continue to be popular from year to year, with 153,348 active permits in 2022. Pennsylvania has a diversity of boating opportunities, from whitewater rafting on the Youghiogheny River to powerboating on the lower Delaware River.

Pennsylvania Water Trails

Pennsylvania Water Trails are boat routes suitable for canoes, kayaks, paddleboards and some motorized watercraft. Like conventional trails, water trails are recreational corridors between specific locations. Water trails are comprised of access points, boat launches, day use sites, and, in some cases, overnight camping areas. From ripples to rapids, paddling these aquatic highways can be a great adventure.

Boat Motors and Hull Types

MOTORS

There are four primary types of boat motors:

1. Outboard motors vary in size and clamp onto the transom. The whole motor pivots on its mounting to aim the wash and steer the boat.



The boat turns in the opposite direction that the tiller arm is pushed. Electric motors are outboards.

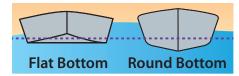
- 2. Inboard/outboard (or sterndrive) motors are bolted inboard, at the stern, with the drive unit through the transom.
- 3. Inboard motors are mounted lower in the boat and farther forward than an inboard/ outboard. A rudder is used to steer.
- **4. Jet motors** use an engine to pump water through a nozzle at the stern, which pivots to steer the boat.

Many Pennsylvania lakes have specific motor-type and horsepower limitations. For more information, visit the Commission's website.

BOAT HULL TYPES

There are two basic types of boat hulls:

- 1. Planing hulls are flat-bottomed and skim across the water.
- 2. Displacement hulls have round bottoms and plow through the water. They are more stable but not as fast as planing hull boats.



Most boats are a compromise between planing and displacement hulls (deep-V, modified-V, cathedral, etc.). There are also multiple-hulled boats such as catamarans and pontoons.

Boating Terminology

Aft- near or at the stern of the boat Beam- the width of a boat, also the direction at right angles to the centerline of a boat Bilge- the lowest point of a boat's interior hull Bow- the forward part (toward the front) of Draft- the vertical distance from the waterline to the lowest point of the keel; it is the minimum depth of water in which a boat will float

Forward- aboard a boat, the direction to the front, to the bow

Freeboard- the vertical distance from the waterline to the gunwale

Gunwale- the upper edge of the side of a boat Hull- the structural body of the boat; it does not include superstructure, masts or rigging

Keel- the main structural member of a boat; its backbone; the lateral area beneath the hull that helps to provide stability and reduce the sideways drift of a boat

Life Jacket- also known as a personal flotation device, vest or preserver

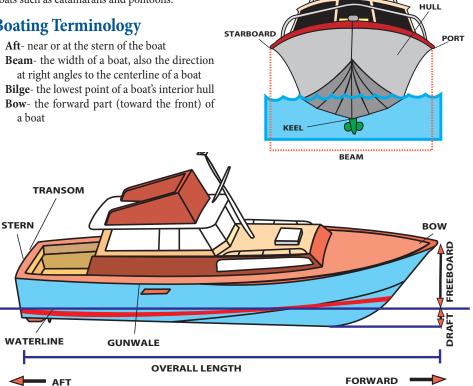
Port- looking toward the bow, the left side of

Starboard- looking toward the bow, the right side of the boat

Stern- the aft (back or rear) portion of the boat. Transom- the transverse part of the stern (where an outboard motor is attached)

Waterline- the intersection of a boat's hull and the water's surface

USCG- United States Coast Guard **USPS**- United States Power Squadrons



Boat Operator Responsibilities

Boat operators are responsible for:

- · Knowing the rules and regulations in the areas where they boat.
- Knowing the waters where they are boating.
- Having the required safety equipment for their watercraft.
- The actions of all persons on board their boats.



RULE OF RESPONSIBILITY DEFINED

NAVIGATION RULES United States Coast Guard (USCG), RULE 2, "RESPONSIBILITY"

- "2(a) Nothing in these Rules shall exonerate any boat, or the owner, master or crew thereof, from the consequences of any neglect to comply with these Rules or of the neglect of any precaution, which may be required by the ordinary practice of seamen, or by the special circumstances of the case."
- "2(b) In construing and complying with these Rules due regard shall be had to all dangers of navigation and collision and to any special circumstances, including the limitations of the boats involved, which may make a departure from these Rules necessary to avoid immediate danger."

Boat Classification

Boats are classified according to length, which is the horizontal distance from bow (front) to stern (back) along the centerline. It excludes any projections that are not part of the boat's hull, such as an outboard motor or swim platform.

Classification determines the minimum required equipment. See page 11.

Boat Operation Requirements

In Pennsylvania, it is illegal to...

Operate a watercraft in a reckless, negligent or dangerous manner. Boats must be operated at a rate of speed that does not endanger the



life or property of any person.

- Operate a boat at greater than slow, no-wake speed within 100 feet of the shoreline, docks, launch ramps, swimmers, or downed skiers, persons wading in the water, anchored, moored, or drifting boats, and floats. Slow, no-wake speed is the slowest possible speed of a motorboat required to maintain maneuverability, so the wake or wash created by the motorboat on the surface is minimal. The slow, no-wake zone for wake surfing activity is 200 feet. See page 19.
- · Operate a motorboat less than 20 feet in length at greater than slow no-wake while a person is standing on or in the boat.
- Operate a motorboat at greater than slow, nowake speed with a person riding outside of the passenger carrying area or while a person

- is riding on the bow decking, gunwales, transom or motor covers.
- · Operate a pontoon boat at any speed while a person is riding outside the passengercarrying area.
- Cause a boat to become airborne or to leave the water completely while crossing another boat's wake when within 100 feet of the boat creating the wake.
- Weave through congested traffic.
- Operate faster than slow, no-wake when within 100 feet to the rear or 50 feet to the side of another boat that is underway, unless in a narrow channel.
- · Operate within 100 feet of anyone towed behind another boat.
- · Operate a motorboat with anyone sitting, riding, or hanging on a swim platform or swim ladder attached to the boat.

Many waterways in Pennsylvania have special regulations such as electric motors only or horsepower restrictions. For more information, visit the Commission's website.

Homeland Security

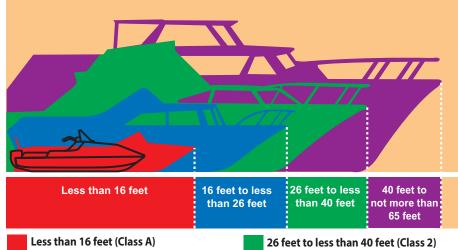
Strict regulations have been issued relating to waterways for national security. Boaters must follow these regulations or be exposed to serious penalties. Our mutual security, in part, depends on your diligence in reporting suspicious activities that you may encounter on the water.

REQUIREMENTS FOR ALL WATERCRAFT:

- Stay at least 100 yards from all military, cruise line or commercial shipping boats. Violating the Naval Vessel Protection Zone is a felony offense, punishable by up to 6 years imprisonment and/or up to \$250,000 in fines.
- You must operate at slow, no-wake speed within 500 yards of United States naval boats.
- · Check with local authorities and refer to current charts to identify and stay away from security zones and port operation areas.
- Generally, stay at least 100 yards from military areas, cruise lines and petroleum facilities. Also, stay away from dams and power plants.



At the request of the Captain of the Port or District Commander, an area may also be designated a Security Zone. This zone may be highlighted in magenta (pink-red coloration) on charts to better stand out and warn the public



Includes jonboats, small runabouts and personal watercraft.

16 feet to less than 26 feet (Class 1) Boats used for skiing, fishing and day trips. Large boats that usually include enclosed cabins.

40 feet to not more than 65 feet (Class 3) Large boats with advanced features.

to stay clear. Unauthorized boats, without specific permission to enter, must stay out of these marked areas. Armed military, harbor police or civilian authorities securing these areas will confront violators.

GUIDELINES:

- Do not stop or anchor beneath bridges or in a channel. If you do stop, be prepared to be boarded by patrolling authorities.
- Be observant and report any suspicious activity to USCG or local authorities.
- · Always secure and lock your boat when not on board.

Minimum Age of Operation

The following age restrictions and boating education requirements apply to the operation of motorboats.

HP OF MOTOR RESTRICTIONS OF USE



All PWC (personal watercraft) operators, regardless of age, must have a Boating Safety **Education Certificate.** Persons 11 years of age or younger may NOT operate. Persons 12 through 15 years of age may NOT operate with any passengers on board 15 years of age or younger or rent a PWC.

0-25hp

None

Greater than 25hp Persons 11 years of age or younger may NOT operate. Persons born on or after January 1, 1982, may not operate unless they have obtained and have in possession a Boating Safety **Education Certificate.**

Mandatory Boating Education

Boating safety education is important for both new and experienced boaters. Knowledgeable boaters are safer boaters. Boating courses are fun for the entire family. Online courses allow you to work at your own pace in the comfort of your own home. Classroom courses may be available at locations throughout the state. Boating safety education provides the foundation for safe recreational boating and should be considered as an introduction to safe boating practices. Boating regulations

and conditions can be expected to change, therefore, the PFBC encourages boaters to take additional boating and water safety courses through organizations such as the United States Coast Guard Auxiliary, United States Power Squadrons, American Sailing Association, United States Sailing Association, American Red Cross and American Canoe Association.

BOATING COURSES AND SAFETY CERTIFICATES

Boaters who successfully complete a PFBCapproved boating course are issued a Pennsylvania Boating Safety Education Certificate, valid for a lifetime of boating safety.

Boating Safety Education Certificates are required:

- To operate a personal watercraft
- For persons born on or after January 1, 1982, to operate boats powered by motors greater than 25 horsepower.

Approved permanent Boating Safety Education Certificates for Pennsylvania residents must be issued by the PFBC. Out of state boaters must have a certificate issued for a course approved by NASBLA.

If you already have your Pennsylvania Boating Safety Education Certificate from the PFBC and you are applying for a duplicate or replacement certificate, you can get a new one for \$5 each. To obtain one (or more) certificates, locate the application on page 2 of this booklet or download an application from our website.

If you do NOT have a Pennsylvania Boating Safety Education Certificate, but you have earned a certificate from the United States Coast Guard Auxiliary, United States Power Squadrons or another approved course, you must mail the original certificate issued to you for successfully completing that course along with the application on page 2 of this booklet to the PFBC or download the application from our website. The cost for your new, permanent Pennsylvania Boating Safety Education Certificate is \$10.

CLASSROOM AND INTERNET COURSES

Approved classroom boating courses are available from the PFBC, United States Coast Guard Auxiliary, United States Power Squadrons and several other approved course providers. In addition, the PFBC has several approved online courses. Information on these providers and their courses is available on the PFBC's website. In some cases, there are fees for the courses in addition to the permanent Boating Safety Education Certificate fee of \$10.

Life Jackets

Personal flotation devices (PFDs, life jackets, life preservers, life vests and throwable devices) are the most important piece of equipment on a boat; life jackets are the best defense



against drowning. Each person in the boat must have a wearable, USCG-approved life jacket! The Commission urges all boaters to wear life jackets at all times.

Since boating conditions can change quickly and without warning (increasing your chance of unexpectedly falling into the water), boating without wearing a properly fitted life jacket is dangerous. Trying to put on a life jacket while in the water is difficult and nearly impossible in moving water.

LIFE JACKET REQUIREMENTS:

- All boats must have a USCG-approved wearable life jacket on board for each person.
- In addition to wearable life jackets, boats 16 feet and over must have a USCG-approved throwable device (ring buoy, life ring or buoyant seat cushion) on board. Canoes, kayaks and paddleboards, regardless of length, are not required to carry a throwable device.
- 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. This means the life jacket must be fully functional, free of tears or defects in the material. All buckles, straps, zippers and other closures must be operable.
- · Wearable life jackets must be "readily accessible," which means that they are out in the open ready to wear or that they are stowed where they can be easily reached. Throwables devices must be "immediately available," which means that the device shall be within arm's reach of the operator or passenger while the boat is operated and cannot be in a protective covering. A life jacket 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 and adjusted to wear.
- · A throwable device may not be used as a substitute for a wearable device.

LIFE JACKET WEAR REQUIRED FROM: NOV.1 TO APRIL 30

Boaters must wear a life jacket on boats less than 16 feet in length or any canoe, kayak or paddleboard. Recreational boating fatalities that occur in Pennsylvania from November through April are primarily due to the effects of cold water immersion. When water temperatures are less than 70 degrees F, cold water shock is a major factor in boating fatalities. Victims who wear a life jacket when exposed to cold water have potentially lifesaving advantages such as insulation from the cold, buoyancy for victims who are unable to tread water and reduced risk of aspiration of water. In an effort to reduce the number of fatalities related to cold water immersion, the Commission has amended regulations to require life jackets be worn while on small and unstable boats during the period most noted for cold water temperatures.

WEARABLE LIFE JACKETS

- · Life jackets should be inspected regularly for tears and damage. If damage is present, do not repair the life jacket. Throw it away. Repairs to a life jacket may be the weak spot that causes a drowning.
- · Inflatable life jackets must be checked frequently and maintained according to the manufacturer's recommendations to ensure correct operation.
- · Life jackets must be used in accordance with any requirements on the approval label.
- · Life jackets with old type identification (e.g. Type I, Type II, Type III and Type V) are still usable as long as life jackets are in good and serviceable condition.

WHO MUST WEAR A LIFE JACKET?

- · Children 12 years old and younger on Commonwealth waters when underway on any boat 20 feet or less in length and in all canoes, kayaks and paddleboards are required to wear a life jacket.
- On Pittsburgh District United States Army Corps of Engineers lakes (only), everyone in boats less than 16 feet in length and in all canoes, kayaks and paddleboards are required to wear a life jacket.
- All water skiers and anyone towed behind boats, personal watercraft operators and passengers, and sailboarders (windsurfers) are required to wear a life jacket. Inflatable life jackets are not acceptable for these activities.
- Boaters are required, by law, to wear life jackets on boats less than 16 feet in length or any canoe, kayak or paddleboard during the coldwater months from November 1 through April 30.

MAKE SURE THE LIFE JACKET FITS—THE "TOUCHDOWN" TEST

For a life jacket to work properly, not only does it need to be on your body, it should fit properly as well. A properly fitting life jacket is more comfortable (meaning you are more likely to wear it), but more important, it functions better. Life jackets that are too large can ride up or even come off when you are in the water.

It's easy to check a conventional life jacket for proper fit—just put it on. The life jacket should fit you snugly with all zippers, straps, ties and snaps correctly secured. With a partner behind you, raise your arms like you are signaling a touchdown in a football game. Have the partner lift the jacket by the shoulders. The jacket should come no higher than your chin. If the jacket covers your face or comes off—that's what would happen in the water. In this case, tighten the straps or use a smaller size.

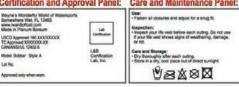
Boat Numbering and Registration

Boats propelled by machinery and electric motors must be numbered, regardless of length and type of motor. Boats excluded from numbering include unpowered kayaks, sculls and sailboards, documented vessels, and boats with a valid temporary certificate. Documented vessels used for recreational purposes must be registered. In Pennsylvania, large pleasure boats, usually called yachts, are documented with the USCG. These documented vessels must be registered but need only display a valid registration decal.



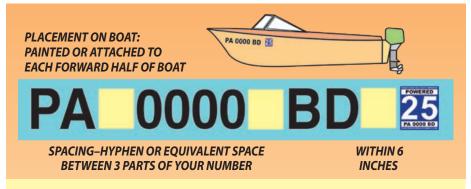


Care and Maintenance Panel: Certification and Approval Panel:



THROWABLE DEVICES





DISPLAY REOUIREMENTS

The letters and numbers must:

- · Read from left to right.
- Be painted or permanently attached to each side on the forward half of the boat, where no other number may be displayed.
- Be of bold, block letters in good proportion.
- Be of a contrasting color to the background.
- Be at least 3 inches high.
- Be nearly as vertical as possible and easily observed.
- Be separated by a hyphen or space equal to the width of any letter or number except "I" or "1."
- Have a current registration decal within 6 inches on the same level (before or following number).

BOAT REGISTRATION

All motorboats and boats powered by electric motors must be registered. Unpowered boats (canoes, kayaks, rowboats, stand-up paddleboards, etc.) can be launched at Commission lakes and access areas or Pennsylvania State Parks and Forests if they display a boat registration, Commission launch



permit or Pennsylvania State Parks launch permit. Pennsylvania State Parks recognize boat registrations and Commission launch permits. An unpowered boat may have a registration OR launch permit, but it is not required to have both. The Commission does NOT recognize launch permits from other states. A Commission launch permit can be purchased online.

Registrations are renewed on a 2-year cycle and expire on December 31 of the second year. Registrations are valid when issued by the Commission and online messengers. Application forms are available at county treasurers, certain boat dealerships, on the PFBC website, at the PFBC's headquarters in Harrisburg and at the PFBC regional law enforcement offices.

For boat registration fees, go to the Commission's website or use the QR code under "Boat Registration Forms" on this page.

Note: Boats with unpowered boat registrations may NOT be equipped with gasoline or electric motors or any other mechanical propulsion and be operated on Pennsylvania waterways.

Upon the completion of the application and the payment of the fee, a registration card and two validation decals will be issued. The certificate of boat registration is your registration card and must be on board the boat during operation. The certificate also shows the boat registration number that must be displayed on the boat. The Pennsylvania registration number, issued with the original certificate of boat registration, stays with the boat as long as it is registered in Pennsylvania. It is the boat owner's responsibility to purchase the numbers and letters to display the registration number on the boat.

Display the number and validation decal on the bow of the boat as shown on page 7. No other number may be displayed on either side of the bow. These numbers may not be removed, altered, tampered with or defaced, except by the owner or representative. Documented vessels as well as kayaks, sculls, sailboards and other lowvolume boats of similar design are exempt from the display of numbers, but they must display the validation decal. Inflatable boats may carry their numbers and validation decal on boards lashed to each side of the bow. Canoes are not exempt and must display the numbers and the decal.

BOAT REGISTRATION EXPIRATION DATE CHANGE

As a customer service enhancement, the Pennsylvania State Legislature passed a law in 2022 to align the boat registration period with the calendar year. The boat registration expiration date is included on your renewal notice and will be included on your registration card and validation decals.

STATE OF PRINCIPAL OPERATION

Boats must be registered in the state in which the boat is primarily operated. If the boat is waterborne (including time at a marina slip or mooring) on Pennsylvania waters more than on waters of another state, it must be registered in Pennsylvania, regardless of where the owner lives. Reciprocal privileges are granted to boats with valid registration in other states for up to 60 days.

Note: A Pennsylvania Use Tax is charged for any boat owned by a Pennsylvania resident if that boat is at any time brought into the Commonwealth, regardless of where it is registered. There is an exception for casual sales of unpowered boats. Credit is given for tax paid to other states.

BOAT REGISTRATION FORMS

A Boat Registration Renewal Application is mailed to boat owners prior to the expiration date. If one has not received the form, boat owners should write to the Division of Licensing and Registration or go to:



A Duplicate/Replacement Certificate of Registration can be obtained for \$3 through the Division of Licensing and Registration. Go to the Commission's website to download the form (PFBC-732).

A Change of Address form (PFBC-732) must be filed within 15 days at the Division of Licensing and Registration. This office must also be notified within 15 days if a boat is lost, stolen, destroyed, abandoned or sold.

To transfer boat ownership, form REV-336 must be completed and signed by the applicant and registered owner(s). If the registered owner(s) is/are not available, a bill of sale, signed by the registered owner(s), may be substituted. Sales tax payment must still be collected if applicable. It is unlawful for a person purchasing or acquiring a previously registered boat to operate that boat in Pennsylvania until the registration is transferred to the new owner.

A receipt is issued by authorized agents when the boat is registered, so the boat can be used immediately. It is valid for 60 days.

Note: All powered and titled boats used for pleasure are taxable. Proof of payment of sales tax is required at the time of registration.

Launch Permits

Unpowered boats (canoes, kayaks, rowboats, stand-up paddleboards, etc.) can be launched at Commission lakes and access areas or Pennsylvania State Parks and Forests if they display a boat registration, Commission launch permit or Pennsylvania State Parks launch permit. Pennsylvania State Parks recognize boat registrations and Commission launch permits. An unpowered boat may have a registration OR launch permit, but it is not required to have both.

Commission does NOT recognize launch permits from other states. A Commission launch permit can be purchased on the PFBC's website.



Boat 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. A certificate of title requires all owners of a boat to sign off on their interests when selling and provides the purchaser with proper documentation for titling and registering a boat. Application forms are the same ones used for boat registration and are available at county treasurers, certain boat dealerships, on the PFBC website, at PFBC's headquarters in Harrisburg and at the PFBC regional law enforcement offices.

Boat titling is required for all inboard motorboats (regardless of length) and personal watercraft with a model year of 1997 or newer AND all outboard motorboats 14 feet or more in length with a model year of 1997 or newer. At the request of the owner, the Commission will issue a title 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 principle use, regardless of the age, size or length of the boat.

For titling fees, go to **fishandboat.com**.

Boat titling assures the buyer of a boat that the seller has clear ownership of a boat offered for sale. Some lenders won't finance a boat without a title, so securing a loan to purchase a boat may be easier if the boat is titled. Boaters who register and title their boats have more security. In the event of boat theft, such boats are easier to identify (see page 17).

Capacity Plates

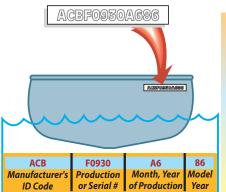
A boat's capacity plate provides important information about the boat including maximum weight capacity, maximum horsepower, maximum person capacity by number and maximum persons capacity by weight. Individuals being towed behind a boat (e.g. waterskiers, tubers, kneeboarders, wake surfers, parasailers, etc.) are considered to be passengers and must be counted in regard to the boat's maximum passenger capacity.

No boat shall be loaded beyond its safe carrying capacity. Observe and understand the capacity plate.



Hull Identification Number (HIN)

This number is federally required and is located on or near the boat transom's upper starboard (right) side. Also, the HIN is hidden by the manufacturer on the boat for recovery purposes. HINs are 12 characters in length and may be 17 characters on newer boats.

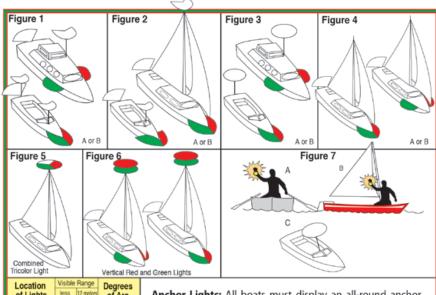


Key to Month
of Production
A=January
B=February
C=March
D=April
E=May
F=June
G=July
H=August
I=September
J=October
K=November
L=December

Night Operation and Lights

All boats must show required running lights between the hours of sunset and sunrise and during periods of restricted visibility, such as fog and heavy rain. During such times, no other lights may be displayed, except those that cannot be mistaken for the required lights or do not impair their visibility or distinctive character, or interfere with keeping a proper lookout. A sailboat operating under power and sail must display the proper running lights for a powerboat. Navigation lights are restricted to the colors red, green and white. Navigation lights are designed to identify the type of boat and its situation (underway, direction of travel, at anchor, etc.) on the water. Boats underway include drifting boats. Night boaters should carry spare bulbs, fuses, batteries and a flashlight.

The navigation lights required for boats are determined by the boat's length and whether it is powered by machinery, sail, paddles or oars. DOCKING LIGHTS: It is illegal to use docking lights while underway, except when docking and the boat is traveling at slow, no-wake speed and is within 100 feet of approaching a dock, a mooring buoy or the shoreline. A docking light is a flood or spotlight type of light permanently installed or permanently mounted on a motor-boat that is used to illuminate a boat's forward course of travel.



Location of Lights on Vessel	Visible less than 12 meters	Range 12 meters to less than 20 meters	Degrees of Arc of Light
Masthead	2	3	225°
All-round	2	2	360°
70	1	2	112.5°
Side Lights Stern Light	2	2	135°

Anchor Lights: All boats must display an all-round anchor light between sunset and sunrise and during periods of restricted visibility when anchored in or near a channel and when in an anchorage not designated as a special anchorage area. In addition, Pennsylvania regulations require all boats to display an all-round anchor light when boats are anchored where other vessels normally navigate. This includes all boatable Commonwealth waters. The all-round light must be one meter higher than the colored lights and be displayed where it can best be seen.

The charts on this page show which lights are required.

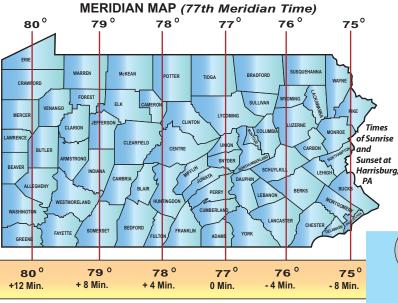
Conversions: 7 meters = 23', 12 meters = 39'4", 20 meters = 65'6" < = less than

Type of Boat	Length	Figure
Powerboat	< 12 meters	1, 2 or 3
Powerboat	12 - 20 meters	1 or 2
Sailboat (sail only)	< 20 meters	4, 5 or 6
Sailboat (sail only)	Any	4, 5 or 6
Sailboat (sail only)	< 7 meters	7B This is a white light either hand-held or installed ready to be displayed in time to avoid a collision.
Manually powered	Any	7A This is a white light either hand-held or installed ready to be displayed in time to avoid a collision.
Anchored	Any	7C This is an all-round white light visible for at least 2 miles and displayed where it can best be seen. An anchor light is not required but highly recommended when anchored in a special anchorage area.

77TH MERIDIAN TIME: SUNRISE AND SUNSET AT HARRISBURG

EASTERN STANDARD TIME and EASTERN DAYLIGHT TIME when in effect.

Dates	Rise	Set	Dates	Rise	Set	Dates	Rise	Set
Jan 1-5	7:30	4:54	May 4-10	5:59	8:09	Sept 7-13	6:44	7:24
Jan 6-12	7:30	4:59	May 11-17	5:52	8:16	Sept 14-20	6:51	7:12
Jan 13-19	7:28	5:06	May 18-24	5:46	8:23	Sept 21-27	6:57	7:01
Jan 20-26	7:24	5:15	May 25-31	5:42	8:28	Sept 28-Oct 4	7:05	6:47
Jan 27-Feb 2	7:18	5:24	Jun1-7	5:39	8:33	Oct 5-11	7:11	6:38
Feb 3-9	7:12	5:32	Jun 8-14	5:37	8:37	Oct 12-18	7:19	6:27
Feb 10-16	7:04	5:40	Jun 15-21	5:38	8:40	Oct 19-25	7:26	6:17
Feb 17-23	6:55	5:47	Jun 22-28	5:39	8:41	Oct 26-Nov 1	7:34	6:08
Feb 24-Mar 1	6:45	5:56	Jun 29-Jul 5	5:42	8:41	Nov 2-8	6:42	5:00
Mar 2-8	6:34	6:04	Jul 6-12	5:47	8:39	Nov 9-15	6:50	4:53
Mar 9-15	7:23	7:12	Jul 13-19	5:52	8:35	Nov 16-22	6:58	4:48
Mar 16-22	7:12	7:19	Jul 20-26	5:58	8:30	Nov 23-29	7:06	4:44
Mar 23-29	7:00	7:26	Jul 27-Aug 2	6:03	8:24	Nov 30-Dec 6	7:13	4:41
Mar 30-Apr 5	6:47	7:35	Aug 3-9	6:10	8:16	Dec 7-13	7:20	4:41
Apr 6-12	6:38	7:41	Aug 10-16	6:17	8:07	Dec 14-20	7:25	4:43
Apr 13-19	6:27	7:48	Aug 17-23	6:24	7:57	Dec 21-27	7:28	4:47
Apr 20-26	6:17	7:55	Aug 24-30	6:31	7:46	Dec 28-31	7:30	4:51
Apr 27-May 3	6:08	8:02	Aug 31-Sept 6	6:38	7:34			



Sound-producing Devices

Motorboats less than 65 feet in length 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 an acceptable device for small motorboats. Operators of unpowered boats (canoes, kayaks, rowboats, paddleboards) are required to carry a device capable of sounding a prolonged blast for 4-6 seconds that can be heard by another boat operator in time to avoid a collision. An athletic coach's whistle is acceptable.

Visual Distress Signals (VDS)

According to USCG navigation rules, boat operators are required to render assistance to a boat in distress to the extent they are able. When operating on federally controlled waters, boaters must carry VDS devices. This includes boats navigating on federal waters such as coastal waters, the Great Lakes (including Lake Erie), territorial seas and bodies of water connected directly to any of these up to the point where the body of water is less than 2 miles wide.

In Pennsylvania, VDS devices 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.

All VDS must be USCG approved, have legible approval numbers, be in serviceable condition and be readily accessible. VDS are not acceptable if the expiration date has passed. Though only required on Lake Erie, VDS are practical safety items for all boaters to carry.

Flares are of short duration. Use them only when another boat is in sight. When igniting a flare, hold it over the water on the downwind (leeward) side. Flares are not toys. Use them only in an emergency.

Minimum Required Equipment

Smart boaters ensure that their boats are equipped with the proper safety equipment. The chart below lists the minimum required equipment for motorboats.

EQUIPMENT	Less than 16 feet	16 to less than 26 feet	26 to less than 40 feet	40 to not more than 65 feet
BACKFIRE FLAME CONTROL (page 11)	One approved devic	e on each carbure	etor of all inboard gas	oline engines.
SOUND- PRODUCING DEVICE (page 10)	Some means of mak for 1/2-mile. A whistl to the operator of bo whistle is acceptable	e or horn must be oat or passengers.	readily accessible	Must carry a sound signal audible for 1/2-mile.
PORTABLE FIRE EXTINGUISHER WHEN REQUIRED (page 11)	At least one B-I or 5-B extinguisher.	portable fire	At least two B-I or 5-B portable fire extinguishers or one B-II or 20-B	At least three B-I or 5-B portable fire extinguishers or one B-I/5-B and one B-II/20-B.
NAVIGATION LIGHTS (page 9)	Must comply with Inland Navigation Rules and state regulat			tions.
MUFFLING DEVICE (page 11)	Efficient muffling device required to prevent excessive or un			nusual noise.
LIFE JACKETS (PFDs AND THROWABLE DEVICES) (page 6)	One USCG- approved wearable life jacket for each person on board. Must be used in accordance with the requirement on the approval label.	One USCG-appro each person and must be used in the approval lab- regardless of len able device.	wable device equirements on d paddleboards,	
VENTILATION (page 20)	Boats with closed compartments or permanently installed fuel tanks must be equipped with an efficient natural or mechanical bilge ventilator or meet the applicable Coast Guard construction standards for fuel and electrical systems.			

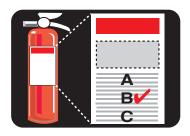
Recommended Equipment (NOT REQUIRED BY LAW)

- **☑** Paddles or oars
- Anchors with sufficient line
- **☑** Dock lines
- Extra clothing
- **■** Food and water
- Marine radio or cellular phone
- Tool kit with spare spark plugs
- **I** Flashlight
- Portable fire extinguisher
- **☑** Bailer

- Fenders
- ✓ First aid kit
- Tist alu kit
- **☑** Charts and compass
- Sunscreen and sunglasses
- Spare fuses and bulbs
- **☑** Gas can
- Extra line or throw bag
- **☑** Visual distress signals (required on Lake Erie)

Fire Extinguishers

Fire extinguishers are classified by letters and numbers. The letter indicates the type of fire the unit is designed to extinguish. For example, a type B extinguisher is meant to put out flammable liquids, and type C is for electrical fires. The number stands for the amount of extinguishing agent in the unit. Acceptable portable fire extinguishers for marine use are classified as B-I, B-II, 5-B or 20-B. One 5-B



is equivalent to one B-I extinguisher, and one 20-B is equivalent to two 5-B extinguishers.

Motorboats 26 feet or more in length are required to carry hand portable fire extinguishers. Motorboats less than 26 feet in length, powered by an outboard motor and not carrying passengers for hire are not required to carry fire extinguishers unless boats have one or more of the following conditions:

- Closed compartments under seats where portable fuel tanks may be stored
- Double bottoms not sealed to the hull or not completely filled with flotation material
- Closed living spaces
- Closed storage compartments in which flammable materials are stowed
- · Permanently installed fuel tanks

Fire extinguishers must be in good and serviceable working condition including:

- Not expired
- Pressure gauge reading or indicator in the operable range or position, if applicable
- Lock pin firmly in place
- Discharge nozzle clean and free of obstruction
- No visible sign of significant corrosion or damage

Fire Extinguisher Use

Fire extinguishers must be immediately available and installed (mounted away from the fuel source). They must be fully charged, in usable (good) condition and inspected regularly. Make sure



everyone on your boat knows the location of the fire extinguisher and its use. Operation of a fire extinguisher is rather simple. Just remember PASS.

Carburetor Backfire Flame Control

Gasoline engines except outboards must have an approved (USCG, SAE or UL) 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.

Noise Restrictions and Muffling Devices

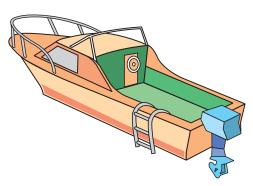
Boat motors must be equipped with an efficient muffling system or device in good working order. Most boats and motors that come directly from the manufacturer are adequately muffled. It is illegal for a boat to be so loud that it is an extraordinary annoyance or distraction to people in the vicinity of that boat. Boat exhaust systems may not be modified in any manner that will reduce or eliminate the effectiveness of the muffler or muffler system.

Cutouts (muffler bypasses) are illegal in Pennsylvania. Boats without a muffler or muffling system must be backfitted before being operated. Safe boat operation is coupled with preparation, prevention and practice. Each time before you start out on your next boating trip, follow these guidelines for maintenance, departure, trailering, launching and retrieving, docking, rules of navigation, night operation, and anchoring.

Pre-departure Checklist

To ensure a safe and problem-free boating experience, make a checklist of items similar to the one below, and use it before each trip:

- Life jackets: Examine each life jacket for condition and ensure you have the correct number and sizes, appropriate for the intended activity on board.
- Weather: Check the weather forecast for the area and time frame you will be boating.
- ✓ **Float plan:** Be sure to leave a float plan with a family member, friend, neighbor or a marina operator. *See page 24.*
- ✓ Fuel: Make certain you have enough fuel and know where you can refuel. Use the ⅓ rule: ⅓ tank for your trip, ⅓ tank to return to dock or launch ramp, and ⅓ tank for emergency use.
- ✓ **Battery and fire extinguishers:** Be sure the engine battery is fully charged and your fire extinguishers are properly charged.
- ✓ Boat check: Use the checklist under "Preventative Boat Maintenance" to make sure your boat is in safe, operable condition.
- Conduct an onboard safety discussion with passengers: Everyone on board needs to know in advance what is expected of them and where they can find needed equipment. The discussion should include information on the location and proper use of life jackets (PFDs), fire extinguishers, visual distress equipment and first-aid kit. Explain emergency procedures; rules prohibiting discharging waste overboard; basic operation of the marine radio (if one is installed); other items such as boat operation, weather and/or water conditions, anchoring procedures, docking and line handling, and the dangers of falling overboard and being struck by the propeller.



Preventative Boat Maintenance

Inspecting your boat and equipment before you launch or leave the dock can prevent many possible problems. Examine onboard safety equipment including life jackets and throwable devices (sizes and condition), fire extinguishers, bailers, anchor, motor, fuel, electrical systems, through-hull fittings, and accessory attachments. Follow the owner's manual for regular maintenance on the boat and equipment; this will minimize problems afloat. Here are some other tips:

Hull condition:

- · Check for any cracks or crazing.
- · Ensure the hull sounds solid.
- Pull on the transom to ensure that it is solid.
- Make sure there is a drain plug and it is in place.
- Drain all water from the engine compartment.
- Check the bilge for any water. Check for cracks around the fittings, above and below the waterline and around chain plates, cleats, etc.

Rigging and sails:

- Check for signs of wear or fraying.
- Repair small tears or open seams by taping or sewing.
- Keep lines clean and store in a dry area out of the sun.

Engines, fuel tanks and lines, mechanical:

- Follow the manufacturer's maintenance plan.
- Check for fuel leaks from the tank, carburetor, engine compartment and fuel lines.
- Check hose connections for leaks or cracks, and make sure hose clamps are secure.
- Examine the ignition safety switch and lanyard for wear and proper operation.
- Check for proper operation of steering and other controls.
- Drain the fuel tank at the end of the season or use a fuel stabilizer.

Check for signs of wear and corrosion:

- · Check for cracks or leaks.
- Check for firm hoses, free of leaks, and use double clamps.
- Make sure the backfire arrestor is attached and serviceable.
- Check belts, the battery for corrosion and anything unusual.

Leave a Float Plan

Let others know before you go: A float plan should be filled out and left with a reliable person before you leave on all boating trips. The plan lets others know where you are going, when you expect to return, who is going with you, and what emergency measures or rescue organization should be notified in the event you do not return as scheduled. Remember to contact the person you left the float plan with when you return. In addition to leaving a paper copy of a float plan behind, many boaters are also providing e-mail versions of their float plan with others. Complete the float plan available on the Commission's website or page 24 before going boating, and leave it with a friend.

Trailering

Trailering is a package deal, which includes the boat, trailer, hitch and tow vehicle. Everything must be compatible. The tow vehicle hitch must match the trailer ball. The hitch should be mounted to the frame of the towing vehicle. Do not use bumper hitches. Trailer tires must have sufficient load-bearing capacity and be appropriate for the trailer. Practice is a key aspect of trailering. Before taking your boat on the road, use an empty parking lot to practice turning, parking and backing up. Before towing your boat:

- · Check your tires.
- Make sure your wheel bearings are greased.
- Ensure the trailer hitch is firmly on the trailer ball, and it is latched and secured with a pin or lock.
- Cross and attach the trailer safety chains to the tow vehicle in an "X" pattern. Trailer safety chains should not drag (required by law).
- Make sure your lights work with your vehicle (required by law).
- Secure the winch, other tie down straps and any loose items.
- Always carry a spare tire for your trailer.



Launching and Retrieving

Prepare your boat well away from the boat ramp, so you do not block ramp traffic. Before you launch, it is helpful to make sure you have not missed any important points:

- Put the plug in.
- · Raise the motor.
- Disconnect trailer wiring and tie-downs.
- Tie a line to the bow to maintain control of the boat.
- Slowly back your boat trailer into the water, and set the emergency brake.
- Disconnect and secure the winch and safety chain from the bow.
- Push or motor the boat off the trailer while somebody holds the bow line.

Retrieval is the opposite of launching.



Boarding

Stability is important when boarding a small boat. Wearing a life jacket when boarding is a common sense safety precaution. Passengers should steady the boat from the dock or shore while the operator boards. Maintain three points of contact when boarding and moving about a boat. Once in, the operator should steady the boat for others. When boarding, everyone should keep his or her weight as low and as close to the boat's center as possible. Holding onto the gunwales is the best way for boarders to keep steady.

Equipment and gear should be loaded onto the boat one item at a time, handing it to someone already on board. The load should be evenly distributed and secured, so it doesn't shift.

Boat Trim

Boat trim (the way a boat floats) is vital in a small boat. Weight should be distributed in the boat to keep the bow light. Keep the boat from listing (leaning to one side) by distributing weight equally from side to side. Sudden, sharp turns should be avoided, and the boat's capacity must never be exceeded.

Boat Handling

All boats handle differently, and inexperienced operators need hands-on practice with a capable teacher to become proficient in handling their boat. A motorboat is most easily maneuvered going against the current or wind. When moving

with the current, the boat must be going faster than the speed of the current to maintain control and maneuverability. Boats do not have brakes. To reduce speed quickly, the motor should be put in reverse and power applied. Stopping in this manner requires practice to avoid water washing in over the stern. Consult the owner's manual for proper procedures.

Docking

Docking is a difficult maneuver, especially for the new boater. Learning to dock also requires practice with a capable teacher. When docking, a boater must keep in mind that the boat's steering mechanism is located at the stern (back), which will move first, followed by the bow (front of the boat). Docking is similar to landing an airplane; you must encounter a fixed object but do so softly without inflicting damage. At the same time, environmental conditions such as current, wind and waves can make your approach more complicated.

Depending on the situation, docking procedures vary. Fenders, mooring lines, a boat hook and a heaving line should be ready. The approach to the dock should be planned. If possible, the boat should be headed into the current and/or wind to slow down and to more easily control it. A common method when docking in current is to slip the boat sideways bit by bit toward the dock, pier or slip. When docking correctly, the boat feels like it is moving in slow motion. After docking, a line should be secured from the dock to the bow of the boat. The current will hold the boat against the dock while the remaining lines are tied off.

A docking light is a flood or spotlight type of light permanently installed or permanently mounted on a motorboat that is used to illuminate a boat's forward course of travel. For specific information on illegal use of docking lights, *see page 9.*

DOCKING TECHNIQUES

Although there are subtle docking differences between propulsion systems and watercraft, the following guidelines apply to most docking conditions:

- **1. Survey the dock:** Look for moving boats and traffic, available hands, and the locations of cleats or pilings.
- **2. Visualize your approach:** Determine which side is better. Identify what lines you intend to use and who will do what.
- **3. Plan an exit strategy:** If things don't go according to plan, back out and try again rather than continue a flawed approach.

Also, consider approaching from another direction or selecting another dock. Plan for a no-escape situation: if you get into a situation from which escape is difficult, use spring lines with dock hands or fellow boaters on the dock to help keep you in control.

- **4. Approach slowly:** Docking is no place for speed. Relax and stay focused.
- 5. Use only the power necessary to move the boat and maintain control. Alternating between idle speed in gear and drifting in neutral is one way to slow your movement. Apply brief bursts of power to help with steering and then shift to neutral to limit your speed.
- 6. Deploy boat fenders or other devices to protect the hull.
- 7. **Use a boat hook** to pull the boat closer to dock. If someone is available, hand them a line. Do not jump from the boat to dock.

Additional docking tips for specific situations.

With wind or current ahead: Approach at a moderate angle (about 15 to 20 degrees) slowly and with fenders and lines at the ready. As you touch the dock, reverse power to halt your advance and hand a line to a dock hand. If no dock hand is available, use a boat hook or have a crew member step (not jump) from the boat to the dock to secure the line.

With wind or current behind: In this situation, your big concern is pin wheeling. If the wind or current takes the stern, do not tie the bow first. Slow your approach by throttling back. Your angle should be a slight 5 to 10 degrees—coming alongside the pier. Reverse throttle slightly to still your approach; tie an aft quarter spring line. Then, tie your bow; tie remaining lines.

With wind or current off the pier: This is more challenging. You will need to increase the angle of your approach and use just enough power to reach and hold the dock. Have a crew member toss the line to a dock hand or carefully step on the dock to secure the line. You will be using power against a spring line to pull the boat parallel to the dock and hold it until you are secured by lines.

With wind or current toward the pier: Line up next to the pier, and let the wind take you in.

Departing

When departing, your boat will naturally point into the current or wind-whichever is dominant. If the current is strong, be prepared to counter it, especially if there are boats astern

Untie the line and toss it from the bow, making sure the line is far enough away that it won't foul the propeller. It's easiest if a member of your crew does this for you, because you may need to apply some power in forward gear to maintain your position. If you have to do this yourself, get to the helm quickly to take control. Do not apply propulsion and leave the helm to go to the bow.

Once you're free, drift backward until you have clearance. Apply light forward throttle while also turning to go around rather than over the mooring line. Once you've moved to the side, power away.

Boat Navigation Rules

The navigation rules contained in this handbook are a summary for which a boat operator is responsible on inland waterways and Lake Erie. Additional and more in-depth rules apply regarding various types of waterways (such as International Waters and Western Rivers) and operation in relation to commercial boats and other watercraft. It is the responsibility of a boat operator to know and follow navigation rules. In states where Inland Rules do not apply, the equivalent International Waters, Western Rivers or Great Lakes rule(s) may be substituted. For a complete listing of the navigation rules, refer to the document "Navigation Rules" published by the USCG (COMDTINST 16672.2 Series). This is available through the United States Government printing office or online at www.navcen.uscg.gov. Refer to the state laws where you intend to boat for state-specific navigation requirements.

The purpose of the navigation rules (rules of the road) is to prevent collisions. Since there are no traffic lines and few signs on the water, boat operators must make choices. Common sense is required, but boaters must also know the rules of the road. Operators are responsible for:

- The safety of all passengers in the boat.
- · The boat's wake and any damage caused
- · Maintaining a proper lookout and operating at a safe speed for the conditions.
- · Using good seamanship, which is the foundation of the navigation rules.

PROPER LOOKOUT

Boat operators must maintain a proper lookout at all times when operating a boat. Collisions and other types of accidents can be avoided by scanning around the boat for swimmers, other boats and obstructions. Listening for dangerous

situations is also a part of maintaining a proper lookout. Passengers should be asked to assist.

AIDS TO NAVIGATION (ATON)

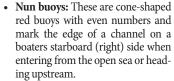
The closest things to signs on the water are aids to navigation (ATON). The purpose of ATON is to help boaters avoid problems on the water and for navigation when used in combination with a nautical chart. ATON includes buoys and daymarks (or dayboards). The United States Aids to Navigation System has been adopted by the Commission for use on all

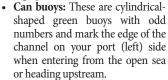


Commonwealth waters. Boaters should learn this system and presume nothing. Navigational aids are often moved by the Coast Guard, the PFBC, storms, heavy currents or vandals.

In the United States Aids to Navigation System, markers designate the edges of a channel and the direction of open water. The colors of these markers are important. Red markers indicate that boaters should navigate with the markers on their starboard (right) side when traveling upstream. Remember the slogan "Red, Right Return" to find your way home to port. Green markers indicate that boaters should navigate with the markers on their port (left) side when traveling upstream. Red markers have even numbers, and green markers have odd numbers.

To aid visibility, these buoys may also have lights that match their color. Further distinction between buoys is recognized by their shape:





Information and regulatory markers are used to alert boaters of various

warnings and regulatory matters. These regulatory markers are white can buoys with orange shapes and black lettering.



SAFE SPEED

A boater's speed of operation will vary according to the weather, water conditions, time of day or night, other boat traffic, and individual boat characteristics. Safe speed allows the operator to be in control and take correct action to avoid a collision.

RISK OF COLLISION

A risk of collision exists when there is the possibility that two boats will arrive at the same point on the water at the same time. The first indication of a risk of collision is when one operator notices that another boat has a constant bearing (or constant relative position) and a decreasing range (the other boat is getting closer). When this occurs, the Rules of the Road make one boat either a standon (privileged) boat or a give-way (burdened) boat (explanation follows). The risk of collision ends when both boats have avoided the collision by proper action under the rules and are moving safely away from each other.



BOATS KEEP OUT!

Nature of danger may be placed outside crossed diamond such as dams, swim areas or rapids.



DANGER!

Nature of danger may be indicated inside the diamond shape such as rocks, shoals, dams, construction or stumps.



CONTROLLED AREA!

Area as indicated in circle such as speed limit, no fishing, no anchoring, ski only, slow-no wake, no prop boats or no ski.



INFORMATION

Tells directions, distances, places, food, repairs, supplies and other non-regulatory



MOORING BUOY

White with reflectorized blue band. May have white light or reflector.



CHANNEL

Lateral System. Buoy on port side facing upstream.



CHANNEL

Lateral System. Buoy on starboard side facing upstream.

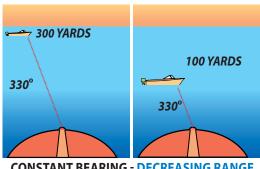


MID CHANNEL Lateral System.

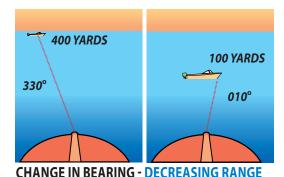
Pass close on either side.

STAND-ON AND GIVE-WAY BOAT

Under the Rules, the stand-on boat is required to maintain its course and speed. The give-way boat is required to stop or slow down or, when overtaking, to pass the other boat in a safe manner. Under no circumstances should the stand-on boat assume that the give-way boat is going to take the action required to avoid a collision. Both operators are required to avoid a collision in any situation.



CONSTANT BEARING - DECREASING RANGE



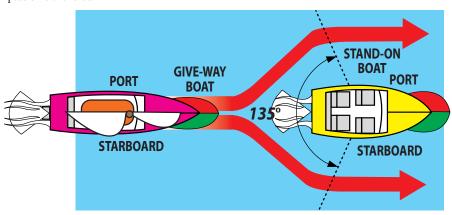
Rules for Power-driven Boats Underway

HEAD-ON (MEETING) SITUATION

When two boats meet head-on, both boats are required to turn starboard (to the right) to avoid the other. At night, a head-on situation exists when both the red and the green running lights are seen at the same time. Lights required on boats are explained previously in this handbook. Sound signals used when maneuvering are explained on this page.

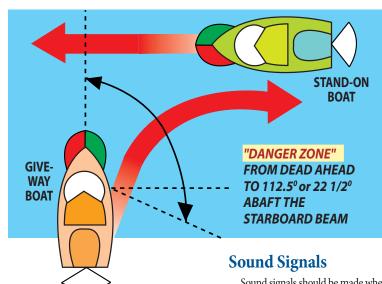
OVERTAKING (PASSING) SITUATIONS

The boat being passed is the stand-on boat. It must maintain its course and speed while the overtaking (give-way) boat passes by. The overtaking boat is always the give-way boat, and it may pass on either side.

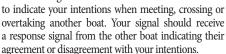


CROSSING SITUATION

All boats have a danger zone from dead ahead (12 o'clock) to 4 o'clock (112.5 degrees) starboard (the right). In a crossing situation, the boat in the danger zone (ahead and to the right) is the stand-on boat. The give-way boat must stop or slow down and let the stand-on boat continue on. If the give-way boat does not take the required action in this or any of the other situations, then the stand-on boat operator must be prepared to take action to avoid a collision.



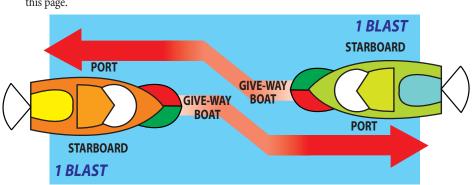
Sound signals should be made when within hearing distance of another boat



Short Blast- 1-second duration

Prolonged Blast- 4 to 6 seconds duration

- 1 Short Blast- I intend to leave you on my port side (boat turns right).
- 2 Short Blasts- I intend to leave you on my starboard side (boat turns left).
- 3 Short Blasts- I am operating in reverse (astern propulsion).
- 5 or More Short Blasts- Doubt or danger—the danger signal is used when the other boat's intentions are not understood or where the other boat's indicated course is dangerous.



Other Important Rules of the Road

 A power-driven boat must give way to any sailing boat that is under sail only (no auxiliary power propulsion).

Exceptions:

- When a sailboat is overtaking a powerdriven boat, the power-driven boat is the stand-on boat and maintains course and speed while being overtaken.
- When a sailboat is approaching a boat at anchor, the power-driven boat remains anchored.
- In narrow channels, recreational boats under 65 feet long must not hamper the operation of large boats that cannot operate outside the channel. Boats should operate as near to the outer limit of the channel that lies on its starboard (right) side as is safe and practicable.
- Boats restricted in their ability to maneuver, such as tugs with barges, ferryboats, commercial fishing boats with nets or lines out, or boats at anchor, are stand-on boats.
- Boats not under command (usually because of mechanical problems and are unable to steer) or constrained by their draft are stand-on boats.
- On a river, a boat operating upriver (against the current) gives way to a boat operating downriver (with the current). A boat operating across the current gives way to boats operating both upriver and downriver.

6	intership safety communications only			
9	commercial and non-commercial intership,			
	ship to coast and alternate calling channel			
13	ocean-going boats, bridge tenders, tugs while towing, locks			
16	distress safety and calling, call Coast Guard, establish general contact			
24-28, 84-88	public telephone calls (to call the marine operator)			
68, 69, 71 and 78	non-commercial intership and ship to coast (recreational boat working channels)			
72	non-commercial intership only			

Marine weather (WX-1, WX-2, WX-3) stations broadcast the latest available weather information from the National Weather Service continually. Forecasts are updated every 6 hours or more often as conditions require.

Anchoring

It is essential that every boater becomes proficient in anchoring. Some anchoring considerations include:

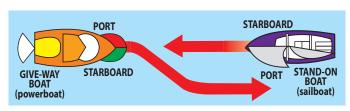
- Type and weight of the boat
- Character of the bottom in the area you are boating (rocky, sandy)
- · Average depth of the water
- · Strength of the wind and current
- · Diameter of the anchor line

There are different types of anchors: kedge for rocks and heavy grasses, burying for sand and mud, and mushroom for permanent moorings. The two questions boaters should ask themselves about anchoring are: which type of anchor will they need and how much

rode (the length of the anchor line) is necessary.

Anchors hold best when the pull of the rode on the anchor is as near to horizontal as possible. The holding power of an anchor increases as the scope ratio increases. A ratio of 7:1 is standard; 10:1 is better in rough water. For example, if boating in 8 feet of water and the bow is 2 feet above the waterline, 70 feet of rode is recommended. Boaters should carry at least two anchors. A smaller, lighter anchor is good for use in calm weather and for positioning a boat, and a larger anchor is best for bad weather or when anchoring overnight. Never anchor from the stern, especially in current or waves. The anchor line should be tied to the bow. The end of the anchor rode (called the bitter end) must be secured to the boat

To anchor, the boat should be headed into the wind or current. The engine is then reversed, or the boat is allowed to back off. When the boat begins to drift backward, lower the anchor from the bow (front of the boat). No one should be standing on any part of the anchor line. When about a third of the rode is out, the rode is tied off to a forward cleat to make the anchor dig into the bottom. Once the anchor digs in, the remaining rode is let out. A sight bearing is then taken on some stationary objects to make certain that the anchor is not dragging on the bottom.



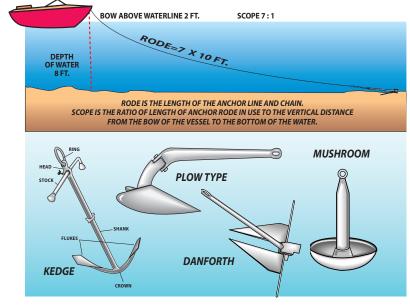
VHF Radio

A VHF (very high frequency) radio is used to communicate



with other boaters, the Coast Guard, commercial boats, draw bridge tenders and lock operators. A VHF is not required to be USCG approved. Recreational boaters are not required to carry VHF radios, but they are highly recommended on larger waters such as Lake Erie. The Federal Communications Commission (FCC) regulates their use. Recreational boats less than 20 meters in length are NOT required to have a station license to operate a VHF radio unless they travel to foreign ports or transmit to foreign stations. Use of a VHF radio is enforced by the USCG.

There are many channels on the VHF, but recreational boaters are given access to only a few.



Anchors can also be used as safety devices in an emergency situation. The operator may drop the anchor quickly to avoid running aground in the event the boat loses power. Make sure the anchor and line are stored in an easily accessible place.

Exercise caution when "weighing" (pulling up) anchor. The combination of anchor pull, current and weight can swamp a small boat. The anchor should be lifted as vertically as possible. As it is lifted, it can be washed. Take care that it does not hit the side of the boat.

Locks and Dams

In Pennsylvania, locks and dams are located on the Three Rivers in and near Pittsburgh (Monongahela, Allegheny and Ohio rivers). The dams provide a navigable channel for river traffic. Locks are a means of passing boats through the dams. The locks in Pennsylvania are built and maintained by the United States Army Corps of Engineers.

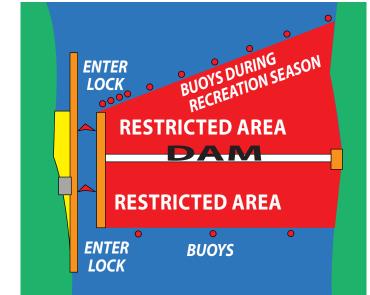
At locks, the lockmaster is in control and will signal your boat to enter with a horn or a light system.

There are priorities (of boats) set for safe and efficient passage:

- · military craft
- · mail boats
- · commercial passenger craft
- · commercial tows
- · commercial fishermen
- · pleasure boats

Before entering a lock, the boat should stop at least 100 yards from the lock entrance. The lock-master can be signaled by the boater with a long and short blast of the horn, on the marine radio (channel 13), or with a signaling device on the lock wall. Once the lockmaster has been signaled, the boat must stay clear of the lock chamber until signaled to enter. Fenders and mooring lines (minimum of 75 feet) should be ready. Once inside the chamber, the lock lines are adjusted with the water levels. The boat must not be tied fast to the lock wall. Life jackets should always be worn.

TYPICAL FIXED-CREST DAM





LIGHT SYSTEM

THE ONE THAT IS FLASHING IS THE LIGHT TO OBEY.

- 1. Red Stand clear, do not enter.
- 2. Amber Approach the lock under full control.
- 3. Green Enter the lock.
- 4. Amber/Green -

Enter the lock with caution.

Boat Theft

Small boats are vulnerable to theft. Titled boats are easier to identify and much more difficult to sell illegally. Boat dealers and other purchasers are more certain that someone offering a titled boat for sale has the legal right to do so.

1. Gate Open UPSTREAM 2. Boats Enter 3. Gate Closed HOW LOCK SYSTEMS OPERATE—REVERSE PROCEDURE FOR DOWNSTREAM LOCKAGE UPSTREAM 7. Boats Exit DOWNSTREAM 5. Lock filled to higher level 6. Gate Open

BOAT AND MOTOR THEFT PREVENTION CHECKLIST

- ✓ Secure it. Store your boat and motor in a secure location. Use a hitch lock to secure your boat trailer. Lock your outboard motor to your boat with a motor lock or chain and padlock.
- Mark it. Use an engraving tool to mark your boat, motor and marine equipment with a unique identification (driver's license number, etc.). Hide your engraved identification in a location where it is not easily found.
- ✓ **Record it.** Keep a record of your boat and motor's make, model and serial numbers.
- Report it. Immediately report any theft to your local police and the Pennsylvania Fish and Boat Commission, Division of Licensing and Registration, Harrisburg, at 866-262-8734. Reporting your loss to the police and the PFBC may lead to its recovery in the event someone attempts to sell or register it.

Personal Watercraft (PWC)

PWCs are defined as boats less than 16 feet in length that use an inboard engine powering a water jet pump as their primary source of propulsion, designed to be operated by a person sitting, kneeling or standing in other than the conventional manner of boat operation. Other boats may use jet propulsion, however, these boats are not considered a PWC.

These boats are fast and maneuverable and can be operated in relatively shallow water. PWC operators are involved in a disproportionate number of boating accidents. Collisions are the most common type of accident reported and are usually caused by the operator not keeping a proper lookout or operating the boat in a reckless manner. Many of these accidents are caused by people new to PWC operation, and nearly all of these accidents are avoidable.



PWC operators must follow the same laws and regulations as other boaters. *Pennsylvania regulations require that PWC operators must*:

- Wear life jackets at all times. All passengers must also wear life jackets. Inflatable life jackets are not acceptable.
- Carry a fully charged fire extinguisher on board (see fire extinguisher section).
- Carry a sound-producing device on board.
- Attach the cut-off switch safety lanyard to clothing, body or life jacket. The purpose of the switch is to stop the engine in case the operator falls off.



Furthermore, it is illegal:

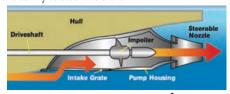
- For anyone to operate a PWC without having in one's possession a Boating Safety Education Certificate. See page 2 on how to obtain a certificate.
- To rent a PWC to anyone 15 years of age or younger. No one less than 16 years of age may operate a rented PWC.
- To operate a PWC from sunset to sunrise. See *page 10* for timetable.
- For a PWC with a capacity of three or less to tow more than one person on a boat-towed device.
- For anyone 11 years of age or younger to operate a PWC.

For anyone 12 through 15 years of age to operate a PWC with any passengers on board 15 years of age or younger.

PWC Characteristics

- Jet pump propulsion, which eliminates a rudder or exposed propeller
- Steerable nozzle, located at the stern of the boat
- Cut-off switch and safety lanyard, which stops the engine when the operator falls off the PWC

PWCs are highly maneuverable. Releasing the throttle (or slowing the engine) usually eliminates the ability to steer the craft.



PWC Operation

PWC operators should be responsible and considerate of others around them. Noise is the most common complaint against PWC operators. A PWC must be equipped with an efficient muffling system in good working order, which cannot be bypassed or altered. Courteous PWC operators will vary their areas of operation to reduce repetitive course tracking, stay away from shorelines, and be aware of all boats and people in the area of operation.

Everyone who operates a PWC should read the owner's manual and become familiar with the craft before going out on the water. Practice is essential for safe PWC operation. PWC operators must connect the safety lanyard to both the cut-off switch on the PWC and their life jacket, body or clothing. If the operator falls off, the operator should re-board the craft from the rear. PWCs have both "main" and "reserve" fuel tanks. Switch the fuel selector on your craft to "reserve" when the "main" tank has been used and head to shore to refuel. Safety gear, including gloves, eye protection, footwear, and wetsuit or dry suit for protection against cold water, is not required by law but advisable for PWC operators.

Paddlesports

Canoeing, kayaking, and stand-up paddle-boarding are popular recreational water sports in Pennsylvania. There are dangers that can be less-ened with knowledge, preparation and practice. Primary hazards are capsizing, swamping or just falling out of the boat. Keep in mind that paddling is a "get wet" sport.

PADDLING TIPS

- Wear your life jacket. On average, 80 percent of all recreational boating fatalities happen to people who are not wearing a life jacket.
- Expect to get wet and dress properly. Even the best paddlers sometimes capsize or swamp their boats.
- **Be prepared to swim.** If the water looks too hazardous to swim in, don't go paddling.
- If you capsize, hold on to your boat, unless it presents a life-threatening situation.
- **Scout ahead whenever possible.** Know the river. Avoid surprises.
- **Be prepared for the weather.** Get a forecast before you go.
- Wear wading shoes or tennis shoes with wool, polypropylene, pile or neoprene socks.
- Never take your boat over a low-head dam.
- Portage (carry) your boat around any section of water about which you feel uncertain.
- Never boat alone. Boating safety increases with numbers.
- Keep painter lines (ropes tied to the bow) and any other ropes coiled and secured.
- Never tie a rope to yourself or to another paddler, especially a child.
- Kneel to increase your stability before entering rougher water, like a rapid.
- If you collide with an obstruction, lean toward it.
- Be sure to leave a float plan. It's a written statement that details your intended trip and is provided to a relative, friend, neighbor or marina operator. Include specifics about the boat, equipment, crew, and departure and arrival times.





Boat-towed Watersports

Boat-towed watersports include activities that involve being towed by a boat or riding in or on the wake of a boat, such as waterskiing, wake surfing, kneeboarding and tubing. Participants in all of these types of activities are required to wear a USCG-approved life jacket. Inflatable life jackets are not acceptable for anyone towed behind a boat. Persons engaged in barefoot, jump or trick skiing, or wake surfing may elect to wear, at their own risk, a wetsuit designed specifically for that activity. A USCG-approved life jacket must be carried in the boat for each skier electing to wear the special water-ski wetsuit. Inflatable life jackets are not acceptable for anyone towed behind a boat.

In addition to the operator, a competent observer must be in the boat in a position to observe the progress of the person being towed. A competent observer is a person who has the ability to assess when a person being towed is in trouble, knows and understands hand signals, and is capable of helping the person being towed.

- To prevent propeller-related accidents, turn off your engine before picking up boat-towed watersports participants from the water.
- Boat-towed watersports are prohibited between sunset and sunrise.
- Boat-towed watersport participants are also considered passengers and count in the boat's total capacity.

- It's unlawful to operate a boat when it is loaded with passengers (including individuals being towed behind a boat) or cargo beyond its safe carrying capacity.
- Skiers may start from the shore or dock if boat traffic permits. Skiers may not return to the shore or dock under power.
- Installation of ski ramps and jumps requires a permit from the Pennsylvania Fish and Boat Commission. Mooring or drifting within 100 feet of a ski ramp or jump while it is in use is prohibited.
- Kite skiing and parasailing are permitted only on waters where unrestricted skiing is permitted.
- It is legal to tow more than one boat-towed device except when locally prohibited. Tow ropes may not exceed the following lengths (as measured from the boat's transom):
 - · Conventional water-ski- 80 feet
 - Parasails- 300 feet
 - Nonreleasable kite ski- 50 feet
 - Releasable kite ski- 500 feet
- It is unlawful to operate a motorboat at any speed with a person or persons sitting, riding, or hanging on a swim platform (teak surfing) or swim ladder attached to the motorboat, except when launching, retrieving, docking or anchoring the motorboat.
- It is unlawful to operate a motorboat at any speed when towing a person on water skis or other devices using a tow rope of 20 feet or less (as measured from the boat's transom). The mini-

mum tow rope length does not apply to wake surfing.

- Boats engaged in the activity of wake surfing are limited to slow, no-wake speed when within 200 feet of the shoreline, docks, launch ramps, swimmers, downed skiers, or other boat-towed watersports participants, persons wading in the water, anchored, moored, or drifting boats, and other marked areas.
- Motorboats propelled by an outboard motor, inboard/ outboard motor or water jet are prohibited from towing a person in or on the wake of the boat.

Swimming and Diving

Swimming is prohibited at Pennsylvania Fish and Boat Commission lakes and access areas. Boaters

should keep a sharp lookout for swimmers and divers at all times.

A diver down flag is displayed from a float during diving operations. This flag is red with a white diagonal stripe running from the top of the staff to the opposite lower corner.



The code flag alpha is a blue and white pennant, and boats must display this flag during dive operations if they are restricted in their ability to maneuver.

Boats not engaged in diving operations shall remain at least 100 feet from areas displaying the diver down flag or boats displaying the code flag alpha.

Sailing

Sailing is another popular form of boating in Pennsylvania. Sailboaters may have different requirements than other boaters. They should be familiar with the operation and navigation requirements found in this handbook. Navigation lights are required after dusk and during periods of restricted visibility.

Sailboaters should stay off the water during storms and periods of extremely high winds. They should also be aware of overhead power lines. Life jackets should be worn at all times.

Another type of sailing boat, the sailboard (windsurfer) is a single or double-hulled boat with jointed mast (surfboard with a sail). Sailboard operators in Pennsylvania must wear a life jacket. Inflatable life jackets are not acceptable.

Hunters and Anglers

Hunters and anglers who use a boat as a platform to hunt or fish must remember that they are boaters too. Often, these types of boaters get so involved with their sport they forget to follow all boating regulations such as proper safety equipment, boating laws and the rules of the road. When fishing from a boat, remember to load your boat properly, remain seated, wear a life jacket and keep an eye on the weather. Never anchor from the stern (back), and stay with your boat if it should capsize.

Hunting from a boat is fun but can be dangerous. Fall weather is changeable and can be deadly for the boating hunter. Water temperatures are typically much colder during traditional hunting seasons. The hunter usually hunts from a small boat with a flat bottom. These boats are poorly suited for rough water. Life jackets appropriate for hunting should be worn at all times. Please be aware of the mandatory coldweather life jacket wear regulation, effective

November 1 through April 30-see page 7.



Ventilation and Fueling

Gasoline fumes are heavier than air and will settle to the lowest part of the boat's interior hull, the bilge. 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.

When filling inboard tanks, everyone should be sent ashore and the boat closed up. All electrical systems should be shut off. After filling up and before starting the engine, the blower should be run for at least 4 minutes. Take appropriate precautions to prevent spills. Avoid discharging oil and gas from your boat's bilge. Toxic substances must be disposed of properly. Noncompliance may result in fines.

Boaters should routinely check for leaks in fuel lines and fittings, frayed wiring, and improperly rigged electrical systems.

Carbon Monoxide

Carbon monoxide (CO) gas is a potentially deadly by-product of your boat's engine. Each year boaters are killed or injured by carbon monoxide. Stay away from exhaust areas and do not swim near exhaust vents. Never enter an enclosed area under a swim platform, where exhaust is vented. Only one or two breaths of the air in this "death chamber" can be fatal. Keep air moving through the boat to avoid problems.

Symptoms of carbon monoxide poisoning depend on exposure. Brief exposure may produce shortness of breath, mild nausea and mild headaches. Moderate levels of CO exposure may cause death if headaches, dizziness and light headedness symptoms persist for an extended period of time. High levels of CO may be fatal, causing death within minutes. If you suspect someone is experiencing CO poisoning, move the individual to fresh air immediately and call 9-1-1.



Running Aground

Keep a sharp lookout when traveling on waters that have shallow areas to avoid running aground. Navigational charts, buoys and depth finders can assist in this task. If you run aground and the impact does not appear to cause a leak, follow these steps to refloat the boat:

- Do not put the boat in reverse. Instead, stop the engine and lift the out-drive.
- Shift the weight to the area farthest from the point of impact.
- Try to shove off the rock or bottom.

If this fails, contact help.

Water Hazards

It is important that boaters know the waters they are boating. Information about local hazards can be obtained by physically viewing their proposed route, consulting local boating sources and utilizing web resources such as the PFBC website.

MOVING WATER: Safety on the water depends on developing respect for the power of water. The power of current is deceptive and should be taken into account by all boaters. A strainer is an obstruction in the water (such as a tree branch) that allows water to pass through but will hold and trap boats and boaters. Rivers and rapids are rated with the International Scale of River Difficulty (Classes I - VI), which is a guide established by the American Whitewater. Parts of rivers could have a different class rating than the overall river's rating. The rating for any river will vary as water flow increases or decreases because of seasonal conditions.

WIND AND WAVES: The definition of wind is "moving air that is described by the strength and the direction of its source." Wind acts on the surface of the water, creating waves. The greater the force and duration of the wind, the bigger the waves will be. Large waves in big water can place small craft in danger. When crossing waves or another boat's wake, head into the waves or wakes at an angle (45 degrees) to reduce pounding.

Large bodies of water such as oceans or Lake Erie provide different challenges and dangers than moving water. Large, relatively shallow lakes, such as Lake Erie, may develop large waves faster than deeper, similar waters. Small inland boats should not venture out on large waters such as Lake Erie

TIDES AND TIDAL CURRENT: Tides and tidal currents affect where a boater can travel or anchor safely. They also affect how long it takes to get to a destination, the speed needed to arrive at a given time and the heading that must be maintained.

Tides are the vertical rise and fall of ocean water (and waters affected by the ocean) caused by the gravitational pull of the moon and sun. The moment the tide changes direction is known as "slack water." "High tide" is the highest level a tide reaches during ascending waters, and "low tide" is the lowest level a tide reaches during descending waters.

The tidal cycle is the high tide followed approximately 6 hours later by low tide (two highs and two lows per day). The tidal range is the vertical distance between high and low tides. The tidal range varies from 1 to 11 feet in Pennsylvania on the Delaware River. Boaters should consult tide tables for times of high and low tides.

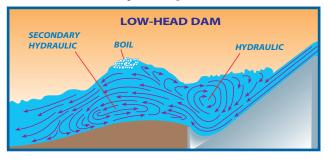
Dams

Dams on our rivers aid navigation, produce power and prevent flooding. Keep away from dams! Dangerous currents above the structure can draw boats into water going over or through a dam. Areas below a dam are also extremely hazardous to boats because of strong recirculating currents and turbulent waters.

The most dangerous hazard on a river is a lowhead dam. There are hundreds of such dams on rivers and streams throughout Pennsylvania, and dams are true "drowning machines."

Water going over a dam creates a back current or undertow that can pull a boat into the turbulence and capsize it. This hydraulic can trap and hold a person or boat. Many dams are not marked and are almost impossible to see from upstream.

State law requires that many low-head dams in the Commonwealth be marked with signs and, when practical, buoys upstream and downstream from these dangerous structures. The signs detail restrictions for boating, swimming and wading, and hazards posed by the dam. Restrictions are enforced by the PFBC Waterways Conservation Officers. Dams must be avoided and may be located by checking water trail guides, maps and the PFBC's website.



Weather

Weather can cause boaters problems. Having a mishap in cold water or in a remote area can result in hypothermia or other problems. Getting caught in a storm can have serious consequences. Never underestimate the weather.

Factors that determine weather conditions can be observed and measured. These factors include temperature, barometric pressure and wind. Weather affects the condition of open water and can change suddenly. Check local forecasts the night before going boating and again in the morning. The National Weather Service typically issues a new marine forecast every 6 hours on designated VHF radio channels. Signs that dangerous weather may be approaching include:

- Clouds gathering, darkening and increasing in size
- A sudden temperature drop, a rapid wind shift or change in speed
- Static on the AM band of the radio (may indicate an approaching thunderstorm)
- A drop in the barometric pressure (check a barometer)

IF A STORM IS NEAR...

In a small boat, put on your life jacket and head for the nearest shore. Beach your boat and find shelter on the downwind (leeward) side of the land.

In a large boat, put on your life jacket, start your engine or secure your sails (whichever is applicable). Stow anything that is unnecessary. Secure your dinghy (if you have one) and turn on your running lights. Close up the boat and decide what to do. If land is near, head for it. If not, you may have to ride out the storm. Do so by keeping your bow (front) headed into the waves, wind and/or current. If your motor fails, a sea anchor on a line from the bow will keep the boat into the waves. A bucket will work as a sea anchor in an emergency.

Capsizing and Falls Overboard

Many boating accident deaths are caused by capsizing. If a small, open boat capsizes, everyone should take a head count, check for injury and stay with the boat. Most small boats have enough flotation to keep from sinking. If possible, the boat should be turned upright and the water bailed out. It can then be paddled to shore. It is also possible to paddle a swamped boat to shore. The golden rule if a boat capsizes is for everyone to stay with the boat.

SWAMPING AND CAPSIZING

If you do capsize or swamp the boat, stay with the boat and make sure everyone has a life jacket. Stay calm. If the boat can be righted, bail out as much water as possible, get in and paddle towards shore. If your boat capsizes or you fall overboard in moving water, such as a river, get in the self-rescue position with your feet pointed downstream and near the surface to avoid potential head injury and foot entrapment.

FALLS OVERBOARD

Falls overboard are dangerous situations. People fall overboard even when wind and seas are calm. The shock of falling into the water, especially cold water, can be life-threatening. Wearing a life jacket can be your only source of survival. The best means of survival is to already have a life jacket on and stay with the boat.



PREVENTION

- When getting into or moving around in a small boat, always maintain three points of contact, keeping your weight low and close to the centerline. Don't overload your boat.
- Do not allow passengers to stand in small boats, including canoes and kayaks, or sit on foredecks, gunwales, engine boxes, seat backs or transoms. Small boats, especially canoes and kayaks, are more likely to capsize when someone stands up.
- Watch crew members and frequently check that everyone is aboard.
- Wear deck-gripping shoes (bare feet have poor traction).
- Avoid rough water and weather conditions whenever possible.
- Practice a procedure for recovering someone lost overboard. Toss a life jacket over the side while moving. Test to see how long it takes to stop the boat, turn and retrieve the life jacket.

Propeller Strikes

When people and motorboats share the same water, propeller strikes can and do occur. A typical recreational propeller can rip an average person from head to toe in less than one-tenth of a second. MOST



PROPELLER STRIKES CAN BE PREVENTED!

Before starting your boat:

- Put on your life jacket!
- Walk to the stern and look in the water to make certain there is no one near your propeller (people near the boat's propeller may not be visible from the helm).
- Attach your engine cut-off switch lanyard to your life jacket. If the lanyard is removed from the switch, the engine will shut off.

Educate passengers:

- Explain the dangers of a motorboat running into a swimmer.
- Show the location and danger of the propellers and all safety equipment.
- Turn off the engine if anyone is near the prop to prevent injury.
- Establish clear rules for swim platform use, boarding ladders and seating (if possible, passengers should remain seated at all times).
- Talk about safety procedures and emergency action plans.
- Discuss preventing falls overboard:
 - Maintain three points of contact, keep your weight low and close to the centerline (balance issues may occur).
 - Watch crew members and frequently check that everyone is aboard.
 - Wear deck-gripping shoes (bare feet have poor traction).
 - Avoid rough water and weather conditions whenever possible.
 - Limit alcohol use and discuss physical effects resulting from on water activities.
- Discuss swamping and capsizing prevention.
 - Don't overload your boat.

If capsizing occurs, stay with the boat and make sure everyone has a life jacket. Stay calm. If the boat can be righted, bail out as much water as possible, get in and paddle towards shore. If capsized or overboard in a river, swim downstream, feet first, to avoid potential head injury and entrapment.

Keep a lookout:

- Assign a passenger to keep watch around the propeller area of your boat when people are in the water.
- Never allow passengers to board or exit your boat from the water when the engine is on or idling (your propeller may continue to spin). Turn the engine off.
- Be especially alert when operating in congested areas, and never enter swimming zones.
- Take extra precautions near boats that are towing skiers or tubers.
- Never permit passengers to ride on the bow, gunwale, transom, seat backs or other locations where they may fall overboard.
- Children should be watched carefully while onboard.

Consider purchasing propeller safety devices for your boat. A variety of safety devices are available to help prevent propeller strikes.

EMERGENCY ACTION FOR FALLS OVERBOARD AND PROPELLER STRIKES

- 1. Shout "Man Overboard" immediately.
- 2. Signal for assistance from passengers, crew or other boaters. Have someone call for assistance over the radio, if available.
- 3. Stop the boat immediately.
- 4. Toss a life jacket to the person overboard or any item that will float such as an empty ice cooler. Even if the person is wearing a jacket, it will help improve visibility and provide additional flotation.
- Assign someone to constantly point at the person in the water. Never let the victim out of sight.
- 6. Avoid running the person over.
- 7. Approach against the wind, waves or current.
- 8. Come close to the victim.
- 9. Shift into reverse to stop forward motion.
- 10. Put engine in neutral gear or shut off the engine to stop the propeller from turning. It may be safer to trail a life jacket on a line astern and circle until the person can grasp it.
- 11. If the boat has a low freeboard, bring the person over the transom. Be alert for hot motors, exhaust pipes and carbon monoxide.
- 12. High freeboard, use a swim platform or ladder and rig a sling, rope ladder or knotted line.
- 13. A non-powered boat must be stabilized before attempting to bring the victim into the boat.

Rescue and Survival

No one should ever count on being rescued. Boaters must be prepared for mishaps on the water. Drowning can occur within a few feet of safety. Even those who cannot swim can save a life if they know some basic rescue techniques.

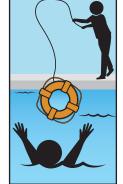


RESCUE SEQUENCE

- Self rescue: The rescuer should try to talk the person in trouble into self-rescue and avoid endangering themselves unnecessarily.
- Reach: A fishing rod, shirt, towel, branch, oar, pole, boat hook or other object can be used to reach out to the victim. If nothing is available and the victim is within arm's reach, the rescuer should lie flat and extend a leg to the victim, pulling them to safety.

THROW

- 3. Throw: If the victim is too far for the reach rescue, the rescuer should throw a rope, life jacket, empty jug, ice chest, gas can or anything else that will float to the victim. Rescue line bags are excellent items to keep on a boat.
- 4. **Row:** The rescuer may boat out to the victim and



- extend an oar or paddle. The victim should be brought back onboard over the stern (back) of the boat. They should be pulled onboard as carefully as possible. If it isn't possible to bring them onboard, the rescuer should have them hold on to the boat or hold them until help arrives.
- 5. Go: Swimming rescues are for trained lifesavers only. A swimming rescue should never be tried until all other basic rescue methods have been ruled out. Rescuers who must swim to a victim should wear a life jacket and take a floating object with them to extend to the victim. Rescuers should avoid personal contact with the victim unless they have had lifeguard training. Even then, it is used only as a last resort.

The method of rescue depends on the rescuer's training and skill, the condition and location of the victim, the equipment available, and what additional support is available at the scene.

Cold Water Shock

Cold water shock is a major factor in boating fatalities. It happens when someone is suddenly immersed in cold water. The water does not have to be freezing; cold water shock often occurs in water temperatures above $50^{\rm o}$ E.

The body's first response to cold water shock is usually an involuntary gasp (torso reflex). Hyperventilation (rapid breathing) and breathlessness

follow. The person may feel claustrophobic, panicked and confused. Cold water greatly reduces the victim's ability to hold his or her breath, control breathing and impairs the ability to swim.

Hypothermia

Hypothermia is the lowering of the body's core temperature. It is a factor in many fatal boating accidents. Cold water robs the body of heat much faster than cold air of the same temperature.

Hypothermia begins with shivering and a loss of feeling in the extremities. Cold, blue skin, decreased mental skills and slurred speech are common symptoms. Unconsciousness can be followed by death. Warm layered clothing, a life jacket and eating highenergy foods will help prevent hypothermia.

FOUR STAGES OF COLD WATER IMMERSION

Cold water shock is a rapid development of a number of shock responses caused by cold water immersion that can result in sudden drowning.

- Initial cold shock (first 3-5 minutes):
 Sudden immersion in cold water causes the gasp reflex; this can result in water inhalation, hyperventilation, changes in heart rate and rhythm, changes in blood pressure, and panic. All of these reactions may result in death, especially for those with pre-existing heart conditions.
- Short term swim failure (3-30 minutes):
 Cold water saps energy and arms and legs become weak. Movement is difficult and slow.
 Death can occur by drowning, as the victim can no longer stay afloat.
- 3. Long term hypothermia (30 minutes +):
 The body loses heat to cold water 25 times faster than cold air. The body becomes hypothermic when it loses heat at a rate faster than it can generate heat. Continued exposure leads to unconsciousness and death. At this stage, death may occur without drowning.
- 4. Post immersion collapse:

This stage occurs during or after rescue. The body is still hypothermic and death may occur due to complications from inhaling water or lowered body temperature.

FIRST AID FOR HYPOTHERMIA

- 1. Get the person out of the water or weather as quickly as possible.
- Replace wet clothing with dry clothing. Wrap the person in blankets to warm the person slowly.
- Handle hypothermia victims gently and do not give anything by mouth if they are unconscious. Never give alcohol to a hypothermia victim.
- 4. Get medical help as soon as possible.

COLD WATER SURVIVAL

- Wear a life jacket. Flotation coats also offer insulation from the cold.
- Wear clothing that still insulates when wet such as wool, fleece or other synthetics.
- If you know you are about to fall into cold water, cover your mouth and nose with your hands, so you don't inhale water.

- Do not remove your clothing.
- Get back into or climb on top of the boat.
- If you can't get out of the water and shore is too far, get into the Heat Escape Lessening Posture (HELP).



Alcohol and Boating

When on a boat, the effects of alcohol are magnified and cause reduced judgement. Combined with stresses from wind, motion and heat, your ability to think and perform basic tasks needed to safely operate your boat may become impaired. It is illegal to operate a boat while under the influence of alcohol or a controlled substance. Alcohol is prohibited on land and water at all state parks and at most United States Army Corps of Engineers projects. Pre-arrest breath tests can be used by officers to determine the probability that a boat operator is under the influence. A blood alcohol concentration of 0.08% or more is considered to be over the legal limit (0.02% blood alcohol concentration for minors). Penalties include loss of boating privileges, significant fines and imprisonment. An officer can stop a boat and arrest.

Courtesy Vessel Safety Checks

A Vessel Safety Check (VSC) is a free courtesy examination of private recreational boats to verify the presence and condition of safety equipment required by state and federal regulations. The boat examiner is a trained member of the United States Power Squadrons or the USCG Auxiliary. Persons whose boats fail the examination are informed of all shortcomings, so they may correct them and be given a chance for reexamination and the awarding of the decal. Boats that pass may display the distinctive VSC decal, which entitles the boat owner to discounts at some marine dealers (see website for details). Learn more about VSCs or arrange a free VSC by visiting www.cgaux.org/vsc.

Boating Accidents

Each operator of a boat involved in a boating accident must stop, render assistance, and offer identification if doing so will not endanger yourself or passengers. If the accident results in a death or disappearance, the Pennsylvania Fish and Boat Commission must be notified immediately, followed by a written boating accident report within 48 hours. If the accident results in an injury that requires treatment beyond first aid, a written boating accident report must be submitted within 48 hours. If the accident results in damage to the boat or other property exceeding \$2,000, or if there is a complete loss of the boat, a written boating accident report must be submitted within 10 days. All reports are confidential and for the use of the Commission for boating safety purposes only. Boating Accident Report Forms (PFBC 260) are available on the Commission's website. Reports must be sent to: Pennsylvania Fish and Boat Commission, Bureau of Boating, P.O. Box 67000, Harrisburg, PA 17106-7000.

Law Enforcement

Enforcement of boating laws and regulations, along with providing for safety on Pennsylvania waters, is the responsibility of the PFBC's



Waterways Conservation Officers. Some of the waters of the state are also patrolled by other agencies such as the Bureau of State Parks, United States Army Corps of Engineers, USCG and the National Park Service.

Boaters approached by a patrol boat with its blue light flashing must reduce speed to slow, no-wake and yield the right of way to the patrol boat. The operator shall stop when requested to do so by a law enforcement officer. Violators can expect enforcement action. Persons who violate boating laws and regulations are subject to arrest, and upon conviction, the boat operator may be found guilty of a summary offense or misdemeanor. The penalty can be a fine and/or jail sentence. The PFBC is also authorized by law to revoke, suspend or deny the boating privileges of persons who are convicted of violating the boating laws and regulations. Persons whose boating privileges are subject to revocation, suspension or denial will be notified in writing and given the opportunity for a hearing.

PFBC Lakes and Access Areas

Any boat, powered or unpowered, using a PFBC lake or access area, must display a current registration or launch permit. Inflatable boats less than 7 feet in length or which are not constructed of durable fabric and do not have at least two separate buoyancy chambers are prohibited.

Overnight mooring is permitted if the boat has a current registration. Boats may be moored from March 1 through November 30 at designated areas. Launch permits do not allow these same privileges.

The following acts are prohibited on the PFBC property:

- Camping, building or maintaining fires
- Picking, cutting, or digging flowers, plants, shrubs, or trees
- Swimming at Commission access areas or in Commission-owned lakes
- Leaving trash, garbage or debris, except as placed in containers provided for such purposes and accumulated only during the use of Commission property
- Removing or defacing any sign, poster or property

- Overnight sleeping in boats, automotive vehicles, tents, campers or the like
- Blocking driveways, access roads or launch ramps
- · Parking in undesignated areas

While on Commission property, dogs must be licensed and under control. When the dog is on a lawn area, trail or parking lot, it must be on a leash not to exceed 6 feet in length. The maximum number of dogs that an owner or handler is permitted to have on Commission property at one time is two. Droppings must be immediately scooped and disposed of off Commission property. The owner or handler is responsible for the conduct of the dog.

To learn more about amenities and accessibility of PFBC properties, see page 20 of the *Pennsylvania Fishing Summary* and visit **fishandboat.com**.

Permits

All tournaments, regattas, races, parades and exhibitions must be authorized by the PFBC or Coast Guard. An application must be filed with the Commission at least 60 days prior to such event. Forms are available from the Bureau of Law Enforcement.

A ski ramp, floating dock, swim dock or other floating structure must have a permit from the Commission to be placed on any waters. Waterway markers, including signs and buoys, must have a permit from the Commission. Permit applications (PFBC 277) can be found on the Commission's website.

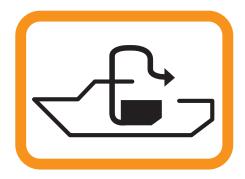
Marine Sanitation Devices (MSD)

The Water Quality Act of 1987 requires the installation of an MSD on all boats 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 USCG approved. Portable toilets are not considered installed toilets. Direct overboard discharge of portable toilet waste is a violation of state water regulations.

Discharge of sewage, treated or untreated, is prohibited in all fresh water impoundments lying entirely within the boundaries of the state. When boating on these waters, if your watercraft is equipped with an installed toilet system, it must be removed, sealed or drained into a holding tank, which can be carried or pumped ashore for disposal at an approved sewage treatment system.

Pre-plan your trip: find pumpout locations on the PFBC website or look for the waterway sign below that indicates their availability.



Littering and Pollution

Plastic bags, discarded fishing line, and other garbage kill fish, waterfowl, and wild-life. Before throwing away six-pack rings, snip each circle with scissors. Once the rings are cut, no animal can get caught in the rings. In Pennsylvania, it is unlawful for any person to litter. If something blows out of your boat, go back and remove the object(s) from the water. Cigarette butts tossed in Pennsylvania waters is considered littering. Properly dispose of all litter, and report water pollution.

If you see any source or indication of pollution, such as dead fish, call the PFBC's Pollution Hotline at 855-FISH-KIL, or the Department of Environmental Protection at 800-541-2050, or the appropriate PFBC regional office. During after-hours, weekends and holidays, call the Department of Environmental Protection at 717-787-4343.



WASTE, OIL AND TRASH DISPOSAL IN PENNSYLVANIA AND FEDERAL WATERS

It is illegal to discharge sewage or other human waste, oil or trash into any state or federally controlled waters. Sewage carries disease and other pollutants harmful to people, aquatic plants, and animals. Trash thrown into the water can injure swimmers and wildlife alike. It can also plug engine cooling water intakes.

The Refuse Act prohibits throwing, discharging or depositing any refuse matter of any kind (including trash, garbage, oil and other liquid pollutants) into the waters of the United States.

Discharge of oil and other hazardous substances:

- Regulations issued under the Federal Water Pollution Control Act require all boats with propulsion machinery to be able to retain oil mixtures on board.
- Discharge of oil or hazardous substances is prohibited. The penalty for illegal discharge may be a fine of up to \$10,000.
- Dumping oil into the bilge of the boat without means for proper disposal is also prohibited. Fuel spills can be removed using absorbent bilge pads.
- Oil waste must be disposed at an approved reception facility. On recreational boats, a bucket or bailer is adequate for temporary storage prior to disposing of the oil waste at an approved facility.
- Notify the Coast Guard immediately if your boat discharges oil or a hazardous substance into the water. Call toll-free 800-424-8802. Report the discharge's location, color, source, substances, size and time observed. You must also call the Pennsylvania Department of Environmental Protection and report the discharge.
- If boating on federally controlled waters and your boat is 26 feet or longer, you must display a 5- x 8-inch placard made of durable material,

fixed in a conspicuous place in the machinery spaces or at the bilge pump control station, stating the following:

DISCHARGE OF OIL PROHIBITED

The Federal Water Pollution Control Act prohibits the discharge of oil or oily waste upon or into any navigable waters of the United States. The prohibition includes any discharge, which causes a film or discoloration of the surface of the water or causes a sludge or emulsion beneath the surface of the water. Violator's are subject to substantial civil and/or criminal sanctions including fines and imprisonment.



FLOAT PLAN

Complete this information before going boating and leave it with a reliable person. When you return, remember to contact that person.

Digital Float Plan:
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44246
fishendheat com/Pacting/

Documents/FloatPlan.pdf 5. Automobile Make/Model: _____ 1. Contact Name: Address: Color: _____ License Plate Number: _____ Parked at: E-mail: _____ **2.** Boat Type: _____ 6. Leaving From: _____ Date: ______ Time: _____ Length: _____ Returning To: _____ Date: _____ Time: _____ Registration Number: _____ Choose one: **7.** Stop 1: _____ (Location) Inboard ____ Sail ____ Outboard ____ Other____ (Time) Canoe/kayak/SUP____ Stop 2: _____ (Location) 3. Operator Name: (Time) Phone:___ Stop 3: _____ Passenger Name: ______ (Location) (Time) Stop 4: _____ Passenger Name:_____ (Location) Phone:_____ (Time) Passenger Name: **8.** Emergency Contact (if not returned by): Phone:___ Date: ______ Time: _____ Name/Relationship: **4.** CB: __ (Yes) Phone: ___

Boat and Gear Cleaning Requirements

Aquatic Invasive Species (AIS) are plants and animals that have been introduced into new ecosystems and have environmental, recreational, economic or health impacts. These invaders may damage equipment and compete with native species. Anglers and boaters may unknowingly introduce AIS into new waters.

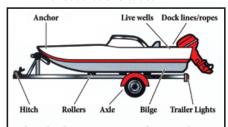
Do not transport any plants, fish or other aquatic life from one body of water to another. Do not release unused bait into the waters you are fishing. Dump unused bait in a trash can.

CHECK

Inspect every inch of your boat, trailer and fishing gear before leaving any body of water. Remove and leave behind plants, mud and aquatic life.

Check your boat

- · Anchor and line
- Live wells
- Motor lower unit
- · Hull and bilge
- Trailer hitch, rollers, lights and axle
- · Life jackets
- Swimming floats, water skis, wakeboards and tubes



Check these areas of your boat

Check your fishing gear

- Shoes or boots
- Clothing
- Fishing vests
- · Fishing rod, reel and line
- Hooks and lures
- Tackle boxes

Remove

- · Visible plants
- Fish or other aquatic animals
- · Mud and dirt

Do not transport any potential hitchhiker, even back to your home. Remove and leave them at the site you visited.

DRAIN

Drain water from all equipment before leaving the area you are visiting. Some species may live for months in water that has not been removed.

- Motors
- Jet drives
- · Live wells
- Compartments
- Boat hulls
- Bilae
- Shoes, boots and waders
- Bait buckets
- · Life jackets
- Swimming floats, water skis, wakeboards and tubes
- Kayaks (pull open plugs)

CLEAN

Many AIS are microscopic and can't be seen. It's important to clean your gear even if it doesn't appear to have anything on it. Follow the cleaning instructions below after the water has been removed.

- Use hot (140° F) water to clean your equipment.
- Spray equipment with a highpressure washer. If hot water is not available, a commercial hot water car wash also makes an ideal location to wash your boat, motor and trailer.
- Freezing gear for at least 6 hours will kill most AIS.

DRY

Dry everything before entering new waters. Allow equipment to dry to the touch, and then allow it to dry another 48 hours. Thick and dense material like life jackets and felt-soled wading gear will hold moisture longer, take longer to dry and can be more difficult to clean.

STOP INVASIVE CARP!

Bighead, Silver and Black Carp are invasive carp. It is unlawful to possess, introduce or import, transport, sell, purchase, offer for sale or barter these species in Pennsylvania. These species pose a significant threat to the biodiversity of native species and habitat, along with imposing safety risks to boaters.

Invasive carp had a devastating impact in the Mississippi River system and now pose this threat to the Great Lakes Basin. As AIS, these fish do not naturally occur in Pennsylvania waters and would only occur if transported and released.

These carp species are a threat due to their large size (some can grow to more than 100 pounds and 5 feet in length), reproductive success, habitat damage and large, year-round food consumption. In addition, Silver Carp, when startled, can jump up to 10 feet out of the water, striking boaters and causing severe injury.

For more information and to report sightings or catches of these fish species and other AIS, go to **fishandboat.com.**

Grass Carp are also known as invasive carp. Diploid Grass Carp are banned from stocking in Pennsylvania, but Triploid (sterile) Grass Carp are allowed to be stocked in lakes and ponds with a PFBC-approved permit.

YOU ARE REQUIRED TO STOP AQUATIC HITCHHIKERS!

Tips for New Zealand Mudsnails:

- · Freeze gear for a minimum of 6 hours.
- Soak gear in hot (>120 Fahrenheit) water for at least 5 minutes.
- Soak gear in a 1:1 solution of Formula 409 Degreaser Disinfectant and water (other typical AIS disinfection methods and other 409 brand products are not effective in killing New Zealand Mudsnails).



Conservation/AIS/ Pages/New-Zealand-Mudsnail.aspx

New Regulations Effective January 1, 2024

A Waterways Conservation Officer may order:

- The removal of aquatic plants or prohibited species from a watercraft, trailer or water-related equipment before transport or before immersing in Commonwealth waters.
- · Confinement of the watercraft at a mooring, dock or other location until the related equipment is removed from the water.
- Removal of a watercraft from a Commonwealth water to remove prohibited AIS if the water has not previously been known
 to be infected with that species. Find lists of known waters of the Commonwealth with AIS in the United States Geological
 Survey's Nonindigenous Aquatic Species database.
- A prohibition of a watercraft into a Commonwealth water when the watercraft has aquatic plants or prohibited AIS attached or when water has not been drained or the drain plug not removed.
- Decontamination of a watercraft, if possible, on site.





ALWAYS WEAR YOUR LIFE JACKET.

More than 80% of boating fatalities happen to boaters who are not wearing a life jacket.

More information at FishandBoat.com

