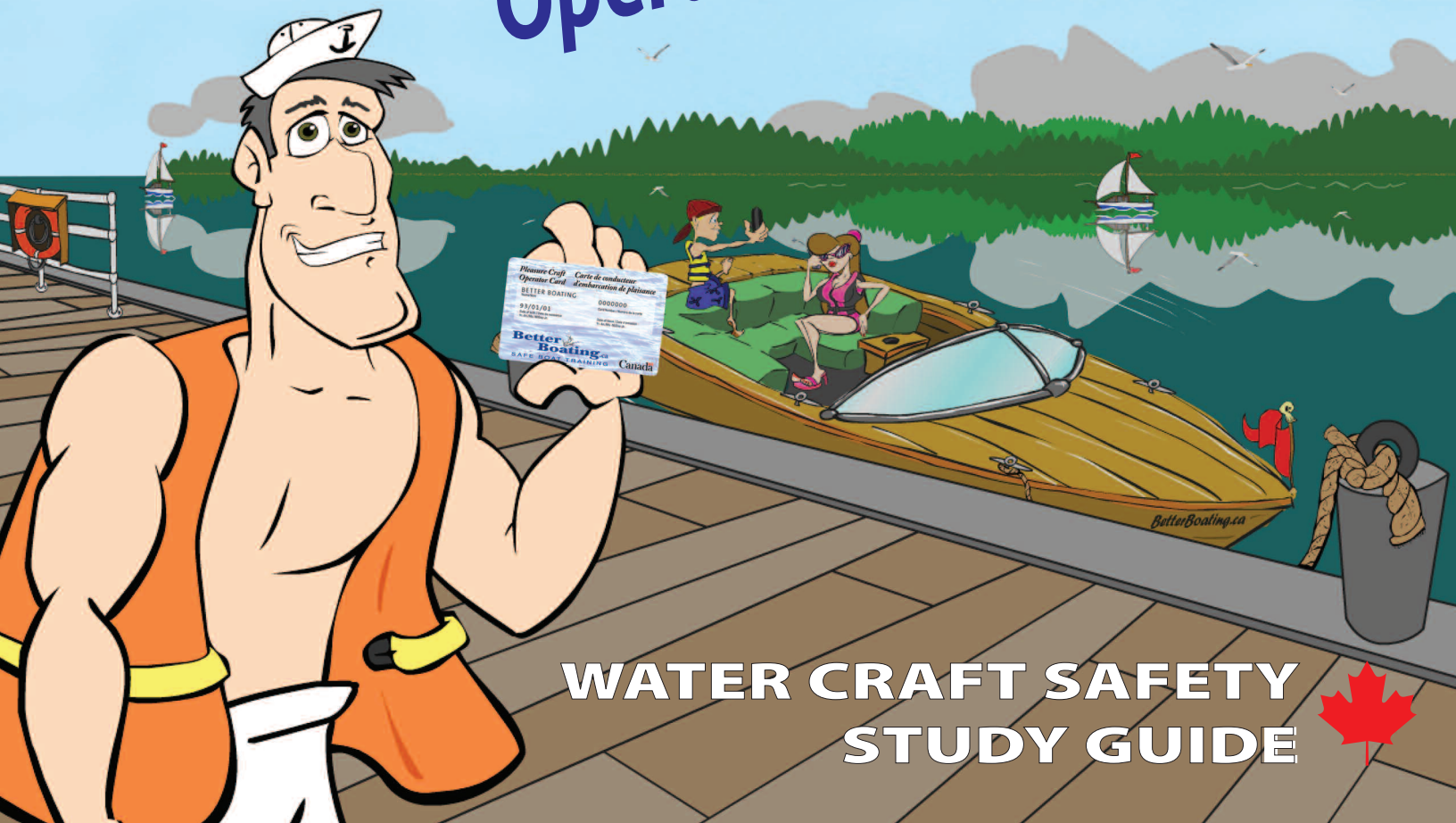


OFFICIALLY
APPROVED

Better BoatingTM.ca



Get your
Pleasure Craft
Operator Card today!



WATER CRAFT SAFETY
STUDY GUIDE



This boating safety course manual has been approved by Transport Canada strictly on the basis that it meets the minimum requirements of boating safety knowledge set out in Transport Canada's *Boating Safety Course and Test Syllabus* (TP14932 E).

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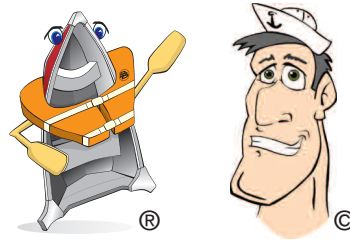
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Disclaimer:

The contents contained in this publication are for general information only. This publication should not be regarded or relied upon as a definitive guide to boating safety practices. The contents of this publication were, to the best of our knowledge, current at the time of printing. However, no representations of any kind are made with regard to the accuracy, completeness or sufficiency of the contents. The appropriate regulations and statutes should be consulted. Readers should not act on the information contained herein without seeking specific independent advice on their specific circumstance. For more information please consult the Collision Regulations.

For more information please visit www.betterboating.ca



We at Better Boating would like to take this opportunity to thank you for taking the time to become an educated boater.

Canada has more than 244106 square kilometres of water not including the Atlantic and Pacific Oceans and more than 35,000 islands. This amount of surface area is to provide more than enough water for all to enjoy and enjoy it you should.

Our course was written with the novice boater in mind and is not intended for a person who intends to pursue an ocean going voyage.

It is Better Boating's intention to provide you with the basics in navigation and boat handling skills, so you may confidently and safely enjoy countless hours on the water. After reading our course you will be more than prepared to pass the Pleasure Craft Operator Exam.

I would like to take this opportunity to personally thank family members, friends, Transport Canada Staff and the corporate companies who took the time from their busy schedules to contribute to this venture.

Sincerely,

Todd Powis
President
Better Boating Ltd.



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Since September 15, 2009, everyone who operates a motorized pleasure craft must carry proof of competency on board at all times. Proof of competency is not required for pleasure crafts without motors.

Proof of competency can take one of three different forms:

- A Pleasure Craft Operator Card;
- A certificate that states you have successfully completed a boating safety course in Canada before April 1, 1999;
- A Boat Rental Safety checklist is also valid proof of competency in the case a person is renting a boat from a rental agency and does not have a Pleasure Craft Operator Card or other recognized certificate.
- A valid rental checklist must explain to the renter:
- The obligations to comply with current acts, regulations and codes (know the rules of the road and failure to follow the law may result in tickets or fines)
- How to use the required safety equipment such as wearing a PFD to prevent drowning
- How operate the rented pleasure craft fitted with a motor such as knowing how to start and turn off the engine.
- How to act responsible while out on the water, such as maintaining a proper look out.
- How to respond to emergencies such as capsizing or swamping
- Make you aware of local hazards such as low-head dams; rapids; sudden winds; tides
- Knowing the location of and knowing how to use safety equipment

It should be noted that a Marine certificate such as Master Mariner also qualifies as proof of competency. For more information on rental checklists or a complete list of Marine certificates that qualify as proof of competency please Google Transport Canada.

Youth less than 16 years of age may not operate boats with motors over certain horsepower limits unless someone 16 years of age and certified or older is in the boat and directly supervising them.

Are you old enough to operate a motorized boat? Find out from the chart below.

AGE	HORSEPOWER RESTRICTIONS
Under 12 years of age with no direct supervision	May operate a boat with up to 10 hp (7.5 kW)
Ages 12 to 16 with no direct supervision	May operate a boat with up to 40 hp (30 kW)
Under 16 years of age, regardless of supervision	May not operate a PWC
16 years of age or older	No horsepower restrictions

These restrictions and regulations do not currently apply in the Northwest Territories and Nunavut. Remember that these restrictions are separate from the requirement for proof of competency and both must be followed. **This means that youth under 16 require proof of competency to operate any motorized pleasure craft, supervised or not. Directly supervised means:** accompanied and directly supervised in the boat, by a person who is 16 years of age or older.



Visitors to Canada

All boaters (both residents and visitors) on Canadian waters are expected to know and obey the rules that apply in Canada. However, if you are a non-resident of Canada and are operating a boat in Canadian waters, the exceptions below apply to you.

If you are a non-resident visiting Canada with your boat, you are not required to carry proof of competency on board as long as your boat is in Canada for less than 45 consecutive days.

If you are a non-resident visiting Canada and will be operating your boat in Canadian waters for more than 45 consecutive days, you may use an operator card or similar proof of competency issued by your home state or country. Eitherway, you must also keep proof of residence on board with you at all times. The above does not apply the Northwest Territories or Nunavut.

When operating a boat in Canadian waters all persons must obey the following acts, codes and regulations. The law applies whether you own your boat, loan your boat to someone or if you rent a boat. It is your responsibility to keep up to date on the following laws and regulations; disregard for any one them may lead to fines and or penalties.

Codes, Regulations and Acts

- The Canada Shipping Act 2001
- The Collision Regulations (as described in Canada Shipping Act 2001)
- The Small Vessel Regulations (as described in Canada Shipping Act 2001)
- The Charts and Nautical Publications Regulations
- The Contravention's Act
- Vessel Operation Restriction Regulations
- The Criminal Code of Canada



You may receive a fine for:

- Not carrying enough approved lifejackets on board-\$200
- Not carrying proof of competency on board-\$250
- Not having carrying Pleasure Craft License on board-\$250

- Careless operation-\$200
- Speeding-\$100
- Allowing someone under age to operate a boat-\$250
- Operating a boat under age-\$100
- Operating a boat without a working muffler in good condition-\$100
- Towing a person without a spotter-\$100

Please note:

- The above do not include victim surcharge fees
- You should also know that some boating offences can result in fines to both the operator of the boat as well as to the person who allowed the operation of the boat. An example of this would be allowing someone under the age of 16 to operate your PWC.

Enforcement on the Water

The Royal Canadian Mounted Police (RCMP), Provincial and Municipal Police Force and local authorities enforce the law. They may inspect your boat and monitor your boating activities to make sure that requirements are being met. This may include checking for safety equipment, structural integrity of your boat or your Pleasure Craft Operator Card (P.C.O.C.).

Enforcement Officers may:

- Ask for ID
- Ask for proof of competency
- Ask any pertinent questions
- or board your vessel

Entering U.S. waters

Since September 11, 2001 anyone entering U.S. waterways is required to follow some strict immigration rules.

Before heading to the U.S. by water, it is a good idea to contact the U.S. immigration office or visit www.uscgboating.org for the latest updates regarding U.S. Homeland Security procedures.



When in U.S. waters

Always carry identification such as a passport or other document that shows your identity and citizenship. Do not approach within 91.44m (100 yards) of any naval vessel. Slow down to idle speed when within 457.20m (500 yards) of any U.S. naval vessel, follow the commanding officers directions.

Before you pass within 91.44m (100 yards) of a U.S. naval vessel, contact must be made first with naval vessel or its U.S. Coast Guard escort vessel on VFH-FM channel 16. Follow their directions precisely or face severe consequences, such as penitentiary time or worse, being fired upon. Stay well clear of commercial shipping ports, cruise liners, oil refineries, hydro plants, hydro dams and all other infrastructure buildings or ports. Do not stop or anchor beneath bridges. If you do, expect to be boarded by law enforcement officials who will treat you as a national threat.

Operators of pleasure vessels arriving in the United States from a foreign port or place and who wish to go ashore are required to report their arrival to Customs and Border Patrol (CBP) immediately. Pleasure boats from foreign countries

must obtain clearance before leaving a port or place in the U.S. and proceeding either to a foreign port or place or going to another port or place in the U.S. Disregard of the above mentioned will result in immediate boarding, fines and or imprisonment! For the latest updates contact the U.S. Coast Guard or visit www.uscgboating.org You must report all suspicious activity to the C.B.P. or local authorities.

Buying a boat



Whether you are buying a new or a pre-owned boat, the old saying "YOU GET WHAT YOU PAY FOR" is true. Buying a boat can be an overwhelming experience; there are many decisions to be made and questions to ask. Buying a boat should be a family decision.

We will not advise you on a make or model, this has to be your choice. We will however tell you to buy quality. A boat is as sizeable investment and should last you for years to come. Ask yourself, what kind of boating you will be doing? Will you be fishing, water skiing, sightseeing, or a combination of activities? Purchase what is practical and sensible for your lifestyle.

Get a feel for the boat by standing on it, touching it and pulling on fittings, controls, and hatches. Give it a thorough inspection, bow to stern. Check the integrity and workmanship of fittings, wires, cables and hoses are they securely fastened and hung appropriately.

When buying pre-owned the biggest factor to consider should be, is it seaworthy? Simply put, will it float and is it safe to operate? Inspect the vessel from bow to stern, pushing and pulling on every fitting as you go. When equipped with one, check the windshield for safety glass. In addition, check the frame for integrity, people tend to lean on the frame while driving or when exiting the boat. A simple way to test the hull for holes is to fill the bilge area with water, a boat that holds water should keep water out! Of course not all sellers will let you do this, so whenever possible take it out on the water and put it through its paces.

When purchasing a boat, more than 6 meters in length utilizing the services of a marine surveyor is a worthwhile investment. They will examine the boat for soundness and give you an approximate value of the boat. Attending boat shows, fishing shows, and surfing the internet all help to make an informed and educated decision as to what make of boat to purchase. Whether you decide to buy new, or pre owned, the point is to purchase a boat that the whole family will enjoy for years to come!

Hull types

There are two type of hull designs, planing and displacement.



Planing hull *



Displacement hull **

While you are operating a boat, you will notice that it creates a bow wave. The wave is created by the initial pushing of water by the boat. All boats create a bow wave, the difference is a planing hull will climb up and overtop of this wave and skip along the surface once sufficient power has been applied. Planing hulls can achieve great speeds but are not suitable for big rolling waves (swells) or rough waters, as they tend to bounce and skip off course, resulting in injuries to the spine and falls overboard! An example of a planing vessel is a P.W.C.

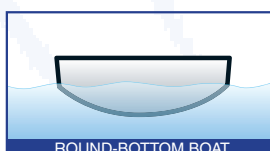
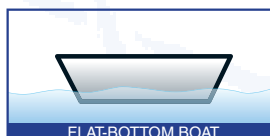
Displacement hulls will not ride on top of the bow wave. Thier design relies on the hulls "v" shaped bow to push the water out of the way, resulting in a smoother more stable ride than a planing hull but at slower speeds than planing hulls.

Both hull designs create a wake (the wave created by a passing boat) as they move along and it is the wake that you must control so as not to rock docks, other boaters and to protect the shoreline from erosion.

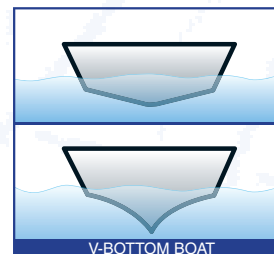
Flat bottom (planing) hulls require little draft (water depth required to safely float a boat) Examples, include ski and bass boats.

Round-bottom (planing and displacement) boats are fast but tipped easily unless stabilized by a keel, they have very little draft. Examples include sailboats, and canoes.

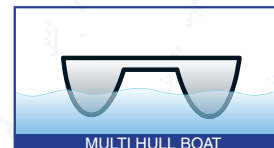
TYPES OF HULLS



V-bottom (can be planing and displacement) rides smooth and comfortable in rough water, requires more water depth than a flat bottom boat, and is found on a variety of boats.



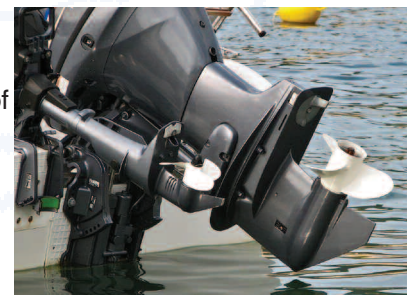
Multi hulls (planing and displacement) are one of the most stable hull designs. Examples; pontoon boats, and catamarans.



Types of motors

Outboard motors

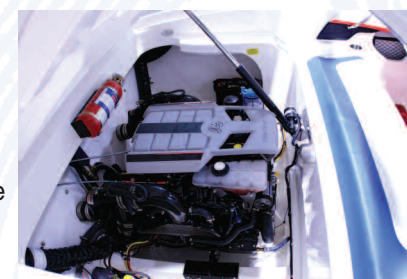
Outboard motors are a popular method of propelling many types of boats such as bow riders and aluminium boats. They come in many different power ranges and can be two or four stroke. Newer 4



stoke outboards are extremely quiet and fuel efficient. This type of motor is completely external to the boat. In addition, they are available in a wide variety of models. Smaller models such as 9.9 hp (7.5kw) motors (kickers or tillers) are a favourite on small utility boats and are used on other type's boats for fishing. Propulsion is achieved from the **discharge current**. Discharge current is the water pushed by the screw (propeller); steering is achieved by turning entire motor via a handle or steering wheel, which in turn controls the discharge current. Water passing over the lower unit can provide limited steering when power is cut.

Inboard/Outboard motors (I/O)

Inboard /outboard (I/O) motors, are usually on vessels 6m (19.69ft) or more in length. They are available in many different power ranges. The engine is mounted



inside the vessel and the propulsion unit, called the stern drive/outdrive (similar to an outboard) is mounted outside the vessel. Propulsion is achieved from **discharge current** of the water being pushed by the screw (propeller). Steering is achieved by turning the stern drive (out drive) via the steering wheel. Water passing over the lower unit can provide limited steering if power is cut.

Inboard motors

Inboard motors come in many power ranges. They can be diesel or gas engines, and are mounted inside the vessel toward the centre of the vessel. **This provides good weight distribution and helps with the centre of gravity.** The motor is connected to the propeller shaft that passes

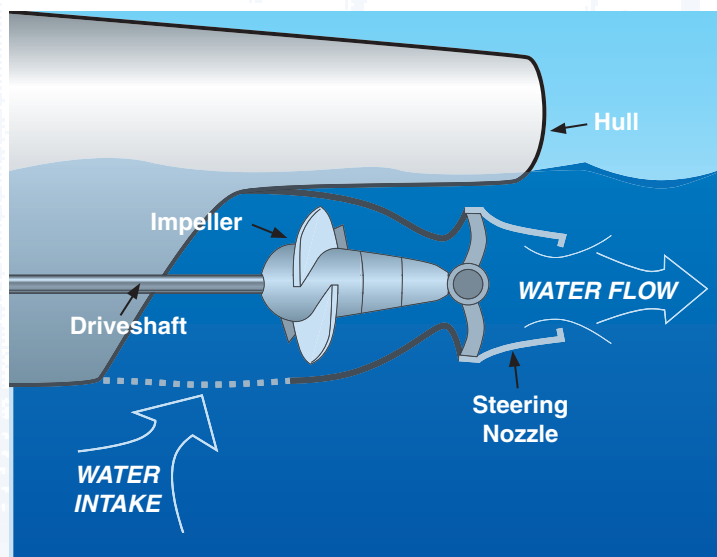
through the hull of the vessel. Propulsion is achieved from **discharge current** of the water being pushed by the screw (propeller). Steering is achieved by **water passing over a rudder**. Water passing over the rudder can provide limited steering when power is cut.

Note: when going astern (reverse) the screw may walk (pull) the boat to one side or the other.

Electric motors

Electric motors are available in many different models. Power is measured in thrust not horse power. Their very quiet operation makes them popular for fishing and sight seeing.

Jet drive motors



Jet drive motors are found in P.W.C. and jet boats. They are either two or four stroke inboard engines that suck in vast amounts of water through an opening under the vessel, which then flows through a pump impeller, powered by the engine. The water is then discharged at very high pressure through a nozzle at the rear of the vessel. This moves the boat ahead. The nozzle is swivelled via handlebars or a steering wheel. The advantage this propulsion system has over other types is that there is no external propeller to injure a person. **You should be aware that while operating a jet drive propelled vessel at low speeds (i.e. docking) the steering will not be as responsive as operating at higher speeds.** Reverse (going astern) is achieved utilizing a cowling that redirects the flow of water exiting the nozzle.

Choosing the right type of motor for your boat is very important. Both its weight and horsepower will have an impact on the performance of your boat. If your boat is underpowered, the engine will be over taxed, resulting in inefficient gas consumption. Additionally, if your boat is overpowered, it may exceed the safe operating speed that the boat was rated for based on its design and construction. Regardless of type, always read and follow the manufacturer's operating instructions especially with regards to break-in periods, oil types, oil levels and oil mixtures.

Licensing a boat

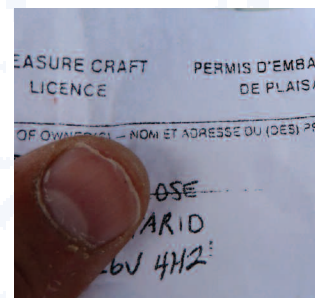
Whether buying a new or pre-owned boat vessels fitted with a motor or more than two motors that add up to more than 10 (7.5 KW) horsepower must be licensed This includes personal



watercraft, and dinghies. As of 2010, amphibious vehicles such as Argos also require a vessel license. Sometimes a boat license is referred to as Pleasure craft license to operate a boat the two are different and should not be confused. A boat license /vessel license is for identifying the boat. A Pleasure craft license is not really a license it is actually called a Pleasure Craft Operators Card P.C.O.C. that shows you the operator are competent to operate the boat.

The vessel license is issued free of charge, as of May 12 2010 the license is valid for 10 years. **A change in ownership or address must be registered with the proper authorities within 90 days.** Licenses issued previous to May 12 2010 must be updated immediately if you have moved or sold the boat and will be **valid for 10 years** from the updated time.

A copy of your license must be carried **on board at all times**, even if you lend your vessel to some else. For safety, keep it in a watertight container or sealed bag.

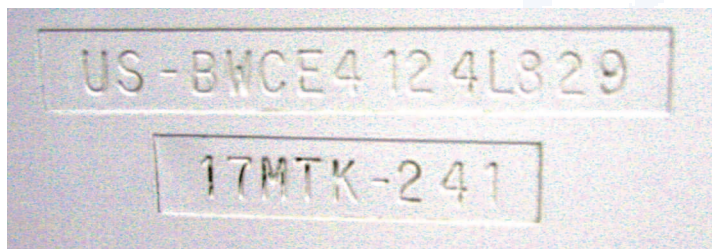


The license numbers must be **BLOCK LETTERS, not less than 3 inches (7.5 cm) high** and in a colour, that contrasts to the boats hull. Further, they must be permanently attached to the vessel, as close as possible to the bow so it is visible from each side of the vessel. For more information about Pleasure Craft Licensing and registration visit www.boatingsafety.gc.ca or 1-800-267-6687

Registration

Ever wondered how a boat gets a name like "THIRSTY FISHERMAN, VANCOUVER" or "LIVIN LARGE, ALBERTA"? A Pleasure Craft of any size can be voluntarily registered and given a name of your choice. Before submitting your application to Service Canada, you will be required to have your boat measured and surveyed. A small service fee will apply. You should pick three names for the boat as the first two may already be taken. Once registered, the name of the boat will be placed on the bow and your homeport on the stern. Sometimes both are placed on the stern. A registration number will be permanently marked in a hidden location, inside the boat to make removal impossible unless the boat needs repairs. A few advantages of registering your boat are proof of ownership (legal title) for your boat, a unique name, and official number for your boat; this allows a boat to be used to obtain a mortgage. For more information about Pleasure Craft Licensing and registration visit www.boatingsafety.gc.ca or 1-800-267-6687

Hull identification numbers



US Hull Identification Numbers (H.I.N.)

Every vessel built or imported for sale in Canada must be marked with a **Hull Serial Number (H.I.N.)** in accordance with the [Small Vessel Regulations \(Part 9\)](#).

The Hull Serial Number (H.I.N.) provides a uniform method for identifying:

- any specific vessel;
- the construction standards that apply to that specific vessel
- vessels subject to a manufacturer's defect recall; and
- a lost or stolen vessel

This H.I.N is 1/4 inch high, consists of 12 letters and or numbers and may begin with the manufacture's identification code. The H.I.N. can be found on the outside starboard side of the transom above the waterline. If the vessel does not have a transom the H.I.N. can be **found on the uppermost starboard side** at the aft end of the hull. A duplicate number can be found under a fitting, piece of hardware.

On a pontoon boat it can be found AFT (toward the stern of the boat) the cross beam, within one foot of the starboard hull attachment. A duplicate number may be found hidden on the interior of a boat or under a fitting or some item of hardware.

Every pleasure craft manufactured in Canada, or imported into Canada after August 1, 1981 shall be permanently marked with a Hull Identification Number/Hull Serial Number (H.I.N.)

When purchasing a boat from the U.S., you need to know the following about Hull Identification Numbers. Boats built after October 1972 in the U.S. are required to have a Hull Identification Number (H.I.N.) permanently attached to the transom (back of the boat) on the outboard starboard side (right side).

If a hull identification number is not present try contacting the manufacturer of the boat to obtain the H.I.N. In a case where the manufacture has gone out of business or you are unable to obtain a H.I.N. for your vessel you need not take any other action provided you can reasonably demonstrate to the authorities that you tried to obtain the H.I.N.

- No person shall remove, alter or otherwise tamper with a hull identification number
- You should record this number, in case of theft it may help identify your boat.

Vessels built for personal use do not require a H.I.N. Vessels built for resale must obtain a H.I.N. For more information on construction standards please contact Transport Canada 1 800 267 6687

Capacity plate/Compliance Notice

All pleasure craft of less than 24 metres, propelled or designed to be propelled by an engine must have a Compliance Notice also known as a Capacity Plate or Capacity Label.

A Compliance Notice is a statement from the manufacturer or importer that a vessel is built according to the construction requirements of the Small Vessel Regulations.

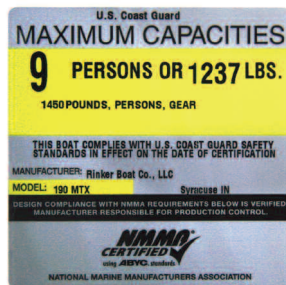
This includes home built boats. Labels /capacity plates from other countries are not valid for Canadian registered or licensed vessels. If your vessel has this notice, it will be permanently attached, in plain sight, usually near the shifter or the back of the boat. The notice indicates the gross load capacity in kilograms/pounds that can safely be carried in the hull as per the construction standards in fair weather conditions. Gross load capacity includes equipment, stores (supplies), fuel, people, and complete motor and helm (steering control) assembly. When there is no Compliance Notice on the boat, contact the manufacture, they may be able to supply one or at least advise you on the boats capacity rating. Be advised that the single vessel label for home built and used boats requirement is being phased out.

Transport Canada		Transports Canada		Canada
RATINGS IN FAIR WEATHER - RECOMMANDATIONS PAR BEAU TEMPS				
LOAD* - CHARGE*	OCCUPANTS	POWER - PUISSANCE		
461 kg	6	93 kW		
1015 lbs		125 HP		
NO. POZH3004				
*OCCUPANTS - GEAR		*OCCUPANTS - EQUIPEMENT		
BUILDER - CONSTRUCTEUR		MODEL - MODELE		
CAMPION MARINE INC.		ALLANTE 505 BR		
ZBI				
The manufacturer certifies that this product complies with the Pleasure Craft requirements of the Construction Standards for Small Vessels. /Le fabricant certifie que ce produit est conforme aux exigences relatives aux embarcations de plaisance de la Norme de construction des petits bateaux.				

Transport Canada		Transports Canada		Canada
BUILDER - CONSTRUCTEUR		MODEL - MODELE		
BOSTON WHALER INC. (BWC)		285 CONQUEST (285 CQ)		
THE MANUFACTURER CERTIFIES THAT THIS PRODUCT COMPLIES WITH THE PLEASURE CRAFT REQUIREMENTS OF THE CONSTRUCTION STANDARDS FOR SMALL VESSELS.		LE FABRICANT CERTIFIE QUE CE PRODUIT EST CONFORME AUX EXIGENCES RELATIVES AUX EMBARCATIONS DE PLAISANCE DE LA NORME DE CONSTRUCTION DES PETITS BATEAUX.		
NO. - no POYT 1441				

Canadian Capacity/Compliance notice prior to May 10 2010

For **vessel not more than 6m**, the compliance notice contains **recommended capacity** including adults, fuel and all equipment on board in **fair weather conditions** and if the vessel is designed to be fitted with an outboard motor, the maximum power of the engine.



U.S Capacity notice

The following are Canadian Capacity/Compliance notice issued since May 10

CANADIAN COMPLIANCE NOTICE AVIS DE CONFORMITÉ CANADIEN RECOMMENDED MAXIMUM SAFE LIMITS LIMITES MAXIMALES DE SÉCURITÉ RECOMMANDÉES		
  +  +  	4 37 kW 50 HP	300 kg 660 lbs/lb 578 kg 1273 lbs/lb 228 kg 502 lbs/lb
THE RECOMMENDED MAXIMUM SAFE LIMITS MIGHT HAVE TO BE REDUCED IN ADVERSE SEA AND WEATHER CONDITIONS. LES LIMITES MAXIMALES DE SÉCURITÉ RECOMMANDÉES PEUVENT DEVOIR ÊTRE RÉDUITES DANS LES CONDITIONS DE MER ET DES CONDITIONS MÉTÉOROLOGIQUES DIFFICILES.		
SAFEBOAT COMPANY INC. (MIC) CITY, PROVINCE, COUNTRY MODEL / MODÈLE: RUNABOUT 555X		
THE MANUFACTURER DECLARES THAT THIS VESSEL COMPLIES WITH THE CONSTRUCTION REQUIREMENTS OF THE SMALL VESSEL REGULATIONS AS THEY READ ON THE DAY ON WHICH THE CONSTRUCTION OF THE VESSEL WAS STARTED OR ON THE DAY ON WHICH THE VESSEL WAS IMPORTED. LE FABRICANT ATTESTE QUE CE BÂTIMENT EST CONFORME AUX EXIGENCES DE CONSTRUCTION DU RÈGLEMENT SUR LES PETITS BÂTIMENTS EN VIGUEUR À LA DATE DU DÉBUT DE SA CONSTRUCTION OU DE SON IMPORTATION.		

Compliance Notice issued since May 10 2010 for an outboard powered vessel of not more than 6 metres

CANADIAN COMPLIANCE NOTICE AVIS DE CONFORMITÉ CANADIEN MAXIMUM RECOMMENDED SAFE LIMITS LIMITES DE SÉCURITÉ MAXIMALES RECOMMANDÉES		
  + 	6 525 kg 1156 lbs	450 kg 991 lbs
THE RECOMMENDED MAXIMUM SAFE LIMITS MAY HAVE TO BE REDUCED IN ADVERSE SEA AND WEATHER CONDITIONS. LES LIMITES MAXIMALES DE SÉCURITÉ RECOMMANDÉES PEUVENT DEVOIR ÊTRE RÉDUITES DANS LES CONDITIONS DE MER ET LES CONDITIONS MÉTÉOROLOGIQUES DIFFICILES.		
SAFEBOAT COMPANY INC. (MIC) CITY, PROVINCE, COUNTRY MODEL / MODÈLE: RUNABOUT 590Z		
THE MANUFACTURER DECLARES THAT THIS VESSEL COMPLIES WITH THE CONSTRUCTION REQUIREMENTS OF THE SMALL VESSEL REGULATIONS AS THEY READ ON THE DAY ON WHICH THE CONSTRUCTION OF THE VESSEL WAS STARTED OR ON THE DAY ON WHICH THE VESSEL WAS IMPORTED. LE FABRICANT ATTESTE QUE CE BÂTIMENT EST CONFORME AUX EXIGENCES DE CONSTRUCTION DU RÈGLEMENT SUR LES PETITS BÂTIMENTS EN VIGUEUR À LA DATE DU DÉBUT DE SA CONSTRUCTION OU DE SON IMPORTATION.		

Compliance Notice issued since May 10 2010 for an inboard or stern-drive powered vessel of not more than 6 metres

CANADIAN COMPLIANCE NOTICE AVIS DE CONFORMITÉ CANADIEN

SAFEBOAT COMPANY INC. (MIC)

CITY, PROVINCE, COUNTRY

MODEL / MODÈLE: RUNABOUT 650S

THE MANUFACTURER DECLARES THAT THIS VESSEL COMPLIES WITH THE PLEASURE CRAFT CONSTRUCTION REQUIREMENTS OF THE SMALL VESSEL REGULATIONS, AS THEY READ ON THE DAY ON WHICH THE CONSTRUCTION OF THE VESSEL WAS STARTED OR ON THE DAY ON WHICH IT THE VESSEL WAS IMPORTED.

LE FABRICANT ATTESTE QUE CE BÂTIMENT EST CONFORME AUX EXIGENCES DE CONSTRUCTION DES EMBARICATIONS DE PLAISANCE DU RÈGLEMENT SUR LES PETITS BÂTIMENTS, EN VIGUEUR À LA DATE DU DÉBUT DE SA CONSTRUCTION OU À LA DATE DE SON IMPORTATION.

Compliance Notice issued since May 10 2010 for Pleasure Craft of more than 6 metres

Should you decide to build a boat it must meet or Transport Canada's Construction Standards for Small Vessels. For more information please contact Transport Canada: 1 800 267 6687

The following formula is a **guide** in determining the **capacity rating**.

Boat length x width divided by 15 = number of people.

Example:

23 ft. (7.01m) x 8 ft. (2.4m) = 184 / 15 = 12.26 people

For safety, always round down to two full numbers.

Example: 12.26 = 10 people or equivalent weight.

Overloading your boat, may result in grounding capsizing, swamping or sinking!

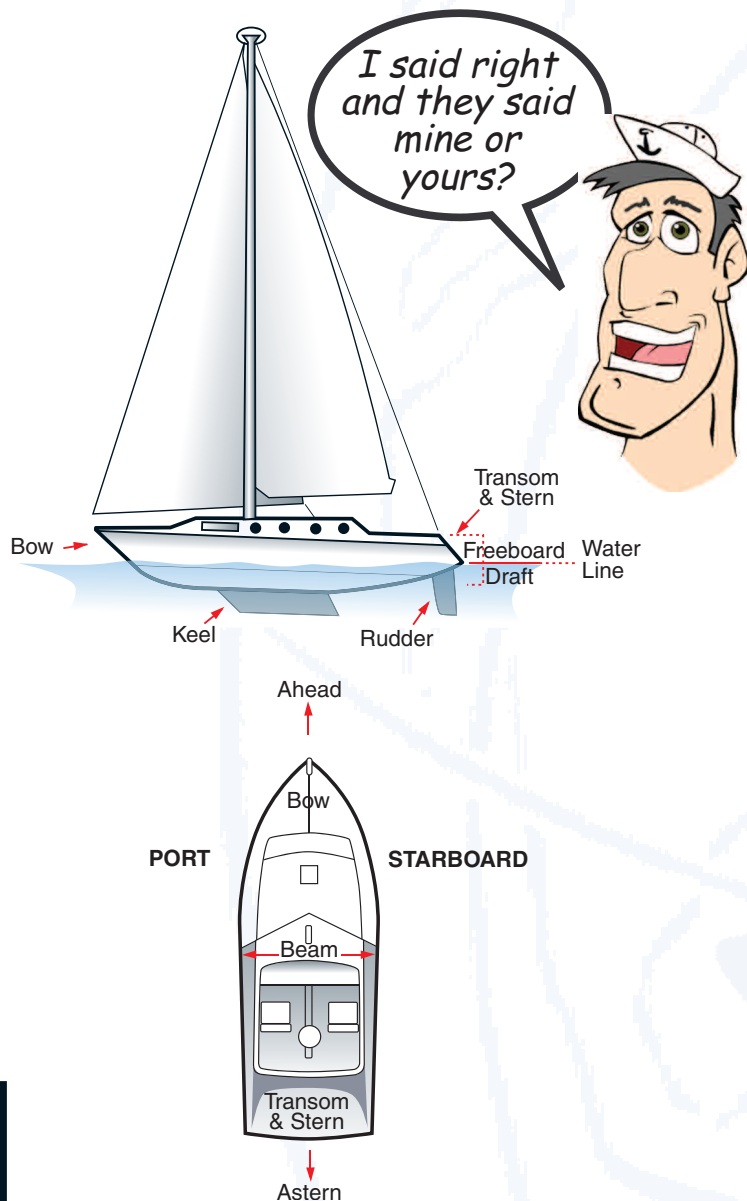


In bad weather,
load one less
person.

Boating terminology

While on the water or just hanging on the dock enjoying the sun, you may need to give orders to your guest or crew, such as where to stow gear, or in the case of an emergency, which way to steer the boat. It is for these reasons that boaters need to know the following definitions, while on the water.

There is a small glossary at the end of this manual.



All thought the following is not under the Criminal Code of Canada beware that **under the Vessel Operating Restriction Regulations (VORR)**, operating a prohibited vessel in designated waters or where special conditions apply is subject to fines and or tickets.

The universal speed limit is **10 km per hour when within in 30 meters (98.42 ft) of shore** unless you are towing a person straight out from the shoreline or in rivers that are less than 100 m (328 ft) in width or in canals or buoyed channels. Before heading out to a new destination consult the Vessel Operating Restriction Regulations (VORR) for boating restrictions such as engine power limits, speed limits or waters which all vessels are prohibited.

THE CRIMINAL CODE OF CANADA

It would be nice to go boating without having to obey the law, but the law is the reason why boating is so enjoyable! The Criminal Code of Canada clearly states the laws which operators of all vessels must obey.

Dangerous Operation 249

1. Everyone commits an offence who operates: a vessel or any water skis, surf-board, water sled or other towed object on or over any of the internal waters of Canada or the territorial sea of Canada, in a manner that is dangerous to the public, having regard to all the circumstances, including the nature and condition of those waters or sea and the use, that at the time, is or might reasonably be expected to be made of those waters or sea

2. Everyone who commits an offence under subsection (1):

- (a) is guilty of an indictable offence and liable to imprisonment for a term not exceeding five years; or
- (b) is guilty of an offence punishable on summary conviction.

Remember that there must be a spare seat for the person being towed, and that the vessel cannot be remotely controlled

Operation While Impaired, Section 253

Everyone commits an offence who operates a vessel, or has the care or control of the vessel whether it is in motion or not:

- (a) while the person's ability to operate the vessel, is impaired by alcohol or drugs;
- (b) having consumed alcohol in such a quantity that the concentration in the person's blood exceeds eighty milligrams of alcohol in one hundred millilitres of blood.

Failure to provide a breathalyzer, stop or remain at the scene of a collision while operating a vessel is punishable by imprisonment, fines or both.

Enforcement Officers may:

- Ask for ID
- Ask for proof of competency
- Ask any pertinent questions
- or board your vessel

Failure to keep watch on person towed

Everyone who operates a vessel while towing a person on any water skis, surf-board, water sled or other object. When there is no other responsible person keeping watch on the person being towed is guilty of an offence punishable on summary conviction.

Towing of person after dark (2)

Everyone who operates a vessel while towing a person on any water skis, surf-board, water sled or other object during the period from one hour after sunset to sunrise is guilty of an offence punishable on summary conviction.

Sending false messages or distress signals

Anyone who sends a false message or distress signal via VHF radio, cell phone or by any other means is guilty of an indictable offence and liable to imprisonment

Unseaworthy vessel

Everyone who knowingly:

(a) Sends, or being the master, takes a vessel that is registered or licensed, or for which an identification number has been issued, pursuant to any Act of Parliament and that is Unseaworthy:

(i) on a voyage from a place in Canada to any other place in or out of Canada, or

(ii) on a voyage from a place on the inland waters of the United States to a place in Canada, and thereby endangers the life of any person, is guilty of an indictable offence and liable to imprisonment.

Interfering with marine signal, Section 439 (1)

1. Everyone who makes fast (ties to) a vessel or boat, to a signal, buoy or other sea-mark that is used for purposes of navigation, is guilty of an offence punishable on summary conviction.

2. Everyone who wilfully alters removes or conceals a signal, buoy or other sea-mark that is used for purposes of navigation, is guilty of an indictable offence and liable to imprisonment for a term not exceeding ten years.

Operation while disqualified

Any person who operates a vessel while disqualified or prohibited

- (a) is guilty of an indictable offence and liable to imprisonment for a term not exceeding five years; or
- (b) is guilty of an offence punishable on summary conviction.

Failure to obey posted and un posted command signs such as shoreline speed limits. As per the Vessel Operation Restricted Regulations.

Failure to operate with a proper noise abatement system (muffler) with in 9.6 km of shore



Mandatory equipment requirements

You wouldn't travel by air without packing the basic necessities such as clothes, credit cards, or a passport. You wouldn't let children head to the beach without sun screen, a hat and towel.

Boating is no different whether you rent, own, borrow a boat, or operate any other water vessel you are required to carry a minimum amount of **safety equipment**. The safety equipment is just that, and must be carried on board at all times, must be in good working order, readily accessible and available for immediate use, **maintained and replaced in accordance with the manufacturer's instruction** so it will function properly and portable fire extinguishers shall be fully charged. You would not leave the driveway without checking the fuel tank. So why leave the dock without at least the minimum amount of equipment?

The regulations apply to pleasure crafts such as power boats, sail boats and personal watercraft, as well as less common boats like airboats, and air cushion vehicles (hovercraft) They also apply to kite boards. For information pertaining to Commercial Vessels please contact:
Transport Canada@<http://www.tc.gc.ca> or 1 800 267 6687

These requirements do not apply to inflatable self-propelled water toys because they are not, designed for use in open water. If you do choose to operate these toys in open water, they will be considered pleasure craft and subject to the same strict rules. Remember as well that operating a propeller-driven surfboard is against the law in Canada.

Under the small vessel regulations, you are required to carry the following equipment:

Boat Type and Length	Personal Lifesaving Appliances	Vessel Safety Equipment (See Note 1)	Visual Signals (See Note 2)	Navigation Equipment	Fire Fighting Equipment
Human-Powered Pleasure Craft (including Canoes, Kayaks, Rowboats, and rowing shells)	One appropriately sized approved lifejacket or P.F.D. for each person on board. If being used during white-water paddling, it must be of the inherently buoyant type. One buoyant heaving line at least 15 m (49'3") long *One re boarding device	One bailer or manual bilge pump OR Bilge-pumping arrangements	If boat is over 6 m: One water tight flashlight 6. Six (6) Canadian-approved flares of Type A, B or C A-Rocket Parachute B-Multi Star or C-Hand Flare	One sound-signalling device or appliance **Navigation lights ***One magnetic compass One radar reflector (See Note 3)	None
Paddleboats, Water Cycles and Sealed Hull, Sit-On-Top Kayaks	If everyone on board is wearing a approved lifejacket or personal flotation device of appropriate size, only the listed equipment is required on board: Under all other circumstances, the requirements for human-powered craft must be followed. Note: A personal flotation device or lifejacket carried on board a human-powered pleasure craft operated in white-water must be of the inherently buoyant type.			A sound- signalling device; and a watertight flashlight, (to be used as navigation lights) if the paddleboat, watercycle or kayak is operated after sunset or before sunrise or in periods of restricted visibility, such as fog or falling snow.	None
Personal Watercraft (PWC)	If everyone onboard the PWC is wearing an approved lifejacket or personal flotation device (PFD) of appropriate size, only the listed equipment is needed. Under all other circumstances, the safety equipment requirements for Sail and powered pleasure craft up to 6 m (19'8") must be followed.		A watertight flashlight or three flares other than type D (smoke signals)	A sound-signalling device a magnetic compass, if the PWC is navigated outside of seamarks; and Navigation lights that meet the requirements set out in the Collision Regulations, if the pleasure craft is operated after sunset, before sunrise, or in periods of restricted such as fog or falling snow.	None
Sailboards and Kiteboards	If the operator of a sailboard or kiteboard is wearing an approved personal flotation device of an appropriate size, the sailboard or kiteboard is required to carry on board: Under all other circumstances, the safety equipment requirements for Sail and powered pleasure craft up to 6 m (19'8") must be followed.			A sound-signalling device A watertight flashlight if operated after sunset or before sunrise or in periods of restricted visibility (to be used as navigation lights)	None
Sail and Power Boats up to 6 m (19'8")	One appropriately sized lifejacket or P.F.D. for each person on board One buoyant heaving line at least 15 m (49'3") long *One re-boarding device	One manual propelling device OR One anchor and at least 15 m (49'3") of cable, rope or chain in any combination One bailer or manual bilge pump with sufficient hose to discharge water over the side of the boat	If boat is equipped with a motor One watertight flashlight OR Three flares of Type A, B or C A-Rocket Parachute B-Multi Star or C-Hand Flare	One sound-signalling device or appliance **Navigation lights ***One magnetic compass One radar reflector (See Note 3)	One class 5BC fire extinguisher if equipped with an inboard engine, a fixed fuel tank or any type of fuel-burning appliance

Under the small vessel regulations, you are required to carry the following equipment:

Boat Type and Length	Personal Lifesaving Appliances	Vessel Safety Equipment (See Note 1)	Visual Signals (See Note 2)	Navigation Equipment	Fire Fighting Equipment
Sail and Power Boats over 6 m and up to 9 m (19'8" - 29'6")	One appropriately sized lifejacket or P.F.D. for each person on board One buoyant heaving line at least 15 m (49'3") long OR One lifebuoy attached to a buoyant line at least 15 m (49'3") long *One re-boarding device	One manual propelling device OR One anchor and at least 15 m (49'3") of cable, rope or chain in any combination One bailer or manual bilge pump with sufficient hose to discharge water over the side of the boat	One watertight flashlight 7. Six flares of Type A, B or C A-Rocket Parachute B-Multi Star or C-Hand Flare	One sound-signalling device or appliance **Navigation lights ***One (1) magnetic compass One radar reflector (See Note 3)	One class 5BC fire extinguisher if equipped with a motor Plus One class 5BC fire extinguisher if equipped with any type of fuel-burning appliance
Sail and Power Boats over 9 m and up to 12 m (29'6" - 39'4")	One appropriately sized lifejacket or P.F.D. for each person on board One buoyant heaving line at least 15 m (49'3") long One lifebuoy attached to a buoyant line at least 15 m (49'3") long *One re-boarding device	One anchor and at least 30 m (98'5") of cable, rope or chain in any combination 6. One manual bilge pump with sufficient hose to discharge water over the side of the boat OR Bilge-pumping arrangements	One watertight flashlight Twelve flares of Type A, B, C or D, not more than six (6) of which are of Type D A-Rocket Parachute B-Multi Star C-Hand Flare or D-Buoyant or Hand Smoke signal	One sound-signalling device or appliance Navigation lights One magnetic compass One radar reflector (See Note 3)	One class 10BC fire extinguisher if equipped with a motor Plus one class 10BC fire extinguisher if equipped with any type of fuel-burning appliance
Sail and Power Boats over 12 m and up to 24 m (39'4" - 78'9")	One appropriately sized lifejacket or P.F.D. for each person on board One buoyant heaving line at least 15 m (49'3") long One lifebuoy equipped with a self-igniting light or attached to a buoyant line at least 15 m (49'3") long *One re boarding device	One anchor and at least 50 m (164'1") of cable, rope or chain in any combination Bilge-pumping arrangements	One watertight flashlight Twelve flares of Type A, B, C or D, not more than six (6) of which are of Type D A-Rocket Parachute B-Multi Star C-Hand Flare or D-Buoyant or Hand Smoke signal	One sound-signalling appliance (whistle & bell) that meets the applicable standards set out in the Collision Regulations (See note 4) Navigation lights One magnetic compass that meets the requirement set out in the Navigation Safety regulations One radar reflector (See Note 3)	One class 10BC fire extinguisher at all of the following locations: each access to any space where any type fuel-burning appliance is fitted; and at the entrance to any accommodation space; and at the entrance to the machinery space. One axe Two buckets of at least 10 L each
Sail and Power Boats over 24 m (78'9")	One lifejacket or P.F.D. for each person on board One buoyant heaving line at least 30 m (98'5") long Two SOLAS lifebuoys, of which: one is attached to a buoyant line at least 30 m (98'5") long; and one is equipped with a self-igniting light. Lifting harness with appropriate rigging *One (1) re boarding device	One anchor and at least 50 m (164'1") of cable, rope or chain in any combination Bilge-pumping arrangements	One watertight flashlight Twelve (12) flares of Type A, B, C or D, not more than six (6) of which are of Type D A-Rocket Parachute B-Multi Star C-Hand Flare or D-Buoyant or Hand Smoke signal	One sound-signalling appliance (whistle & bell) that meets the applicable standards set out in the Collision Regulations (See note 4) Navigation lights One magnetic compass that meets the requirement set out in the Navigation Safety regulations One radar reflector (See Note 3)	One 10BC fire extinguisher at all of the following locations: each access to any space where any type of fuel-burning appliance is fitted; and the entrance to any accommodation space; and at the entrance to the machinery space. One power-driven fire pump located outside the machinery space, with one fire hose and nozzle that can direct water into any part of the boat Two axes Four buckets of at least 10 L each



The word **maintenance** means to care for the equipment so that it is able to work properly if needed. This equipment must also be properly stowed in readily accessible locations for immediate use when needed.

Manual water pumps must have a hose attached that is long enough to pump water over the gunwale (top edge) of the boat

*Only required when the vessel has more than 0.5 m (1'8") of free board. Cannot be part of the propulsion unit.

**Only required if the boat is operated after sunset, before sunrise or in periods of restricted visibility (fog, snow, etc.)

***Not required if the boat is 8 m (26'3") or less and operated within sight of navigation marks.

Note 1 – Exception for Bailers and Manual Bilge Pumps

A bailer or manual bilge pump is not required for a boat that cannot hold enough water to make it capsize or a boat that has watertight compartments that are sealed and not readily accessible.

Note 2 – Exception for Flares

Flares are not required for a boat that can never be more than one nautical mile (1.852 km) from shore; or has no sleeping quarters or is engaged in an official competition or in final preparation for an official competition.

Note 3 – Radar Reflectors

Radar reflectors are required for boats under 20 m (65'7") and boats that are built of mostly non-metallic materials such as wood or fibreglass. Unless using one will jeopardize the safety of the vessel, they must be used in poor weather conditions or when operating in or around shipping lanes, the great lakes or coastal waters.

A Radar reflector is not required when:

- The small size of the craft makes it unrealistic to use
- Using the device may jeopardize the boat's safety

Note 4 – Whistle & Bell as per Collision Regulation 33

Boats that are involved in official sanctioned sport may be exempt from carrying certain equipment mentioned above. For information and clarification, please consult Transport Canada 1 800 267 6687, the Safe Boating Guide or your local authorities.

Optional equipment

2 Anchors, binoculars, mirror, boat hook, GPS, depth finder, docking lines, tow rope, bungee cords, spare parts and tools

Emergency kit

First aid kit, knife, flash light, candles, water proof matches or some other means of starting a fire on shore, thermal blankets, hand held VHF radio, whistle, change of clothes, sea sickness remedies, emergency food rations, water, survival suit, mirror, flares, lifejacket.

Inflatable P.F.D.'s including pouch types may be used on any open boat as long as they are worn at all times when on deck. When not on deck they must be readily accessible at all times

Knowing and using the equipment

The required mandatory safety equipment that needs to be carried on board depends on the type and length of the vessel, be sure to consult the mandatory list before heading out.

All equipment carried on board must be in good working order, readily accessible and available for immediate use, maintained and replaced in accordance with the manufacturer's instructions or recommendations and portable fire extinguishers shall be fully charged.

Lifejackets & Personal Floatation Devices P.F.D.'s

Lifejackets and P.F.D.'s only work when worn. Their purpose is simple, to help prevent drowning. Why would you not insist everyone onboard wear one? Would you rather risk the life of a child, a friend, or yourself? Before departing, place a P.F.D. or Lifejacket on each seat for everyone coming aboard. Lifejackets are available in Red, Orange or Yellow. This makes you much easier to see in the water. Currently there are **three types of Canadian-approved LIFEJACKETS** and many types of PFD's to choose from.

The *Small Vessel Regulations* require that there be a sufficient number of Canadian approved flotation devices of appropriate size for each person on board a pleasure craft

- Both Lifejackets and P.F.D.'s are rated by their buoyancy, the ability to float a person or object in the water.

Example a P.F.D. or Lifejacket with a buoyancy rating of 20 will float more weight than one with a rating of 15.

Quick reference comparison chart for Lifejackets and PFD's

	SAFETY OF LIFE AT SEA (SOLAS) LIFEJACKETS	STANDARD TYPE LIFEJACKETS	SMALL VESSEL LIFEJACKETS	PERSON FLOATATION DEVICE (P.F.D.)
Performance in the Water	Best Performance – Will turn you on your back in seconds to keep your face out of the water, even if you are unconscious.	Slower Performance – Will turn you on your back to keep your face out of the water, even if you are unconscious.	Slowest Performance – Will turn you on your back to keep your face out of the water, even if you are unconscious, but may do so more slowly.	Poorest Performance – Will not turn you on your back if you are unconscious.
Sizes Adults or children	Available in 2 sizes: - Over 32 kg (70 lbs) - Less than 32 kg (70 lbs)	Available in 2 sizes: - Over 40 kg (88 lbs) - Less than 40 kg (88 lbs)	Available in 3 sizes: - Over 41 kg (90 lbs) - 18 kg (40 lbs) to 41 kg (90 lbs) - Less than 18 kg (40 lbs)	Chest size and weight or weight only.
Models Available	Keyhole	Keyhole	Keyhole or Vest.	Vest, Coveralls, Jacket.
Advantages	Simple to put on. Best in rough waters. Reflective tape.	Simple to put on. Best in rough waters. Has reflective tape.	Simple to put on.	Many styles and colours to choose from.
Disadvantages	Bulky and uncomfortable	Bulky and uncomfortable.	Bulky and uncomfortable.	Will not turn you on your back if you are unconscious.
Type of boating	Commercial vessels abandon ship use.	Commercial vessels abandon ship use.	Commercial vessels abandon ship use sheltered waters and pleasure craft use.	Constant wear. Most types of Boating Activities.

Inflatable P.F.D.'s use a CO² cartridge that inflates air into the bladders. It is not a bad idea once a year to inflate, and inspect the air bladders for leaks. Inflatable P.F.D.'s are also equipped with a manual inflator.



Small vessel Lifejacket



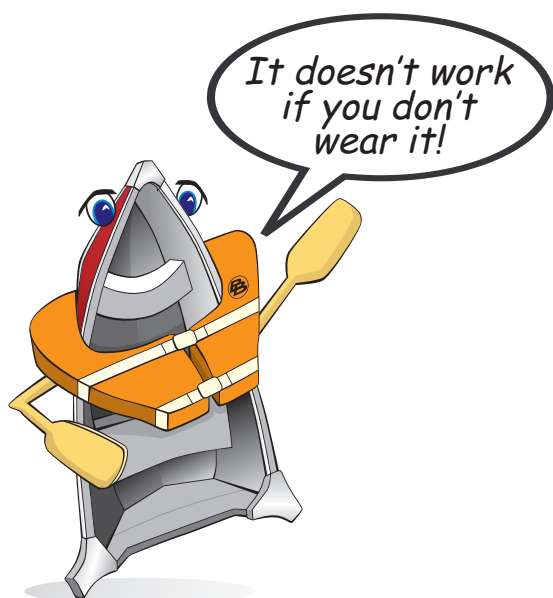
Floater Suit



Thermal Protective P.F.D.



P.F.D. Vest



Solas Lifejackets

- Approved by international standards for all vessels in Canadian waters.
- Mandatory onboard commercial vessels (i.e. fishing vessels, ferries and ocean-going vessels.) (Option to carry either standard Lifejacket or SOLAS lifejacket.)
- **When worn correctly these devices will turn you on your back to keep your face out of the water, whether conscious or unconscious.**
- **Must be worn loose to allow the water to flow under the device in order to turn you face up.**
- Have retro-reflective tape and a whistle.
- Red, orange or yellow are the only Canadian approved colors for these kinds of devices.
- Available in 2 sizes; persons over 32 kg (70 lbs.), persons less than 32 kg.

Due to these requirements, foam filled SOLAS Lifejackets are bulky and less comfortable than any other devices. However, SOLAS inflatable Lifejackets are a lot more comfortable and compact. They inflate automatically on immersion but can also be inflated manually or by mouth. In the event of loss of buoyancy in any compartment they still meet the performance criteria described above.



Standard and SOLAS Lifejackets are commonly found on Ferries and other commercial vessels. They will right an unconscious person face up in seconds.

Unlike a P.F.D., Lifejackets are worn loose to allow water to flow under the device in order to turn you face up.

Standard Type Lifejackets

- Approved for all vessels on Canadian waters.
- Mandatory onboard commercial vessels (i.e. fishing vessels, ferries and ocean-going vessels.) (Option to carry either standard lifejacket or SOLAS lifejacket.)
- **When worn correctly these devices will turn you on your back to keep your face out of the water, whether conscious or unconscious.**
- **Must be worn loose to allow the water to flow under the device in order to turn you face up.**
- Have retro-reflective tape and a whistle.
- Red, orange or yellow are the only approved colours for these kinds of devices.
- Available in 2 sizes, less than 40 kg (88 lbs.) and greater than 40 kg.

Small Vessel Lifejackets

- Have less flotation than Standard lifejackets.
- **When worn correctly these devices will turn you on your back initially but may not do so every time.**
- **Must be worn loose to allow the water to flow under the device in order to turn you face up.**
- May not have retro-reflective tape and whistle.
- Red, orange and yellow are the only approved colours for these kinds of devices.
- Available in two (2) models: - Keyhole type - Vest type
- Available in 3 sizes:
 - A. Person weighing more than 41kg (90 lbs.)
 - B. Person weighing between 18kg (40 lbs.) and 41 kg (90 lbs.)
 - C. Person weighing less than 18kg (40 lbs.)



Commonly referred to as a Keyhole Lifejacket this type of P.F.D. will right an unconscious person face up, but will do so more slowly than a Standard or SOLAS Lifejacket.

Regardless which type of P.F.D. or Lifejacket you choose to wear always read the manufactures instruction before using them.

Inflatable P.F.D.'s

Inflatable PFD's are **not inherently buoyant** and do not work unless they are inflated!

To work properly an inflatable P.F.D. must be worn and the CO2 Cartridge must be installed and charged.

How an inflatable P.F.D. works!



Fig 1
Fit the device properly

Pleasure craft operator card



Fig 2

Pull the rip cord/lanyard



Fig 3

Wait for inflation (may take up to 30 seconds)

To be approved (legal) Inflatable P.F.D.'s vest or pouch types must be worn on an open boat. If the boat is not open then you only need to wear it while you're on deck or in the cockpit.

There are currently two types of inflatable vests and one pouch type available on the market. Regardless of the type they all use a CO² cartridge to inflate them. This CO² cartridge must be replaced once used.

Manual vest inflation is achieved by pulling on the lanyard/rip cord attached to the vest. (see fig 1,2,3)

Newer auto inflation type vests are inflated by water pressure (hydrostatic pressure). This means when they are submersed in 10.16 cm (4 inches) of water or more they will automatically inflate.



Manual Inflatable pouch type P.F.D.

Pouch type vest work in the same manner as vest types the main difference is that they must be pulled over your head once inflated. This can be a tricky task once in the water especially if you are submerged in cold or rough seas! In the event that the CO² cartridge fails to operate a tube is supplied to manually inflate the P.F.D. with your mouth

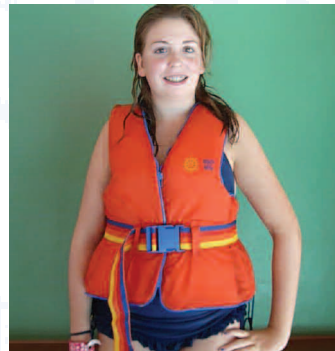
Vest or pouch type Inflatable P.F.D.s are NOT approved for:

- anyone under 16 years old;
- anyone who weighs less than 36.3 kg (80 lbs);
- use on a personal watercraft; or
- white-water paddling activities.

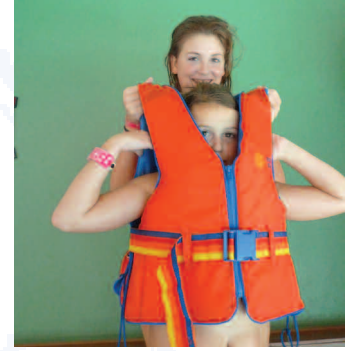
Due to the response time **inflatable P.F.D.s SHOULD NOT be worn by weak swimmers!** Regardless which type of inflatable P.F.D. you choose to wear always read the manufactures instruction before using them.

Inflatable P.F.D.'s use a CO² cartridge that inflates air into the bladders. It is not a bad idea once a year to inflate, and inspect the air bladders for leaks. Inflatable P.F.D.'s are also equipped with a manual inflator.

Inherently Buoyant PFDs



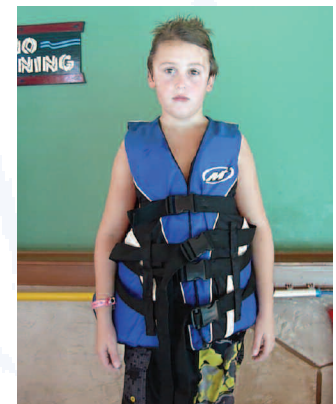
Properly fitted P.F.D. should fit snug and allow free movement



A properly fitted P.F.D. will not rise above your ears and slip over your head.

Inherently Buoyant P.F.D.s (foam filled panels)

- Approved for Recreational Boating only;
- **Has less flotation than Standard, SOLAS and Small Vessel Regulations Lifejackets;**
- **Has very limited turning capability;**
- More comfortable than lifejacket - designed for constant wear;
- **Must be worn snug;**
- Available in any colour; preference on bright colours;
- Some models help protect the wearer against hypothermia;
- When worn by children, they are not a substitute for parental supervision;
- Available in several sizes.



Although it is 4 strap P.F.D. it is not sized properly therefore not legal

Approval

All safety equipment must be Canadian-approved and there must be enough lifejackets that fit, have enough buoyancy and are in good condition for everyone on board your boat. A non Canadian resident may use a P.F.D. or life jacket from their homeland provided it is in good working order and meets that country's standards. All Canadian P.F.D.'s and Lifejackets must bare an approval label from:

MUSTANG SURVIVAL™		MFD. BY FABRIQUE PAR	MUSTANG SURVIVAL CORP. RICHMOND, B.C., CANADA, V6V
DATE / LOT NO.		401983	
Cruiser Class Bomber - Canada		CONFORMS TO STANDARD / CONFORME A CAN/CGSB 85.11-M88	
MJ6225 DEPT. OF TRANSPORT, CANADA APPROVAL NO. D'APPROBATION CG-288328-87 XLARGE/TGRAND TO FIT 117 - 127 CM / 46 - 50 IN		CANADA TYPE I	MINIMUM BUOYANCY 88 FLOTTABILITÉ MINIMALE 88
THIS PFD IS DESIGNED TO BE WORN - V CE VÊTEMENT EST CONÇU POUR VOTRE SECURITE			
D.O.T./COAST GUARD APPROVED PERSONAL FLU VÊTEMENT DE FLOTTAISON INDIVIDUEL APPROUVÉE			

- The Department of Transport Canada; or
- The Department of Fisheries and Oceans; or
- The Canadian Coast Guard

The approval status is lost once a P.F.D. or Lifejacket losses its label, or once the item itself becomes damaged.

Persons less than 16 years of age or persons weighing less than 36.3 kg (80lbs) must wear an inherently buoyant type of P.F.D. or Lifejacket not the inflatable type. Infants weighing less than 9 kg (20lbs) or persons whose chest size is bigger than 140 cm (55in) are not required to wear the correct size of P.F.D. or Lifejacket this due to the fact there are currently none available on the market.

Use and care

Before each trip check:
That one appropriately sized and approved P.F.D. or Lifejacket for each person is on board.

DO:

- wear at all times
- clean using mild soap and running water
- test for Buoyancy
- check for rips, tears and holes
- check for water logging, shrinkage or hardening of the foam material
- check that zippers and buckles function properly
- check for mould or mildew
- check for proper fit
- check for fading (weakens the material)
- check that the CO² cartridge is fitted and armed (if applicable)
- let it dry before stowing In a well-ventilated and readily accessible location

DO NOT:

- use strong detergents
- gasoline, or other chemicals
- dry-clean
- put in the dryer
- alter it any way
- hang in or near any direct heat sources such as the sun or radiators. The suns uv rays will weaken the stitching and the material itself over time.
- use as seat cushions or fenders this may result in puncturing or compressing them

The approval status is lost once a P.F.D. or Lifejacket losses its label, or once the item itself becomes damaged.



When purchasing a P.F.D. consider the following:

- When adjusted it should be snug fitting but allow free movement of arms and legs
- Appropriate for the waterway activity. This means using a HIGH IMPACT TYPE (4 straps) when riding a Personal watercraft, water-skiing or other towing activities.
- Will you be fishing in the cold and rain? Then purchase a device that offers thermal protection.
- Appropriately sized; "adult sizing" for adults and "child sizing" for children A P.F.D. is not something you grow into!
- Try it on in the store to ensure that it fits properly

When in doubt as to which one type of Life Jacket or P.F.D. to purchase call the manufacturer's toll free number to get suggestions as to the best device for your particular activities.

Regardless which type of P.F.D. or Lifejacket you choose to wear, buy the most buoyant one available and always read the manufactures instruction before using them.

Note: that the Canadian Rating Standards of P.F.D.'s and Lifejackets is the highest in the world.

Testing a P.F.D. or Lifejacket

You as the operator are responsible for demonstrating the use of all life saving equipment and providing safety instructions to your guests before you leave the dock. You must also ensure that guests know how to properly wear and use a P.F.D. or Lifejacket and that it properly sized for the individual. Always read and follow the manufactures instructions regarding lifejackets, P.F.D.'s and all other safety equipment on board your boat. Pay special attention to the manufactures instruction when using an Inflatable P.F.D.

The foam core in a P.F.D. and Lifejackets can lose their ability to float you safely this can be due to effects of the suns UV rays or simply old age. For this reason always test your equipment prior to the boating season.



Testing for buoyancy once year

Use the following procedure to test for buoyancy prior to each boating season

1. Put it on and fasten it properly
2. Walk into chest high water
3. Bend your knees
4. Then float on your back and make sure that the device keeps your chin above the water so that you are able to breathe easily. If the device does not float you replace it!



How to put on a P.F.D. when in the water

In the event of an emergency, knowing how to put on a P.F.D. in the water could save your life! Practice the following procedure in a pool prior to the boating season

THIS IS NOT AN EASY TASK!

1. Spread the device open with the inside facing up, out of the water
2. Turn the device so the neck opening is facing you
3. Extend both arms through arm openings
4. Lift your arms over your head
5. Position the device around your upper body
6. Roll over onto your back and fasten the device snugly.



After trying the above procedure in a warm calm swimming pool you will conclude that it is better to wear a P.F.D. or Lifejacket rather than putting it on in the water.

Remember that you, as the operator, are responsible for the safety of the vessel, and persons onboard. You may hear the following excuses for not wearing a P.F.D. *"They are uncomfortable", "I cannot move freely", "they are ugly".* In the past P.F.D.'s were uncomfortable. However, with today's technology P.F.D.'s are very comfortable and fashionable. They come in various types and colours; use one that is appropriate for the boating activity. Even a very strong swimmer, who falls into very cold water, will be faced with COLD WATERSHOCK and HYPOTHERMIA!

A Life Saving Society study conducted in 2001 concluded that 90% of drowning victims were not wearing a Lifejacket or P.F.D. Lead by example and always wear a P.F.D. around children. Always don one if you encounter bad weather, dense boat traffic, rough seas, while being towed due to mechanical breakdown or operating at night. Children should wear a P.F.D. or Lifejacket at all times when around water.

A diaper will affect the performance of a P.F.D. or Lifejacket. A P.F.D. is no substitute for adult supervision. Wearing clothing such as jeans, hip waiters, winter jackets or hunting boots will affect the performance of a P.F.D. or Lifejacket

Everyone should know how to use them before they need them!



Buoyant heaving lines and Lifebuoys

Imagine this, you and a friend are out on the water, they lean over the side of the boat to rinse their sunglasses. Along comes a big wake from another boat and POOF your unsuspecting friend falls overboard into very cold water what do you do? Turn the boat around? Yes, but that is not the first thing you should do! The first thing is throw a Lifebuoy or buoyant heaving line or any other object that will float. This will give your friend comfort that they will survive!



Heaving lines and Lifebuoys are used to retrieve persons overboard. Heaving lines must be replaced when frayed or chafed. Inspect Lifebuoys for cracks and holes replace if damaged. On the water or on the dock practice throwing both and retrieving persons. This will prepare you in case they are needed. When throwing a heaving line be sure to hold onto one end! Throw lines and Lifebuoys past the victim. Buoyant heaving line is approved for use as long as it: floats, is in good condition; is made of one full length of rope (not many shorter ropes tied together), is long enough for the boat you will be using, and is used only as safety equipment. Tying a knot at the end of the line will add weight and assist in recovery. Hang lines and buoys near the stern!

When purchasing a Lifebuoy, look for a **Transport Canada approval stamp or label.** For vessels under 20 m in length Lifebuoys must be at least 610 mm (24") in diameter. Safety Of Life At Sea (SOLAS) Lifebuoys are 762 mm (30") in diameter. All must be marked with name of its manufacturer and department number. **Smaller Lifebuoys and Horseshoe-type devices are not approved.**



Lifebuoy with strobe light attached



Re-Boarding Device



Swim platform with reboarding ladder

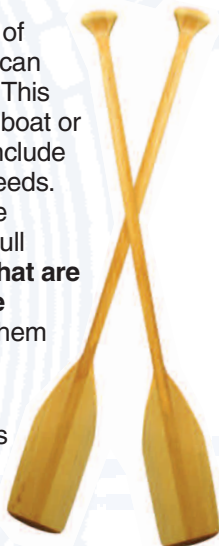
How do you get back onto the boat after a day of swimming or recover a person? A re-boarding device allows someone to get back on the boat who may have been swimming, water-skiing, tubing, or who has fallen overboard. A transom ladder or swim platform ladder meets this requirement. The lower end of the motor (propulsion system) does not meet the standards. Though a piece of rope or chain tied to opposite cleats on the transom will suffice, it is not very accommodating. For their purpose a re-boarding ladder is a relatively inexpensive item to purchase. When re-boarding **TURN THE ENGINE OFF** even a propeller that is not in gear may continue to spin!

Manual propelling devices

What do you do if the boat quits due to lack of fuel, an electrical problem or mechanical breakdown?

A manual propelling device can be a set of oars, paddles, or anything that a person can operate by hand or foot to propel a boat. This includes the rudder on a small open sail boat or a paddle wheel on a paddleboat. Uses include paddling, pushing off rocks and out of weeds. They can be used to knock weeds off the propeller and in an emergency; to help pull someone to the boat. **Paddles or oars that are dried out, cracked or split are must be replaced.** To help preserve them, keep them dry and out of the sun when not in use.

Trying to paddle anything bigger than a tin boat or canoe is very difficult, always keep plenty of fuel in the tank and the boat well maintained!



Anchors

What do you do if a storm blows in or the boat breaks down unexpectedly?

- **Anchoring in a sheltered bay is a good choice in rough weather or in the event of a mechanical breakdown.** You may need to use a larger or sometimes even a second anchor tide to the bow when anchoring in poor weather conditions.



Danforth anchor with chain and shackle

- Use the appropriate type for the sea bed conditions (bottom)
- Check chain, rope (rode) and shackles for wear and replace as necessary
- Sand and paint as required
- Replace if bent or broken
- It is good idea to keep a spare onboard

Remember to carry at least 15m of anchor rope on board. There is more on anchors and anchoring later on.

Bailer and manual pump



Home made bailer

It rained and you left the boat uncovered. How do you get the water out?

Bailers are used to remove water from boat. **Bailers must hold at least 750 ml, have an opening of at least 65 sq. cm (10 sq. inch) and be made of any type of plastic or metal container.**

You can make a bailer out of a four-litre rigid plastic bottle by following these steps:

1. rinse thoroughly;
2. secure the lid;
3. cut off the bottom; and
4. cut along the side with the handle, as pictured above.

If you have a manual bilge pump, the pump and hose must be long enough to reach the bilge and discharge water over the side of the boat.

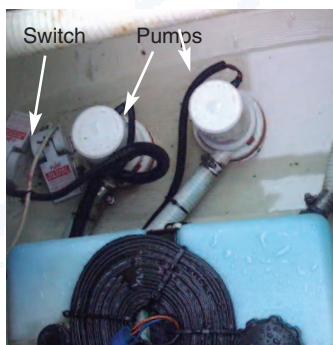
Make sure you have a bailer or pump on board and that it functions properly before leaving the dock!



Manual pump

Bilge pumping arrangements (electric)

Water in the bilge can be the result of rain, a loose through hull fitting or a crack in the hull, and if not dealt with immediately will lead to flooding, capsizing, sinking or just plain wet feet! When water is found to be accumulating in the vessel, bail it out and determine the source! Automatic bilge systems remove water that has collected in the bottom of the boat. They are no substitute for closing all hatches, ports and making the boat watertight. Pumps will burn out and batteries may run dead when too much water has accumulated in the bilge area.



The pumping system generally consists of three components. A small electric pump located in the lowest part of the boat (the bilge), a float switch (which may become stuck) located slightly higher than the bilge, and a manual override switch located at the helm. The float switch is tripped when the water level is sufficient enough to raise and close the internal contacts located in the float, the pump is turned on, and the water expelled overboard through an outlet fitting.

The manual override switch is in case of float failure. Should the motor hum but not pump water, check for blockages at the strainer located under the pump or the hose exiting the boat. If the pump does not hum, check fuses wiring, power supply and finally the switch. Always check these components for proper operation prior to and during the boating season!

Auto bilge pumps rely on the boat's power supply to operate them. Returning to the vessel after a heavy rainfall the bilge pump may have run long enough to flatten the batteries, or burn out the pump motor. Always carry manual bailers! Bilge pumps are rated by the amount of water in gallons that they can pump out by the hour (GPH), buy the biggest pump that will fit in the bilge.

Fire extinguishers

Although not all boats are required to carry a fire extinguisher, it is highly recommended that you do so. Due to the corrosive atmosphere, use only marine grade extinguishers on boats. If equipped with an automatic extinguishing system, you are still required to carry the appropriate number of portable fire extinguishers on board as per the regulations. All fire extinguishers **must be of the approved type** and bear an approval label:



In Canada, they are approved by Transport Canada, Underwriters Laboratories of Canada (U.L.C.) and the United States Coast Guard. In the U.K. they are approved by the British Department of Trade. In the United States, they are approved by the United States Coast Guard. There are four types of Fire extinguishers. Type "A" - is for combustible solids like wood, paper or bedding etc.

Type "B" - is for flammable liquids such as gasoline, oil or flammable cleaners

Type "C" - is for electrical fires

Type "K" - is for combustible cooking media such as vegetable or animal oils or fats

Fire Extinguishers are classified by letters and numbers according to the type and size of fire they can put out. The letter, (A, B, C, K)

indicates the class of fire. The

number is a measure of the

capacity of the extinguisher. The

larger the number, the greater the

capacity of extinguishing material to put

out a fire. Depending on the class of the fire extinguisher it

will be filled with Foam, Carbon Dioxide Gas or Dry

Chemical. **They should be inspected, replaced or**

recharged as needed. To prevent packing or caking, fire extinguishers containing dry chemicals should be

shaken once a month.



Read and understand the instructions on your fire extinguisher(s). If a fire starts, you should be prepared and act swiftly. If underway and a fire starts, stop the boat and position it so that the fire is downwind (blowing away from you). Order everyone to put on lifejackets. Turn off the fuel supply if possible. Get the fire extinguisher, activate it, and direct it at the base of the flames using short bursts and a sweeping motion from side to side to put it out.

Remember P.A.S.S.

- P. Pull pin
- A. Aim at the base of the flames
- S. Shoot
- S. Sweep side to side

Never use water to put out gasoline, oil or electrical fires. Water will only spread the flammable liquids and can conduct electrical current. Always store them as per regulations.

Axes are used for fire fighting purposes (breaking through doors) or cutting large ropes in case of emergencies. Keep them sharp, handy, and sheathed. Make sure they are marine grade.

Fire buckets

The name says it all but they must be **painted red have capacity of 10 L or more**, be made of metal fitted with a lanyard (rope) of sufficient length to reach the water from the location in which it is stored. Practice using them, keeping in mind one litre of water weighs 1 kg (2.205lbs). Keep them free of trash!

Marine VHF radio and GPS

How do you call for assistance when on the water?

A VHF (very high frequency) marine radio is the best way of communicating between two or more vessels when on the water. It can be used to find the location of a marina, friend, fishing buddy, monitor the weather, or in the case of an emergency, send out a distress signal.



CHANNEL 16 IS FOR EMERGENCY CALLING OR FIRST CONTACT AND IS NOT FOR ROUTINE CONVERSATION AND IS NOT TO BE USED AS A TELEPHONE!



Currently, all VHF marine radio operators must have a **Restricted Operator Certificate (ROC)** to obtain this license contact Industry Canada

The basic operation procedure is, tune to channel 16, squeeze the microphone and speak. When you have finished talking, let go of the button. The main purpose for a VHF radio is for sending, responding to, and relaying MAYDAY calls. The VHF radio can be used to listen to weather forecast, vessel traffic, locate a marina, or revise a sail plan. Always speak smoothly and calmly. Do not use profane or slang language. Remember it is open to the public.

Knowing the VHF language sets the standard for spelling words and pronouncing word phrases.

A - Alpha	K - Kilo	U - Uniform	0 - Zero
B - Bravo	L - Lima	V - Victor	1 - Wun (One)
C - Charlie	M - Mike	W - Whiskey	2 - Two
D - Delta	N - November	X - X-ray	3 - Tree (Three)
E - Echo	O - Oscar	Y - Yankee	4 - Fower (Four)
F - Foxtrot	P - Papa	Z - Zulu	5 - Fife (Five)
G - Golf	Q - Quebec		6 - Six
H - Hotel	R - Romeo	. - decimal (point)	7 - Seven
I - India	S - Sierra	- (full) stop	8 - Ait (Eight)
J - Juliet	T - Tango		9 - Niner (Nine)

MAYDAY - I need help

Go ahead - Proceed with your message

Affirmative - Yes or permission granted

Over - I am done talking I am waiting for you to speak

Out - I am done talking and no response is expected

You should **conduct a radio check before heading out**, hail the Coast Guard on one of their working channels (26) or listen for a conversation on a working channel, wait for break in the conversation. Then repeat the words radio check 3 times and wait for the reply, "you are 5 by 5" meaning you are coming in loud and clear. A response of "1 by 1" means the signal is very weak and you are not coming in clear. Regardless of the response at least you know you can be heard. After concluding all conversation return to channel 16.

Running out of fuel is the number one reason for assistance If you run out fuel or experienced a mechanical breakdown but are not in immediate danger, use channel 16 to make contact with the Coast Guard, state the name of your boat, its position, and the type of help you need.

Non-emergencies

If you hear the words "Pan Pan" it means:

Urgency: A condition concerning the safety of a vessel or of someone on board or within sight, but which does not require immediate assistance.

To make a non emergency call use channel 16 and repeat the name of station, boat, person being called, three times. The words "THIS IS", spoken once. Then say "OVER". Once answered suggest a working channel (any other channel except 70)

If you hear the words "Securite Securite" it means:

Safety: An indication that the station calling is about to transmit a message concerning the safety of navigation or important meteorological warnings. I.E a ship is leaving port or floating debris that may present a hazard to boaters or a rapid change in weather.

Emergency calling

A condition of being threatened by grave and or imminent danger and requiring immediate assistance. When you hear a mayday you must respond!

To make an emergency call use channel 16 and say "Mayday"—"Mayday"—"Mayday."

Then give the name of your boat, its position, the nature of your problem and the type of help you need. Before you report your position you must know your position, just one more reason to use charts, compass, GPS and local landmarks (dead reckoning). Entering *16 on a cell phone is also an option to call for help, due to a cell phones limited capability the VHF radio is better option.

Important VHF channels

- Coast Guard monitors channel 16
- Most marinas in Canada monitor channel 68 and will not respond to calls received on channel 16 unless it is an emergency!
- British Columbia marinas monitor channel 66

Weather channels

- Eastern Canada and the Great Lake channels 21B (161.65 MHz) and 83B (161.775 MHz)
- Western Canada 21B
- Continuous broadcasts by environment Canada; VHF-FM 162.400, 162.475 and 162.550 MHz

For more information on VHF channels visit:

www.ccg-gcc.gc.ca

When operating in areas with commercial vessels, listen to the Vessel Traffic Services (VTS). VTS provides information on commercial vessel movement.

When purchasing a VHF look for these key features

- DSC capability
- 25-watt transmit power
- Switch for low-power 1-watt transmit power
- Preset channels
- Weather channels
- Readable display, with adjustable backlighting
- Dual watch

Always purchase the best one you can afford, your life may depend on it. Radios equipped with Digital Selective Calling (DSC) option on channel 70 are capable of sending an electronic distress signal to the Canadian Coast Guard and other vessels in the area. When connected to a compatible GPS unit they will also send your coordinates. DSC is part of the Global Maritime Distress and Safety System (GMDSS).

DSC radio must have a nine-digit Maritime Mobile Service Identity (MMSI) number. These numbers are assigned free of charge by Industry Canada **www.ic.gc.ca**



*It is against
the law to send
false distress
signals!*

Global Positioning System (GPS)

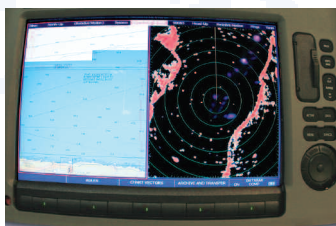
You are out on the water puddle jumping from one lake to another, you make the turn to head back only to find that the second channel you came through has vanished! Try as you might you cannot see it for the pea soup like fog.

A GPS can help with this dilemma.

When you turn on a GPS, it begins tracking your course. So all you have to do is follow that squiggly little line on the screen back to the dock.

Of course, plotting your position on charts does the same thing but who has a chart (see charts) for Lake SHARK BAIT WOO-HA HA!

Using a network of satellites, it can locate your position within a couple of meters anywhere on the earth. It can be used to return to your favourite fishing spot, find a friend on the water or in case of a person overboard mark the location where the person fell off the boat. The most important use for a GPS is plotting your position should you need assistance. Keep in mind that unless it is specifically designed for boating it will not show aids to navigation or navigational hazards such as waterfalls, low head dams, or shipping lanes. When



connected to a VHF radio with DCS it will provide search and rescuers your position. In case of electronic failure it is a good idea to keep track of your surroundings using charts, compass and using landmarks such as islands, mountains, etc. (dead reckoning).

A GPS IS NO SUBSTITUTE FOR USING A CHART

UNLESS YOU HAVE PREVIOUSLY PLOTTED A COURSE (WAYPOINTS) ON THE UNIT USING THE "GO TO" FUNCTION A GPS WILL SHOW A DIRECT LINE TO YOUR DESTINATION AND WILL NOT ACCOUNT FOR HAZARDS SUCH AS ISLANDS!

Features to look for when purchasing:

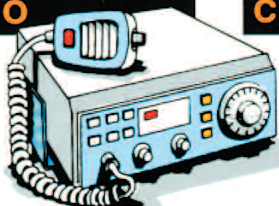
- Capable of downloading and updating marine charts
- Power save mode
- Simple to use menus
- Readability (sunlight)
- DCS compatible (See VHF radio)
- The more features it has the more complicated it becomes to use.

Always read and follow the manufacturer's instructions before using a GPS.

STANDARD MARINE DISTRESS SIGNALS

MARINE RADIO

DISTRESS CALL
USE: 2182 kHz (MF)
OR CHANNEL 16,
156.8 MHz (VHF)



CALLING PROCEDURES

MAYDAY MAYDAY MAYDAY	Immediate danger for persons or ship
PAN-PAN PAN-PAN PAN-PAN	Urgent message concerning safety of a person or ship

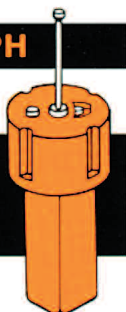
- Give vessel name and call sign
- State position of vessel
- Describe nature of emergency

RADIOTELEGRAPH

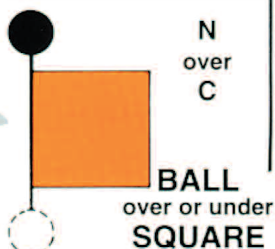
- (S.O.S.) 500 kHz

EMERGENCY POSITION INDICATING RADIOBEACON (EPIRB)

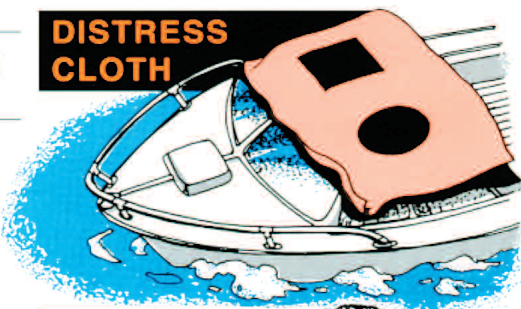
- USE ALARM SIGNAL



CODE FLAGS

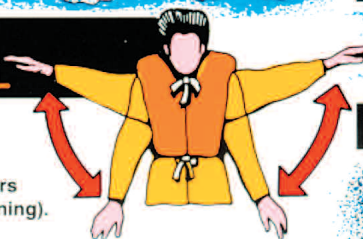


DISTRESS CLOTH



ARM SIGNAL

Do not use this signal near helicopters (different meaning).



SOUND SIGNALS

Continuous foghorn, bell or whistle.
1 - minute intervals:
gun or any explosive



FLARES

- TYPE A; Parachute rocket
- TYPE B; Multi-star rocket
- TYPE C; Hand-held
- TYPE D; Buoyant or hand-held orange smoke



DYE MARKER



FLASHLIGHT



Distress signals

How would you signal your need for assistance?

There are many different ways to indicate the need of assistance such as flames on deck, a mirror, a flashlight, navigational lights, and the horn. Mirrors, lights and sound signalling devices can be used to indicate S.O.S. (MAYDAY) **There are four types of flares approved by the Department of Transport Canada**, are stamped with a manufacturing date; and expire four years from that date. Do not rely on old flares to work properly.

TYPE A: Parachute flares

Creates a single red star; reaches a height of 300 m (984') and comes down slowly with a parachute; is easily seen from the ground or air; and burns for at least 40 seconds.

Type B: Multi-Star Flare:

Creates two or more red stars; reaches a height of 100 m (328'1") and each burn for four or five seconds; and is



Handheld (Type B flares) notice the date of manufacture 2,10

easily seen from the ground or air.

Some Type B flares project only one star at a time. When using the single star type, two flares must be fired within 15 seconds of each other. This means that you will need double the number of cartridges to meet the requirements.

Type C: Hand-Held Flare:

Is a red flame torch you hold in your hand; provides limited visibility from the ground; is best used to help air searchers locate you; and burns for at least one minute.

Type D: Smoke Signal (Buoyant or Hand-Held):

Creates a dense orange smoke for three minutes; is to be used only in daylight; and can be packaged with three flares that last one minute each. Position your smoke signal downwind and follow the directions carefully.

- Avoid looking directly at a burning flare
- Hold them well clear of the boat and down wind
- Store them in a water tight container in an easily accessible location (out of the reach of children)
- Treat flares as explosives and handle them with great care
- Rocket and pistol flares have a kick when fired, hold them firmly before firing
- **FLARES ARE NOT TOYS OR FIREWORKS THEY ARE ONLY TO BE USED IN EMERGENCIES**

Always read the manufacturer's instructions before using



flares. To dispose of out dated flares, contact your local retailer or manufacture.

Emergency Position Indicating Radio Beacons (E.P.I.R.B's)

E.P.I.R.B's are floating distress beacons. They can be activated manually or automatically in the event your vessel capsizes or is in danger of sinking.



EPIRB

Once activated, E.P.I.R.B's send out an electronic distress signal with your position, which can be tracked by satellite and aircraft. This signal is then relayed to rescue centres around the world. Not all vessels are required to carry an E.P.I.R.B., but you would be wise to carry one when operating on large open bodies of water. The cost of the E.P.I.R.B. is off set by the fact that it could save your life!

As of February 1, 2009, signals from 121.5/243 MHz beacons will no longer be processed. As a result, only 406 MHz beacons will work on the water. If you have purchased a 121.5/243 MHz beacon, you need to replace it with a 406 MHz beacon as soon as possible.

Always check an E.P.I.R.B. for cracks and the expiry date of the battery. E.P.I.R.B. must be registered with the National Beacon Registry @ 1-800-727-9414 or www.canadianbeaconregistry.ca

Sound signalling device/appliance

Electronic, electric and compressed air horns, pealess whistles and bells are all part of sound signalling equipment that are used for communication when boating.



- A **sound-signalling device** can be a pealess whistle or a compressed gas or electric horn.
- A **sound signalling appliance** can be an electronic or electric in nature or a bell.

“**Whistle**” means any sound signalling appliance capable of producing the prescribed blasts.

“**Short blast**” is one second in duration.



“**Prolonged blast**” is four to six seconds in duration.

Kids are kids so after a day at the beach check the whistle for sand, pebbles, or other obstructions. Replace when cracked. When installing a horn, locate it so that it is not obstructed by any part of the vessel. Electronic and electric horns come in a variety of shapes and sizes and generally, they either work or do not work, however just to make sure they are at fault. Check the battery, fuses and wiring first. Compressed air horns (can) replace when, the can or plastic is cracked or the valve leaks. Bells must be corrosion resistant and meet the collision regulations. Test sound signalling devices before heading out on the water.

Radar reflector

Ping Ping Ping; we all know that sound, it is the sound of sonar used by submarines to track other subs. Radar may not make that sound but it serves the same purpose. Radar is used to determine the proximity of objects on water, land and in the air.

Basically a radar system works like this, a rotating antenna mounted as high as possible on the vessel, it sends out a radio wave, measuring the time it takes for the wave to return from an object. Based on how long it took for the radio wave to return, the system can determine the distance to the object. What radar cannot do is detect objects that absorb or deflect the radar waves. This is why militaries build some modes of transportation using unconventional materials and designs.

Building materials such as wood and fibreglass (are two materials that can) absorb radar waves. Steel and aluminium boats will return a radar image, however, if their design is low to the water line they may not return an image. It is for this reason that **vessels less than 20m, or those made of mostly non-metallic material, must carry a radar reflector.**

When possible the radar reflector must be mounted or **hung at least four meters above the water.**

A Radar reflector is not required when:

- The small size of the craft makes it unrealistic to use
- Using the device may jeopardize the boat's safety
- Or is not operating near radar navigation

Keep them in a location where they won't become damaged and remember, bigger is better when it comes to radar reflectors. Always inspect the reflector before leaving the dock.

Magnetic compass

A magnetic compass is perhaps the most important and reliable instrument on a boat. It provides direction for the helmsmen in all weather conditions and does not require batteries or electricity to function. A magnetic compass works on the magnetism of the earth.



Radar Dome



Radar Reflector

Magnetic compasses point to magnetic north. True north is some distance away from magnetic north. The compass housing is marked with a lubber line. The housing contains a round magnetized card suspended in a liquid, the card always points to magnetic north and is generally divided in degrees increasing clockwise by 5 degree increments. When the boat turns the card remains, pointing north. To read a heading simply read the number that is indicated by the lubber line. To reverse course simply add or subtract 180 degrees from your present heading. Example, your heading is 90 degrees. To reverse course add 180 to 90 and your return heading is 270 degrees. To calculate a reverse heading of 270 subtract 180 and your reverse heading would be 90 degrees. The rule of thumb for calculating a reverse heading is when your heading is more than 180, you subtract 180, when less than 180, you add 180. Whether held level in your hand, on land or water, **a compass will provide you with a directional heading. Due to the nature of a magnetic compass it can be influenced by belt buckles and other metallic items such as fishing knife, or things like wiring, speakers, radios and other electronic devices. Keep them at least three feet from wiring when possible.** If this is not possible make sure the wiring is tightly twisted in pairs of positive and negative; doing so will help reduce the magnetic field produced by wiring.

Sun and salt water spray are harmful to a compass. The sun may make the card brittle and salt water spray may etch the dome. Clean with mild soap and water, never use abrasive cleaners. Cover when not in use. Prior to leaving the dock, check that the compass moves freely.

All vessels are required to have on board a standard magnetic compass. Exceptions include: ships of 150 tons or less. No matter where you boat, always know a heading for safe shelter from the weather.

Note:

Deviation: the boat's possible magnetic influence on the compass and variation: the magnetic geographical location of the boat can also affect a compass. Compass error can be corrected by a qualified professional.

Nautical charts and topographical maps

You decide to be adventurous and plan a cruise to an area not previously visited. Where do you find information about the lake, such as the location of a marina for launching, lunch, or gas? Use a nautical chart!

Nautical charts are graphic representations used to assist a skipper in navigating on the water, and locating or identifying marinas, navigational aids, rivers inlets, underwater hazards, shipping lanes, water depth, currents, shoals, sand bars and many other hazards such as low bridges or submerged ship wrecks. The top of a chart is always north and is overlaid with a grid system, called parallels of latitude and meridians of longitude. Also located on a chart is a compass rose that shows true north and magnetic north. Using charts, a compass and or GPS, you can determine position and a heading for a destination.



Keep electrical and metal objects away from the compass



Chart symbols for starboard hand buoy	 R  R  R  R
Chart symbols for port hand buoy	 G  G  G  B  B  B

Units of measurement for depth can be feet, metres or fathoms (6ft).

Nautical charts are published by the **Canadian Hydrographical Service**, and maybe purchased at local marinas. When buying your first chart be sure to get a copy of chart one. **Chart 1** really is not a Chart all, but a booklet that deciphers the chart symbols. Using an outdated chart is very dangerous. Navigational aids such as weather buoys are occasionally repositioned. Meaning a buoy that was in one position last year may not be located in the same position the next year. There is no need to purchase new Charts every year provided they are **updated using Notice To Mariners**. This publication is available by mail and online, visit www.notmar.gc.ca



Chart 1

Unless familiar with the navigational hazards and local conditions such as tides, currents, ice and weather patterns, the following documents must be carried on board:

- The most recent edition, largest scale chart available
- Sailing directions, published by the Canadian Hydrographic Service
- Notices to Mariners, used to update charts
- Tide and current tables, published by the Canadian Hydrographic Service
- A list of lights, buoys and fog signals published by Fisheries and Oceans
- If fitted with radio equipment, Radio Aids to Marine Navigation

For storage purpose, charts may be folded or rolled up and kept in a dry location. Skippers are well advised to plot courses and refuge from weather before heading out on the water. Note that not all waters are charted.

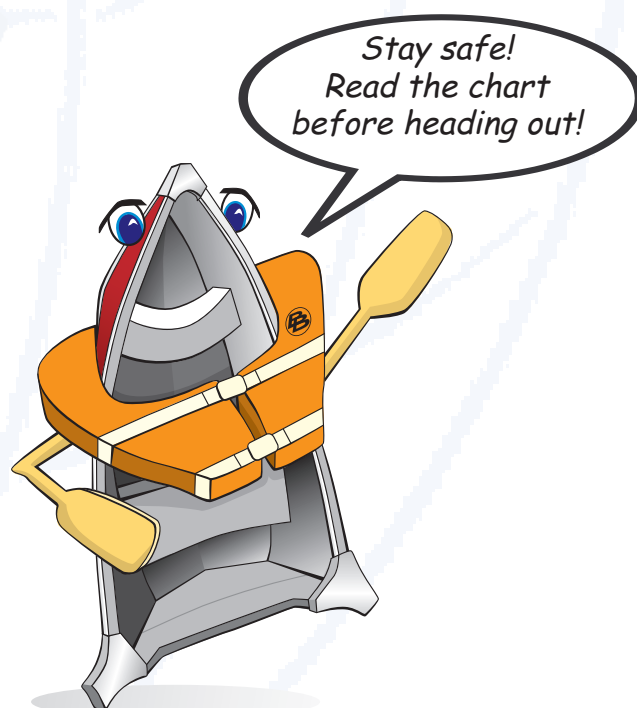
Note: *Parallels lines of latitude run east, west
Meridians of longitude lines run north, south*

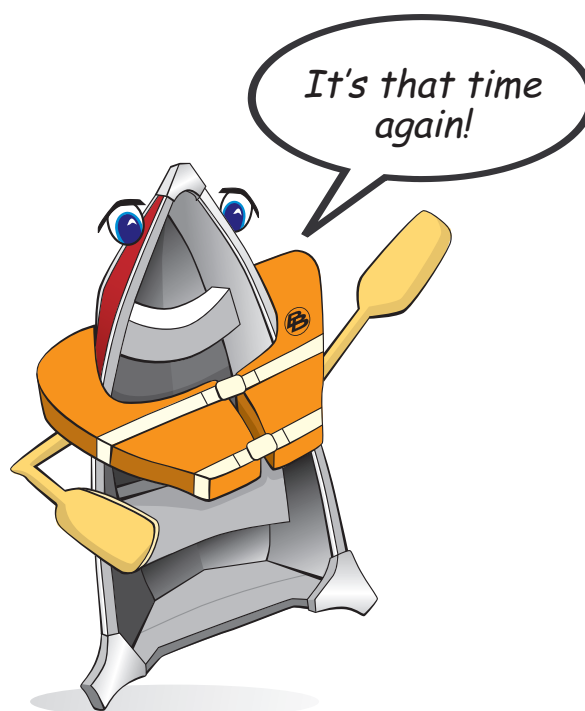


Among other details Charts show bridge clearance

Topographical maps

Topographical maps are to land what charts are to water. Used for travelling on land, they show natural and artificial features of the land that are higher than water including elevation, roads, houses, cottages and other buildings. They also depict contours of shorelines. Marshes, swamps and lakes will also be displayed, however water depth, navigational aids and water hazards will not! They are published by Natural Resources of Canada www.maps.nrcan.gc.ca and can be used for general reference only where there are no charts available.





Effects of the environment

The motion of the ocean can affect your balance, coordination, response time, eyesight, hearing, reflexes, judgement and the ability to enjoy a day's outing. The combination of wind and waves can cause sea sickness, which will affect motor skills and one's ability to think clearly.

Humid or hot sunny days can cause sunburn, fatigue, sun and heat stroke. Drink plenty of water, wear sunscreen and appropriate clothing. White clothing and hats are a good way to stay protected. A cool breeze can cause hypothermia, wind chill or wind burn. Wear warm, dry clothing and cover up with a wind breaker. Also know that the noise from rumbling engines can produce a headache and cause irreversible hearing loss.

Alcohol



The use of drugs and or alcohol can, and will, cause the same effects as the motion of the ocean and may have unfavourable effects on anyone who is on board or in the vicinity of your boat. They can reduce your sensitivity to pain.

field of vision, tolerance to sunlight, resistance to glare from the sun, ability to tell one color from another. Balance, coordination and judgment can also be affected. **Alcohol also causes DEHYDRATION** All of the above mentioned can reduce your ability to operate a boat in a safe and responsible manner not to mention avoid collisions.

A Canadian Red Cross report stated that alcohol consumption is responsible for 40% of all boating accidents and that 66% of people admitted consuming alcohol while boating. It does not matter that you have one beer, one shot of liquor or one glass of wine. The fact is you are putting other people and property at risk!



Operating a boat while impaired is illegal! Transporting alcohol is illegal under Ontario law unless in a container that is unopened (the seal unbroken), or unless the alcohol is packaged in baggage that is fastened closed, and stored in a closed compartment. Under Ontario law you can consume alcohol provided the boat is fitted with permanent sleeping (berth) accommodation, permanent cooking (galley) facilities and sanitary facilities (head), while not used to carry paying passengers and is at anchor or is secured to the dock or land.

Laws regarding transporting or consuming alcohol vary from province to province, for more information on alcohol and boating check with you local and provincial authorities.



Fatigue

If you are too tired to operate a car or play with the children, then you are too tired to operate a boat! Operating a boat while fatigued is always a bad idea. You will be unable to maintain a proper look out and may end in a collision with a log or some other floating object or worse another boat!

Causes can be attributed to dehydration, sun burns, eye strain, grief, insomnia, nutritional deficiencies, not enough sleep, too much sleep, shift work and alcohol.

Symptoms include:

- Weakness, lack of energy, tiredness, exhaustion
- Passing out or feeling as if you are going to pass out
- Palpitations (feeling your heart beating)
- Dizziness
- Vertigo
- Shortness of breath

Treatment:

Many causes of fatigue may be treated with rest, always seek medical attention before taking medications. To keep safe always take turns at the helm while boating.

Boat handling and manoeuvrability

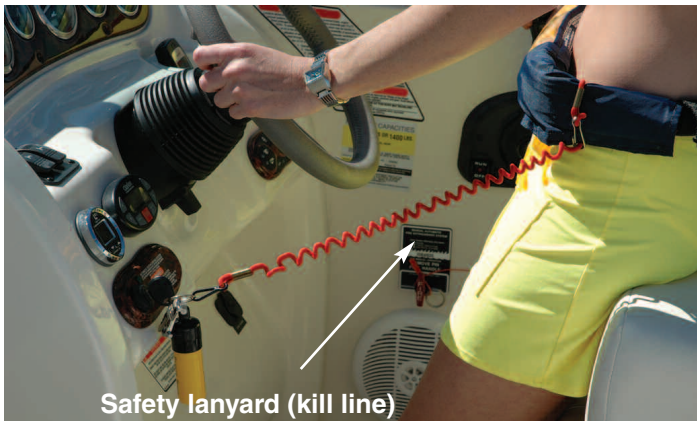
Learning how to handle a boat is not achieved from reading a book. It is learned by practicing! Boats are like cars. Small cars are quicker to respond to steering changes and accelerate faster than big cars. Small boats can turn sharper and faster than big boats like cabin cruisers. Cabin cruisers take time to get up to speed, PWCs and bass boats don't. Some boats have what is called lag in the steering control, meaning when the wheel is turned, the boat takes its time responding to the command, and some don't. Some boats like PWC's and jet boats can hook and flip, catching you off guard, which could result in catapulting passengers out of the boat.

Boats do not handle like cars. There is no traction on the water like there is on the road. As discussed under types of motors, the screw (propeller) makes the boat move forward (ahead) or backwards (astern). Shifting from neutral to ahead or astern is achieved using several different methods, throttle and turning is achieved by just as many methods.

PWC's use a thumb lever mounted on the handle bars for throttle and a separate lever mounted by the seat for moving ahead or astern. They rely on water pressure from the nozzle for steering control. This means no throttle no steering which makes it difficult to control or operate at low speed and when docking.

Steering

Unlike cars, a boat's heading is changed by swinging the stern around a pivot point, once a turn at slow speed has been initiated, the inertia of the boat may swing the stern past the point of dead ahead. Generally, the first instinct is to over correct and turn wheel hard over in the opposite direction, resulting in an over steer towards the other direction. Anticipating the momentum of the boat and turning the wheel back to or even slightly past centre before the turn is completed will help keep you on track. Another trick to assist in keeping on track is to keep your eyes on a distant object, such as navigation aid or land mark. Due to the design of tiller motors, great care must be taken when executing turns as it is easy to accidentally accelerate when steering.



When equipped, ensure to use the lanyard (kill line)

Always keep your hands on the steering wheel or tiller handle when underway!
Failure to do so may result in the boat turning abruptly tossing persons out of the boat. Once in the water the boat may continue to circle your position hence the term **CIRCLE OF DEATH!**

Stopping and turning



Freighters like this one need a few kilometres to come to a dead stop.

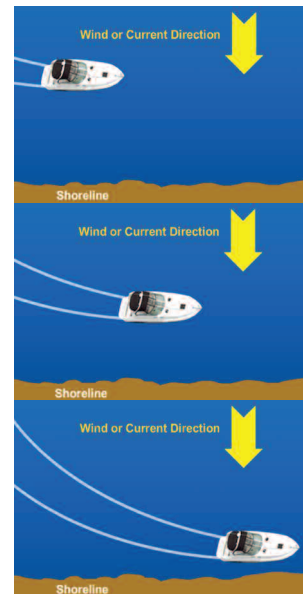
Boats do not have brakes; the only way to stop a boat is to shift to neutral then ease the shifter into reverse. The faster they go the more stopping and turning distance they need.

Weight

The more a boat weighs, the more it takes to bounce and toss it around on the water and change its track(direction). Weight will also increase the required stopping distance.

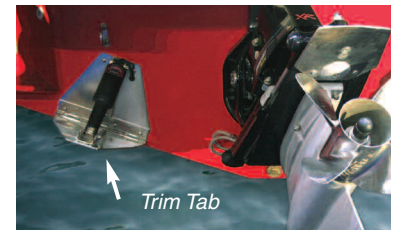
Wind and currents

All boats are affected by wind and currents. The higher and wider the boat is, the more it is affected by wind. The deeper the hull design, the more it is affected by water current. Wind and current will affect the boat's manoeuvrability at slow speed (such as docking) more than at high speed. Always check that the wind or currents have not pushed you off course, particularly in a channel or river where you may run aground.



Trimming (levelling)

Trimming a boat under way is accomplished using motor trim and or trim tabs. When the motor is trimmed out the bow will rise. Trimming the motor in will lower the bow. Trim tabs adjust the boats level (list) port and starboard.



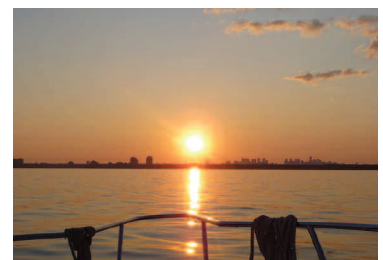
To minimize the use of trim tabs when underway, guests should remain seated; ensure gear is stowed securely and both must be distributed evenly. Carefully adjust the trim to match water conditions.

Whether operating a small aluminum boat equipped with an outboard motor, a PWC, a speed boat with power steering, a 40 foot house boat or a large cruiser equipped with pod steering and twin screws, take your time and get the feel of the boats handling characteristics. Practice boat handling skills by throwing a lifejacket, hat or fender overboard and see how close you can dock to it. This can be used to practice a person overboard technique too! Careful not to get it caught up in the prop. Never overload the boat beyond its weight or person capacity rating. Always ensure everyone wears a P.F.D. Know your limits and the boats limits. Be confident and be prepared before embarking on a boating adventure.

Check the weather forecast

Red skies at night, sailor's delight. Red skies at morning sailor take warning!

You wake up and look outside. The sun is shining and the movement of the trees indicates there is a light breeze. After completing the morning ritual and other formalities you pack the car and head for the boat. After an hour's



Just after sunrise Lake Ontario

drive, you notice the sky is getting darker and the wind has picked up and just as you get to the dock it starts to rain cats and dogs. You ask yourself what happened to the beautiful day. The answer is nothing happened to the beautiful day; it is probably still back at home.

The weather can change from province to province, city to city, hour to hour. This is why it is important to check the weather forecast for the area, or areas, you are heading to. Always obtain the current forecast and the long range forecast; you never know when a mechanical break down may occur, stranding you out on the water. When heading to a large body of water, try to get the weather forecast from the previous day. Large bodies of water, such as Lake Ontario, are very susceptible to winds. Even after a day of light winds, large smooth waves (called rollers) may still be present making the water too dangerous for travel.

Some lakes have weather buoys located on them.

Some buoys may provide wave height, wave speed, water temperature, air temperature and wind speed.

Visit www.ndbc.noaa.gov for current buoy information.

Sources of weather forecasts:

- Personal observations
- Newspapers
- AM/FM Radios, VHF radio
- Television weather channels
- Environment Canada
- Internet



Marine weather forecasts are broadcast in knots.

Light winds: less than 15 knots (19 km/h or less)

Moderate winds: . . . 15 to 19 knots (30-39 km/h)

Strong winds 20 to 33 knots (37 – 61 km/h)

Gale warning: 34 to 47 knots (62 – 87 km/h)

Storm warning: 48 to 63 knots (88 – 117 km/h)

Hurricane Warning . . 64 knots or more (greater than 118 km/h)

High, wispy, white clouds indicate good weather for the next 4 to 8 hrs. The more clouds thicken and the lower they become, the more chance that you will get wet. Sudden wind changes can indicate an approaching squall or rain shower. Remember, the more wind the bigger the waves the bigger the waves the more chance of swamping, capsizing, and sinking! When operating in tidal areas, opposing winds and tidal currents can make for very rough waters. Check with local authorities for VHF weather channels in your region.

Monitor the weather

Mother Nature can sometimes be unkind to operators. She can whip up a howling wind in a matter of minutes creating rough seas or she can roll the fog in, blinding your direction. She is also responsible for the sudden appearance of waterspouts.

You may have listened to the latest weather forecast via the Weather Network, VHF or FM radio but heat from big cities and the contour of land masses such as mountains and valleys can create localized weather conditions. These same mountains, valleys and other local land features can create a **wind funnel**, which in turn can create a sudden build of waves in the area. Anyone who has walked down the streets on a calm summer's day in a city made up of concrete towers, knows how the buildings can turn a light breeze into a strong wind. Mountains, valleys and channels can do the same.

The appearance of dark clouds on the horizon can indicate an ominous storm is approaching and if not heeded, can result in having to deal with sudden winds and a rapid build up of high wave conditions. To avoid the situation, head for home or use a chart and compass or GPS to pick a sheltered bay or inlet to anchor until it passes. Even though dark ominous clouds are covering and drowning the city, staying put or moving farther out on the water **may** be a choice to consider. The heat from the city may cause the clouds to release enough precipitation, which in turn can result in the storm dissipating. This is what causes it to rain on one side of a mountain range and not the other. Ultimately, the choice is yours to make.

Heavy rains may cause rivers, streams, and creeks to suddenly rise above normal conditions (**flash flooding**). The rising waters can cause stronger currents than normal; and can send hazards such as docks, trees, tree limbs, and lawn chairs down stream. Boaters are well advised to maintain a proper lookout for these hazardous conditions. When not familiar with the area, talk with people (lodges, campgrounds, hotel operators) in the area about the localized, wind, weather and wave conditions. Ask them about other hazards such as rapids, currents or the possibility of shipping lanes.



This 2 m tree limb was washed into the lake after a recent rainfall

Handling rough weather

Rough seas are a relative term. To some rough seas start at 2 m (6ft); others may consider 1 foot (knee high) terrifying. What is considered rough is not the point. The point is that you get home safely. **If travelling in rough water conditions must be done, don Lifejackets or P.F.D.'s. Have bailers handy and bilge pumps ready, ensure deck drains (scuppers) are clear. Ensure all persons are seated and gear is secured.** Sitting on the bottom of the boat, or as near as possible, is also an option to consider; particularly in small open boats. Close all hatches, ports, change into appropriate clothing, turn navigation lights on, turn off appliances.



Try to avoid running with or ploughing straight into the waves. Running with them (following sea) may allow a wave to come over the stern (the back) resulting in a swamping. Ploughing straight into a wave may result in nose-diving or pitch polling, meaning end over end you go! Instead, take them at angle of comfort, generally 45 degrees is good. If it is a long trek back home, or to a sheltered bay, use a zig, zag pattern to reach safe haven. To reduce the risk of rolling over, use a minimal amount of turns. Constantly bail any water that has entered the boat.

Poor visibility

Always maintain a proper look out!



With less than 30 meters visibility the anchored ship could not be seen!



After the fog let up a bit this ship could be seen

Even for an experienced boater, being caught blind in the fog, heavy rain or smoke from forest fires can be a trying event. There is no need to panic. Remain calm, turn on navigation lights, have sound signalling devices ready, proceed according to conditions. Keep a sharp lookout for boats and other hazards. Raise your radar reflector and sound the fog horn. If you have GPS with chart capability, now is a good time use it, or consider anchoring until visibility conditions change for the better.

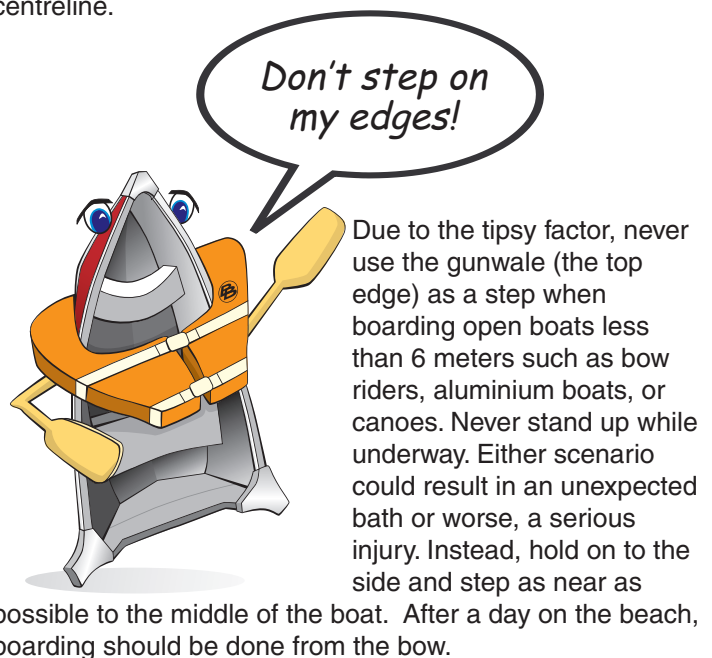
Loading the boat

Ahh! The waves are not that big. Let's go! Out they go and down she went.



This is an accident waiting to happen! Fortunately they made it to the dock safely.

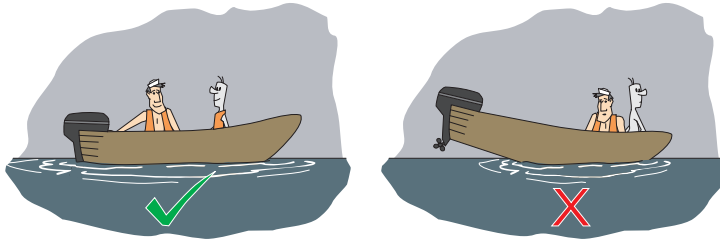
Improperly loaded or overloading a boat with persons and gear can result in drowning. Gear that is not stowed properly or lashed down, such as fishing rods with hooks, coolers, anchors, dock lines, beach chairs, and other items are accidents waiting to happen. Moving around on a boat is one thing, moving around on an overloaded or cluttered boat is another. Tripping over gear can result in bumps and bruises or worse, a fall overboard. Distribute all gear and persons evenly and as low as possible along the boat's centreline.



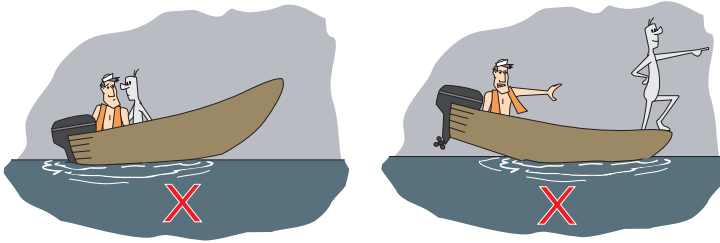
Due to the tipsy factor, never use the gunwale (the top edge) as a step when boarding open boats less than 6 meters such as bow riders, aluminium boats, or canoes. Never stand up while underway. Either scenario could result in an unexpected bath or worse, a serious injury. Instead, hold on to the side and step as near as possible to the middle of the boat. After a day on the beach, boarding should be done from the bow.

Gear should be left on the dock where it can be reached from the centre of the boat or passed to the person in the boat. Movement should be steady and controlled. Boats

loaded bow heavy will take water over the front. If loaded to one side boats are at risk of capsizing. Boats that are stern heavy are at risk of swamping. **Load the boat so as not to interfere with the safe operation.**



Don't be a rebel boater. Always wear your P.F.D. and remain seated.



Proper fuelling procedures

Safe fuelling is essential knowledge. Spilled gas or diesel fuel can lead to fires and explosions and harm marine life. The most common breakdown is running out of fuel. Before departing for any trip remember the one third rule: one third out, one third back and keep one third in reserve. Doing so could save your life if the weather turns rough or at the very least save an embarrassing moment.



Before fuelling:

- Know the tank capacity
- If the fuel dock is occupied, stay well clear
- Make sure boat is secured to the dock
- Shut down all engines
- Turn off electrical equipment via the main switch
- Extinguish all open flames
- Do not smoke in fuelling area
- Close all doors, hatches and ports
- Move portable tanks ashore
- All persons must go ashore
- Have fire extinguisher on hand



During fuelling:

- To prevent static discharge hold nozzle against filler pipe
- Avoid overfilling the tank



After fuelling:

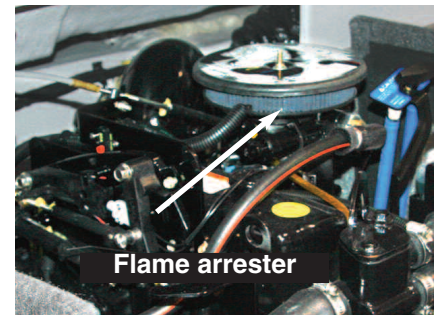
- Clean up any spillage and dispose of rags appropriately
- Open doors, hatches and ports
- Sniff for vapour odours in bilges and cabins
- Run the engine compartment blower for four minutes before the ignition is switched on
- Mix oil and gas as per the manufacturer's instructions
- Warm up the engine
- Cast off

It is a good idea to verify that the type of diesel fuel available is compatible with your engine before filling up. Always follow the safety instructions provided by fuel suppliers, as well as the engine and system user manuals. Before filling the tank verify the fuel type, gas engines don't run on diesel and vice versa.

Ignition protection

The key is turned and the boat goes boom! Why?

Well it could be because the boat was fitted with the wrong type of starter, alternator or circuit breaker. The construction standards state that **ELECTRICAL COMPONENTS MUST BE IGNITION PROTECTED**. This prevents electrical sparks and heat from igniting fuel vapors



emitted from gasoline, engines and generators or fuel burning appliances. Fuel vapors are heavier than air and will quickly flow into the lower parts of a boat. Many boats use automotive engines that are adapted for marine use. The difference is that the electrical parts on the boat should be marked IGNITION PROTECTED. Pre owned boats might have been fitted with standard automotive parts such as a starter, ventilation blower motors, or some other parts such as the coil or distributor. To ensure that the boat is safe, it is a good idea to hire a marine technician or a marine surveyor to inspect the vessel.

Fuel-burning appliances

On board appliances, that use propane or butane may present more risk than a gasoline engine.

To use these appliances safely:

- Use only in a well-ventilated area
- Secure portable appliances and heaters so that

- unexpected movement cannot cause a leak
- Secure gas cylinders and tanks in an area with good ventilation; store them outside on the deck
- Turn all tanks off when not in use
- Always attend to an open-flame heating, cooking or refrigeration system
- Keep flammable materials such as curtains, dishtowels and other combustibles away from the flame
- Fuel-burning equipment must be installed as per the manufacturer's instructions
- Regardless, whether you are using a fuel-burning appliance or an electric appliance, do it on calm waters

Sail plan

What is a sail plan? **It is a document that is left with someone who cares** about you before you leave the dock. What is the purpose of a sail plan? Its purpose is to aid search and rescue personnel in the event you don't make it back home or to a planned destination on time.

Sail plans are also known as float plans or trip plans. They are used to describe the boat's colouring, the number of people on board, departure, return time, destination(s) that are planned, route to be taken and the time of arrival at planned destinations.

When planning a long trip you must update the plan on a daily basis. This means contacting the person you left the plan with and advising them on your progress, especially if you have changed the planned route or arrival times. Updating the sail plan will prevent the person worrying about you which may result in a wasteful call to search and rescue personnel.

Complete the plan with the necessary details to assist in initiating a call for search and rescue, in case of emergency.

Whether heading out for a couple of hours or a couple of days always let someone know where you are going and when you will be returning or if plans changed!

Search and rescue offices:

Pacific Coast

Joint Rescue Coordination Centre Victoria
1-800-567-5111 or 1-250-363-2333

Great Lakes and Arctic

Joint Rescue Coordination Centre Trenton
1-800-267-7270 or 1-613-965-3870

St. Lawrence River

Maritime Rescue Sub-Centre Quebec
1-800-463-4393 or 1-418-648-3599

Newfoundland and Labrador Coast

Maritime Rescue Sub-Centre St. John's
1-800-563-2444 or 1-709-772-5151

Maritimes Coast

Joint Rescue Coordination Centre Halifax
1-800-565-1582 or 1-902-427-8200

Canadian Coast Guard Garde côtière canadienne		SAILING PLAN	
VESSEL NAME AND NUMBER		☐ SAIL ☐ POWER	
NAME AND ADDRESS		TELEPHONE	
VESSEL SIZE AND TYPE			
CLOUR	HULL	DECK	CABIN
TYPE OF ENGINE(S)		OTHER DISTINGUISHING FEATURES	
RADIOS AND CHANNELS MONITORED	HF CHANNEL	VHF CHANNEL	CB CHANNEL
LIFE RAFTS	SKIFF DORY OR SMALL BOAT	(COLOUR)	
OTHER SAFETY EQUIPMENT			
FLARES (NUMBER)	LIFEJACKETS (NUMBER)	OTHER	
WHERE TO CALL FOR SEARCH AND RESCUE CALL COLLECT BY DIALING "0" + THE AREA CODE + THE NUMBER			
TRIP NO. 1			
DATE	TIME	NO. ON BOARD	
LEAVING FROM		GOING TO	
PROPOSED ROUTE AND TIME OF ARRIVAL			
RETURNING ON-DATE		ROUTE AND TIME OF ARRIVAL	
CALL SEARCH AND RESCUE AT		TIME	DATE
TRIP NO. 2			
DATE	TIME	NO. ON BOARD	
LEAVING FROM		GOING TO	
PROPOSED ROUTE AND TIME OF ARRIVAL			
RETURNING ON-DATE		ROUTE AND TIME OF ARRIVAL	
CALL SEARCH AND RESCUE AT		TIME	DATE
TRIP NO. 3			
DATE	TIME	NO. ON BOARD	
LEAVING FROM		GOING TO	
PROPOSED ROUTE AND TIME OF ARRIVAL			
RETURNING ON-DATE		ROUTE AND TIME OF ARRIVAL	
CALL SEARCH AND RESCUE AT		TIME	DATE
TRIP NO. 4			
DATE	TIME	NO. ON BOARD	
LEAVING FROM		GOING TO	
PROPOSED ROUTE AND TIME OF ARRIVAL			
RETURNING ON-DATE		ROUTE AND TIME OF ARRIVAL	
CALL SEARCH AND RESCUE AT		TIME	DATE
TRIP NO. 5			
DATE	TIME	NO. ON BOARD	
LEAVING FROM		GOING TO	
PROPOSED ROUTE AND TIME OF ARRIVAL			
RETURNING ON-DATE		ROUTE AND TIME OF ARRIVAL	
CALL SEARCH AND RESCUE AT		TIME	DATE

Pre departure check list

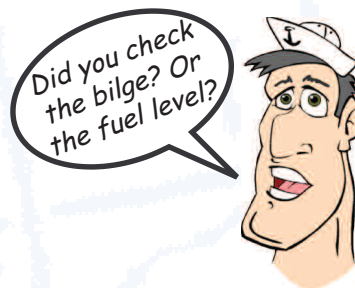
Are you up to the challenge of being responsible for the boat and guests from the time you leave the dock until you return? That is the duty of the operator, skipper, or captain of a boat. Being properly prepared for a boating excursion will reduce the chance of an emergency.



My brother forgot to put on sunscreen!



Snacks are always welcome aboard!



Before departing, give the boat a quick once over. It may seem tedious, but after a couple of times it will become routine and quick.

Check the mechanics of the boat first; no sense getting excited about going out if she isn't **seaworthy**. Is the fuel tank full? Remember one third out, one third back and one third reserve! Are you familiar with the area to be travelled? Ask a local person of water, wind and wave hazards. Check the latest forecast. Will it be favourable for the time you plan on being out and beyond? Are they calling for light and variable winds? When forecasters issue a **Strong Wind Warning, 20 – 33 knots (37 – 61 km/h) even experienced boaters stay off the water**. Remember the more wind the bigger the waves, more chance of waves cresting over the boat and swamping or capsizing you.

- When possible, check the local weather buoy report
- Bring assorted chips, beverages and other general munchies
- Bring sunglasses, sunscreen, hat and seasickness remedies
- Stay hydrated, bring lots of water
- Check appropriate clothing, wear white when possible



Some local police marine units offer a courtesy check program and once completed, will issue a compliance sticker.

Hull

Make sure the drain plug is in place. More than one trailer and boat has sunk due to a forgotten drain plug.



Install the drain plug!

- Check if the boat is mechanically sound
- Check the hull for damage
- Check all fittings and hand rails for tightness
- Check all through hull fittings and seals for tightness and integrity
- Check trim tabs function with no leaks

Motor

- Check that the maintenance scheduled has been followed as per the manufacturer's instructions



Always follow the manufactures maintenance schedule

- Check the propeller for damage or debris
- Check cooling intakes
- Check coolant and all other fluid levels
- Check all pulleys, belts for wear and tension
- Check the engine ventilation system
- Check the oil levels and if required mix oil gas as per the manufacturer's instructions
- Open the vent cap on portable tanks

Inside hull

- Check all drains are clear
- Check all scuppers (for draining water off the deck)
- Check all bilges are clean and free of debris
- Check all hoses and lines for leaks or cracks
- Check clamps are secure and double clamped when below the water line

Electrical

- Check all gauges
- Check the VHF radio and other electronics
- Check the batteries are fully charged
- Check the charging system and other gauges
- Check that carbon monoxide and CO2 detectors are working
- Wiring is secured and sound
- Check wire connections and electrical for soundness
- Check sound signalling devices



Check the navigation lights before heading out

Safety equipment

Check all mandatory safety equipment is on board, readily accessible and capable of working properly.

Lifejackets & P.F.D.'s

Confirm that one approved, appropriately sized P.F.D. or Lifejacket is available for each person. Inspect for holes, tears, check seems, straps and zippers. Are they appropriate for the type of water activity. Did you test them? Do it now.

Buoyant heaving lines and lifebuoys

- Do you have the appropriate size heaving line, is it chafed (frayed)?
- Check lifebuoy is it approved. Remember the horseshoe type are not approved
- Are they secured near the stern?
- Have you practiced using both?

Other equipment

Is the re-boarding device on board?

- Are the paddles and oars on board?
- Is the anchor on board and ready for use?
- Bailers and manual pumps
- Fire extinguisher, charged and secured appropriately
- Water proof matches for starting fires on shore should you get stranded
- Binoculars
- Boat hook
- Bug spray
- Rain suits
- Dry clothing, thermal blankets (for hypothermia recovery)



Bailer

Distress equipment

- Required flares and other distress signals, expired flares are unreliable and could cost you a fine
- Watertight flashlight with spare batteries
- Batteries left in any device will leak after time. Better to store them separately
- In a pinch a wind up flash light is better than nothing
- Mirror, spotlight



Flares expire 4 yrs from date of manufacture



Always carry spare batteries

- E.P.I.R.B. is it registered? Check for water leaks, and the battery expiration date
- Does the VHF radio work?
- First Aid kit on board and fully stocked



Navigation equipment

- Test Sound signalling devices and appliances
- Are whistles attached to PFDs
- Check navigation lights
- Check radar reflector
- Check compass the compass floats freely
- Check charts are up to date
- Check the GPS is on board



Documents

- Check ownership/registration/PCOC are on board
- Check the latest Homeland Securities (if applicable)
- File a sail plan or leave instructions with someone on shore as to when and where you are going and when you are returning.
- Do you have a way of contacting them, in case plans change?
- P.C.O.C.
- Should you have a copy of sailing directions on board?
- How about tide and current tables? Will you be travelling in tidal areas?
- Do you have a VHF/ ROC (radio operator's certificate?)
- Other documents may include passport and credit cards
- What is the boat's capacity rating?
- Do you have up to date charts or a topographical map for the area?
- Study the chart before heading out, for navigational hazards and sheltered locations
- Close sail plan once you have returned to the dock

Spare parts and tools

- Check first aid kit is onboard and fully stocked
- Check all tools and spare parts are on board



Loading the boat

Ok, time to load everything on board. When loading a boat less than 6 meters (19 feet), load the gear first, and when possible have someone hand the gear to you. This will reduce the risk of tipping the boat and causing injuries. Store nonessentials in the space provided, such as under the seats or lockers, heavy items on bottom. This helps keep the centre of gravity low. Load so the boat floats level

bow (front) to stern (back) and side to side. To prevent uncontrolled movement, store all gear securely and safely. You don't want a cooler lid flying up and hitting someone in the head do you? Instruct guests not to jump into or step on the gunwale (top edge) when boarding the boat. Instead they should hold onto someone or something sturdy, while carefully stepping into the middle, or as close as possible to the middle of the boat. Seats are meant to sit on, so leave them available for sitting. It is better to leave one person or non essential gear on the dock than to overload the boat.

Remember, the more boat above the water, the safer it is. It does not take a very big wave to come over the back of boats less than 6 meters nor does it take a big wave to tip and roll a canoe. Persons must be loaded in a way that the safe operation of the boat is not affected. This means that nothing obstructs the view of the operator, or the safe operation of the vessel. Let the engine warm up.

Inform your guests it's the law!

When guests come on board your vessel, it is your responsibility to make them aware that they may be needed in case of emergency.



Instruct them on the following:

- The location of personal flotation devices and or lifejackets
- The importance of wearing personal P.F.D.'s or lifejackets at all times; remember they don't work if they're not worn!
- Instruct them on how to properly fit and fasten a P.F.D. or lifejacket
- The technique for putting on personal flotation devices and or lifejackets when in the water
- The location of the emergency kit
- How to use the VHF radio
- In the event that you become ill or incapacitated, instruct them on the basic operation of the boat, let them drive it and get a feel for it
- Instruct them on what their roles are in case of emergencies such as person overboard or mechanical break downs.
- Instruct them to keep hands, arms and legs inside the boat when approaching or leaving a dock
- The effects of the motion of the pleasure craft, sunlight, waves, wind, sound and alcohol can have on them (see effects of the environment)
- In the event of foul weather, to move to the bottom of the boat (particularly aluminum boats)

When moving around on the boat maintain three points of contact, this means that two feet and one hand
OR

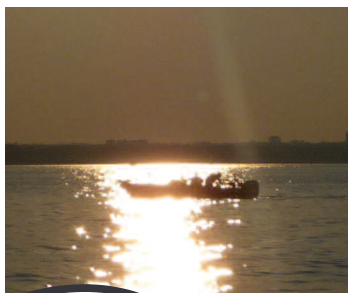
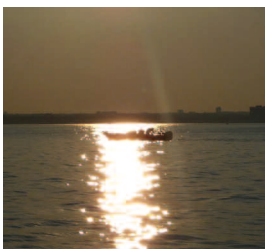
Two hands and one foot must be in contact with the boat at all times.

To remain seated at all times when underway

- Do not sit on the edges (gunwales) of the boat
- Do not sit on pedestal seats that are commonly found on Bass Boats
- Do not stand up in the front of Bow Riders
- Do not lean over the gunwales
- Listen to the radio for updated weather conditions

To make it a happy trip for all people onboard, the captain of the craft should explain the personal rules of the boat to guests. Some of these rules may include smoking, language, etc.

On the water



Once on your way, check that the boat is trimmed out properly. It should ride level. Water splashing over the bow or sides can be a result of going too fast for the water conditions and put you at risk of capsizing. A boat that is loaded stern heavy is in danger of swamping. A boat that is loaded bow heavy is in danger of pitch polling. A boat that is loaded heavier on one side, is in danger of capsizing.

Wear Polarized sunglasses when boating as the sun can make it hard to see other boats



Always maintain a proper look out for vessels in need of assistance and hazards such as:

- Low head dams
 - Rapids
 - Sudden winds, approaching storms or wind funnels
 - White water, tides, wind
 - Under water, overhead cables (telephone, hydro, ferry etc.)
 - Bridges (clearance)
 - Rapid wave build up from an approaching storm or wind funnel
 - Currents, when on or near rivers or changing tidal areas
- Take is easy, there is no rush. It is better to be cautious and arrive back safely than to rush and not make it back at all!

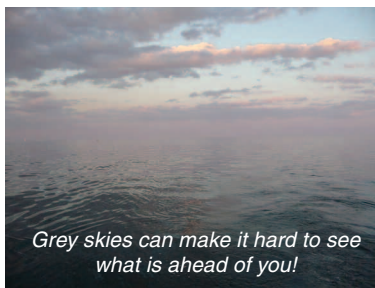
As per the collision regulations, every vessel shall precede at a safe speed so that she can take proper and effective action to avoid collision and be stopped within a distance appropriate to the prevailing circumstances and conditions. In determining a safe operating speed, the following factors shall be among those taken into account:

Restricted visibility

conditions such as fog, rain, snow, haze, or smoke (forest fires). Can you see over the crest of the next wave?

Wind & waves: the more wind the bigger the waves, both can make it difficult to control the boats manoeuvrability.

Water currents: are the tides changing or did it rain recently making for stronger currents in rivers, or canals?



Grey skies can make it hard to see what is ahead of you!

Either scenario can cause turbulent water and strong currents that can push you off course.

Traffic density: slow down in areas of dense traffic. Many accidents have occurred at river mouths from lack of respect for the rules of the road.



Ship at anchor greater than 100m

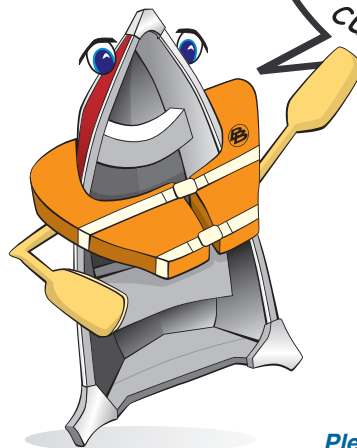
Types of vessels in the area: remember big boats and ships need more space for manoeuvring and stopping. Watch for hazards such as navigational aids. Many boats have run into them as result of not paying attention and driving too fast. Consider your own boat's manoeuvrability. How well does it handle? How much space does it need to make a turn? How much stopping distance will it require in the prevailing circumstances? And check for and comply with any boating restrictions in effect. How do you avoid a collision or upset? Maintain a proper look out!

Under the collision regulations

Every vessel shall at all times maintain a proper look out by sight and hearing as well as by all available means appropriate in the prevailing circumstances and conditions so as to make a full appraisal of the situation and of the risk of collision. And use all available means appropriate to prevailing circumstances and conditions to make full appraisal of the situation and to determine if the risk of collision exists. Simply put, maintain a proper look out, use every available resource available to prevent a collision. e.g. binoculars, radar, VHF radio).



Watch for strong currents.



Rules of the road as per collision regulations

Do you know the rules of the road?

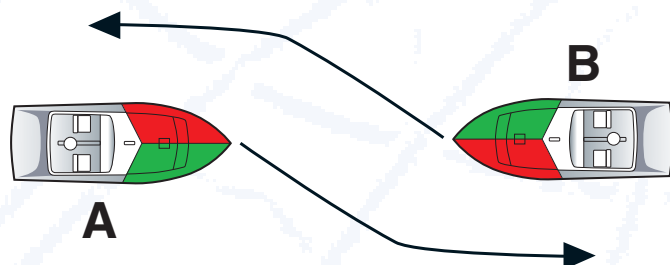
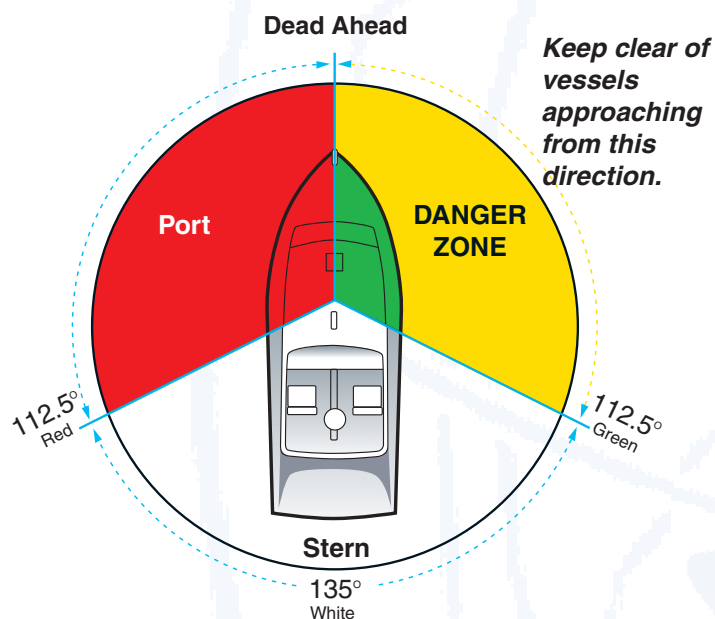
Stand-on vessel is the vessel that maintains course and speed unless it is apparent that the give way vessel is not altering course, then the stand on vessel must take early and substantial action to avoid collision.

What does this mean? Well if you have right of way and you know you have right of way, you must give right away when the other boat does not appear to be giving right of way.

Give-way vessel is the vessel that is required to keep out of the way of another vessel.

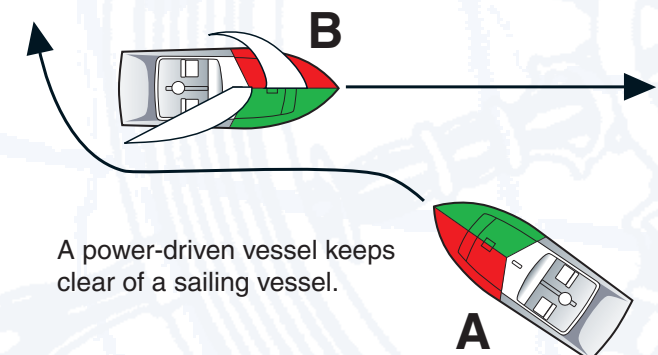
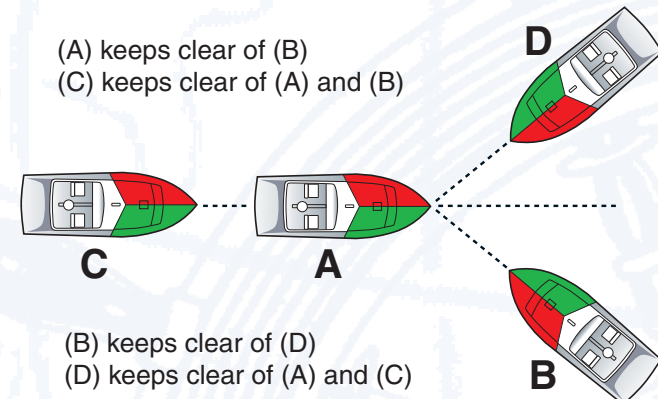
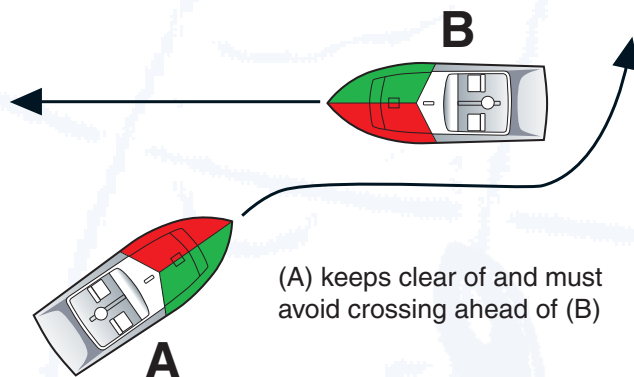
Port is the left side of a pleasure craft when looking forward.

Starboard is the right side of a pleasure craft when looking forward.



(A) blows one short blast (1 sec.) and alters course to starboard.

(B) blows one short blast (1 sec.) and alters course to starboard.



Great Lakes Rules

"I want to pass you on your port side"

2 short blasts
(1 sec.)

"Procced"

2 short blasts
(1 sec.)

International Rules

"I am altering my course to port"

2 short blasts
(1 sec.)

Great Lakes Rules

"I want to pass you on your starboard side"

1 short blast
(1 sec.)

"Procced"

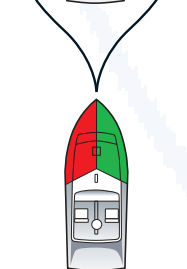
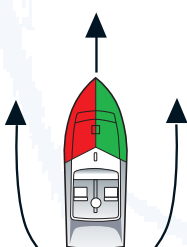
1 short blast
(1 sec.)

International Rules

"I am altering my course to starboard"

1 short blast
(1 sec.)

Stand-on vessel

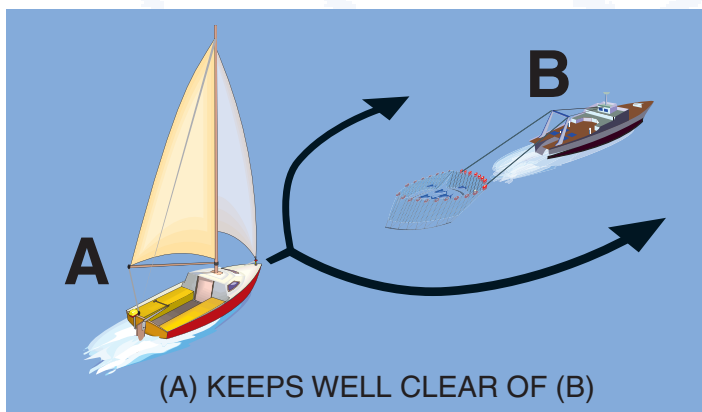


Give-way vessel

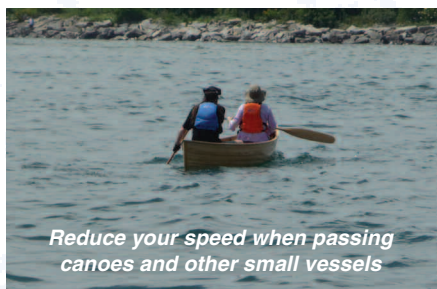
The same rules apply to sailing vessels.

VOYAGE 5 - Rules of the road

Pleasure craft operator card



All pleasure boats must keep clear of vessels that are engaged in fishing. Although this rule does not apply to recreational fishing boats, common courtesy should be used to avoid fishing lines.



Pleasure boats must also stay well clear of docked ferries, moving ferries, vessels in tow and all types of human powered craft such as kayaks, canoes and paddle craft. Pay attention when near **docked ships and ferries as they will sound one prolonged blast (6s) before departing the dock.** Use caution when operating around ferries as **some ferries use under water** (submerged) cables to pull them back and forth across the water.

Pleasure craft (power or sail) **must stay clear of vessels following shipping lanes, operating in narrow channels, restricted in their ability to manoeuvre or not under command.**

Pleasure craft cannot prevent the passage of vessels proceeding downstream or following traffic separation schemes.

- All vessels shall stay to the outer limits and as far to starboard as safe to do so, when operating in narrow channels or fairways
- No vessel shall cross in front of, or prevent the safe passage of a vessel travelling in a narrow channel, fairway or travelling in a downstream direction or travelling with tidal currents
- No vessel shall anchor in a narrow channel or fairway

unless necessary. Seaplanes and float planes must follow the rules of the road and not impede the safe passage of other vessels. However you would be foolish to get in the way of a moving float plane! Generally speaking, when they want to land they will buzz the surrounding area a couple of times.



Crossing the path of a freighter or other large vessel following shipping lanes

can be a little intimidating. There is no need to panic, it's no different than crossing a busy, snow covered street in the fog and heavy rain. You just need to time it right, so as not to prevent the safe passage of the vessel following the shipping lane. Large ships and boats are like large trucks on the road, they have blind spots and will not see you unless you are some distance in front, behind or beside them. Before crossing in front of any vessel, be confident that they have seen you. If needed, use the VHF radio to advise them of your intentions. Hoist a radar reflector if possible; turn on the nav lights, check the wind, wave and water conditions. Pick your time and go, do not hesitate, get it done. To help ensure that the captain of a vessel has seen you, make sure that you can see the bridge (wheel house, helm) if you can see them they should be able to see you. There are three good reasons that **groups of small boats should cross together.**



- Crossing together, increases the chances that you will be spotted either by sight or radar.
- Crossing individually only prolongs the adventure which may lead to a collision
- In case of a mechanical breakdown or other mishap help is immediately available.

Collisions between ships and little boats rarely end up with injuries on the big ship. As a general rule, small boats should keep clear of big boats. Big ships may look like they are far off in the distance but can travel faster than sail boats. They can be on you faster than you can say "Bob's your uncle". They require a lot of water for manoeuvring and stopping. Always **maintain a proper look out** for other boats, ships, floating debris, and people needing assistance.

Avoid potential danger by steering clear of rapids and currents, and be sure not to obstruct vessels following shipping channels.

Vessel Hierarchy

- Vessel not under command, (not making way) I.e a vessel engaged in diving operation
- Vessel restricted in her ability to manoeuvre (nature of her work restricts her ability to move) I.e a vessel towing or pushing a barge
- Vessel engaged in fishing (with trawls or nets)
- Sailing vessels
- Power vessels

How can you determine when the risk of collision exists?

Use the following as an example; draw an imaginary line (take a compass bearing) from the windshield or some other part of your boat to the other boat. When the other boat does not continue to fall behind, or move ahead of the line, a risk of collision exists.

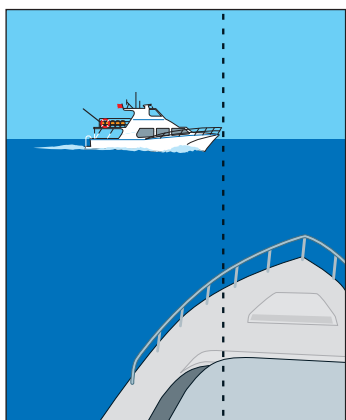


Fig. A
Take a bearing on the approaching vessel.

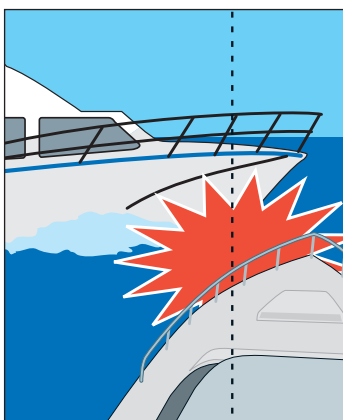


Fig. B
A collision exists when both vessels maintain course and speed.

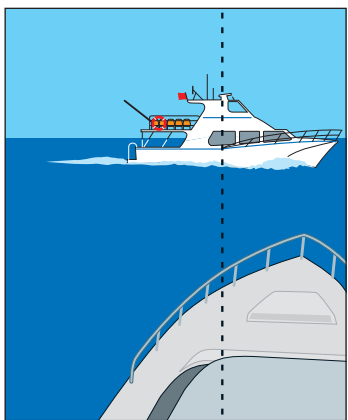


Fig. C
Collision is avoidable provided the vessel continues to move forward of the line.

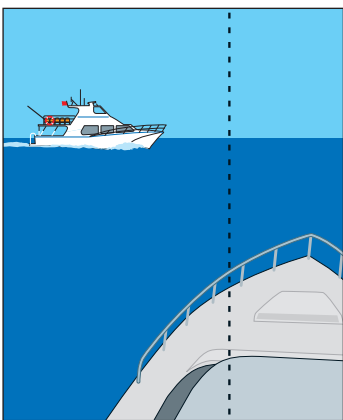


Fig. D
Collision is avoidable provided the vessel continues to fall behind the line..

Accident reporting

When medical treatment beyond first aid is required but not admittance to a hospital, or when property damage is estimated to be greater than **\$2,500.00**, it is your duty to report and submit an accident report to the Canadian Coast Guard, not more than 14 days after the accident.

It is your duty to report and submit an accident report to the local police authorities as soon as possible when the accident results in a fatality or injury to a person requiring admittance to a hospital, or property damage is greater than **\$5,000.00** resulting from fire, explosion or collision with another vessel or other floating or fixed structure.



This applies in a province where the government of the province has reached an agreement with the Minister of Fisheries and Oceans with respect to pleasure craft accident reporting procedures.

Navigation lights as per collision regulation (nav lights)

Navigation lights (nav lights), also known as running lights when under way, are **RED, GREEN, and WHITE** in colour.

They are used to identify a boat type, size and direction. For the safety of all vessels, nav lights must be used one hour before sundown, to one hour after sunup, and in restricted visibility such as fog or heavy rain and may be exhibited in all other circumstances when it is deemed necessary.



Nav lights are contained in water tight housings, consisting of a stainless steel or plastic cover, coloured lens, bulb, socket and a gasket. Most times, when a nav light fails it's as simple as removing the coloured cover lens via screws. Then with a push, turn, and pull motion remove the bulb. Bulbs, sockets and fuses may be checked using an inexpensive testing device called an ohm meter. An ohm meter is also good for checking fuses.

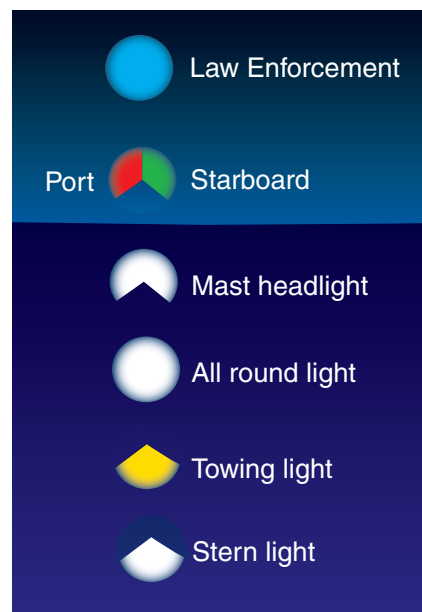
The constant pounding from travelling across rough water may cause a lens to crack, allowing water to enter the housing. Water will corrode the bulb and socket. This in turn can lead to a blown bulb, fuse or breaker. The socket and bulb can sometimes be brought back to life by lightly sanding them. If not, they will need to be replaced. Before reassembling the housing, test the lights, you wouldn't want to take it apart twice would you?

Carry extra lenses, bulbs, sand paper and fuses onboard.

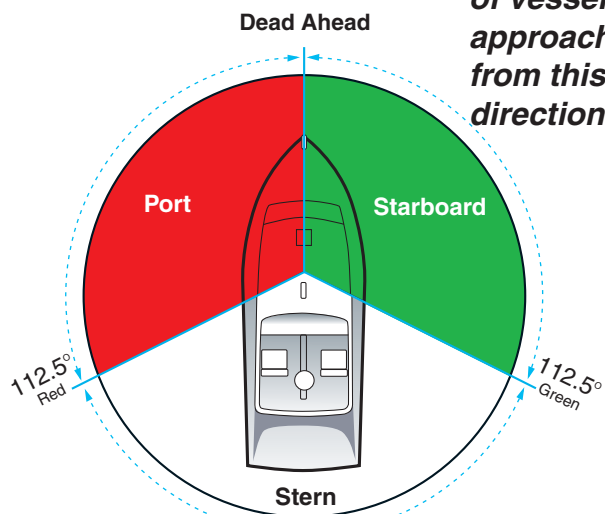
Navigation lights must be installed as per the **COLREGS ANNEX I**.

If you have any questions after reading the regulations, please contact the Ministry of Transport 1 800 267 6687. Regardless of visibility conditions always test your nav lights before leaving the dock!

The purpose of navigation lights is to prevent collisions with other vessels!



Arc of Lights



Keep clear of vessels approaching from this direction.

Masthead light means a white light placed over the fore and aft centerline of the vessel showing an unbroken light over an arc of the horizon of 225 degrees and so fixed as to show the light from right ahead to 22.5 degrees abaft the beam on either side of the vessel

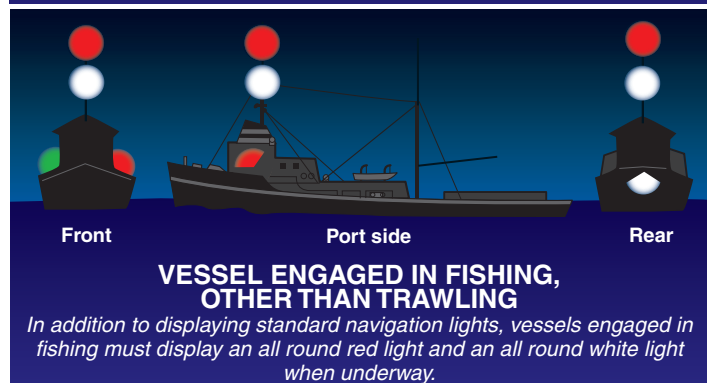
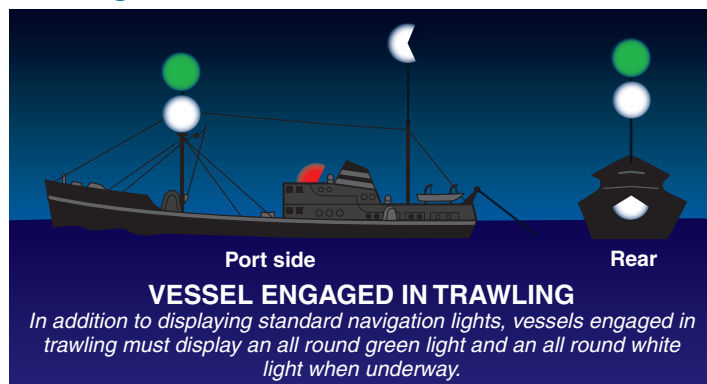
Standard navigation lights are:

RED indicates the port side of a vessel
GREEN indicates the starboard side of a vessel
WHITE can indicate the stern of a vessel or an approaching power vessel or a vessel at anchor

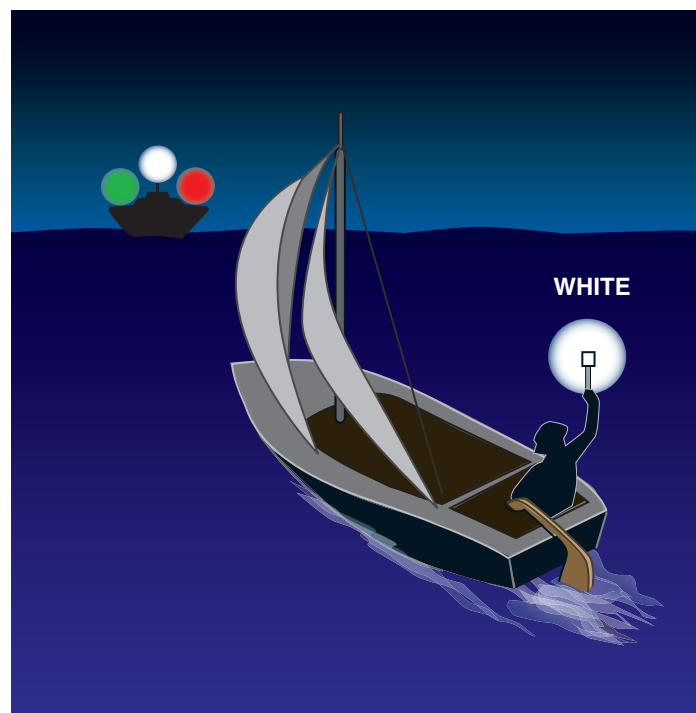
Note:

Vessels under sail do not display a Masthead light
 Sailing vessels under power must display the same navigation lights as power boats of equal length.

Vessels engaged in fishing, other than trawling

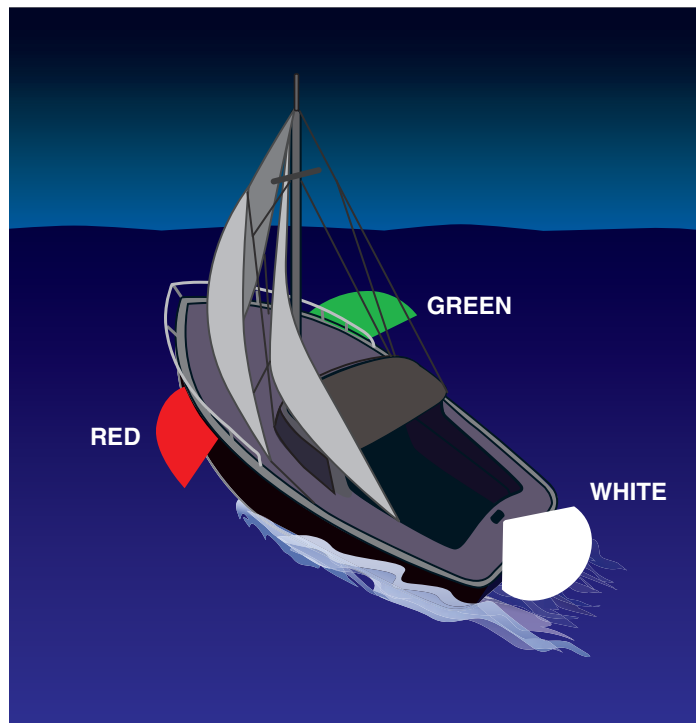


Navigation light options for sail boats



Option 1

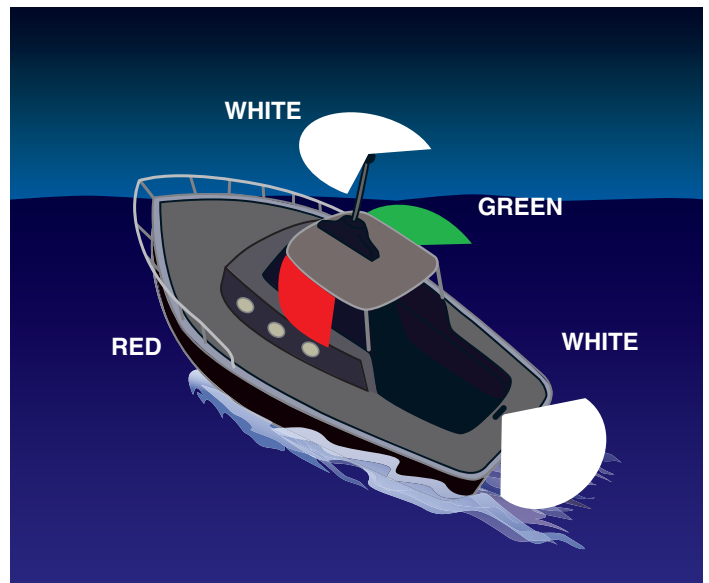
Sail boats under 7 m (23') underway may use a flash light or lantern showing a white light provided it is displayed in sufficient time to prevent a collision.



Option 2

All Sail boats underway may use the above light configuration.

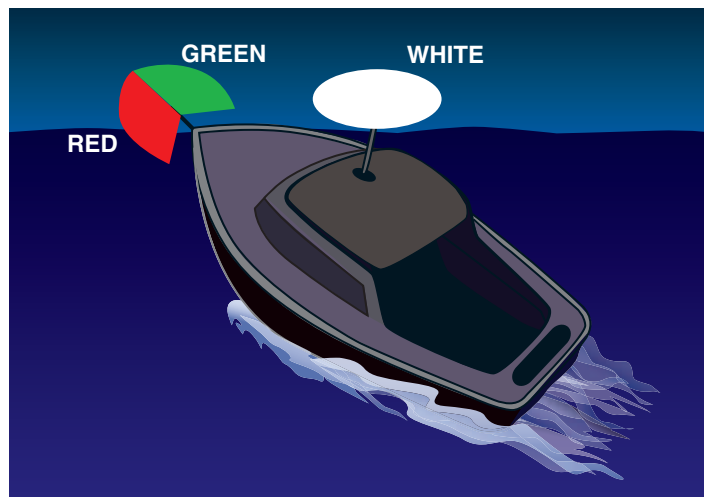
Navigation light options for powered boats



Option 1

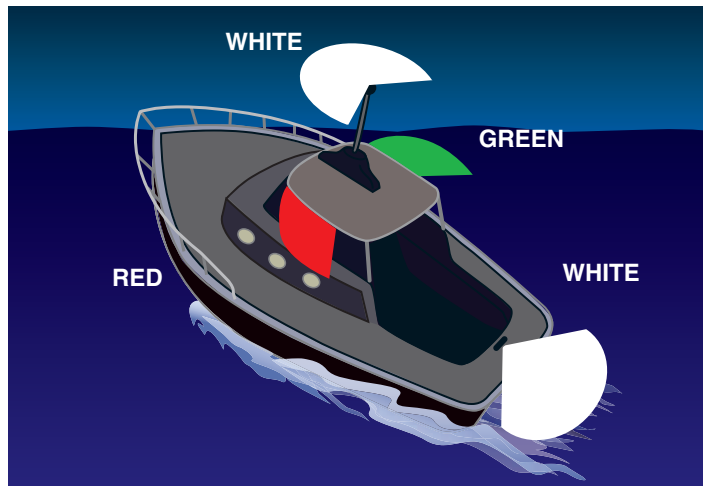
Power Boats under 12 m (39'4")

May display a second masthead light



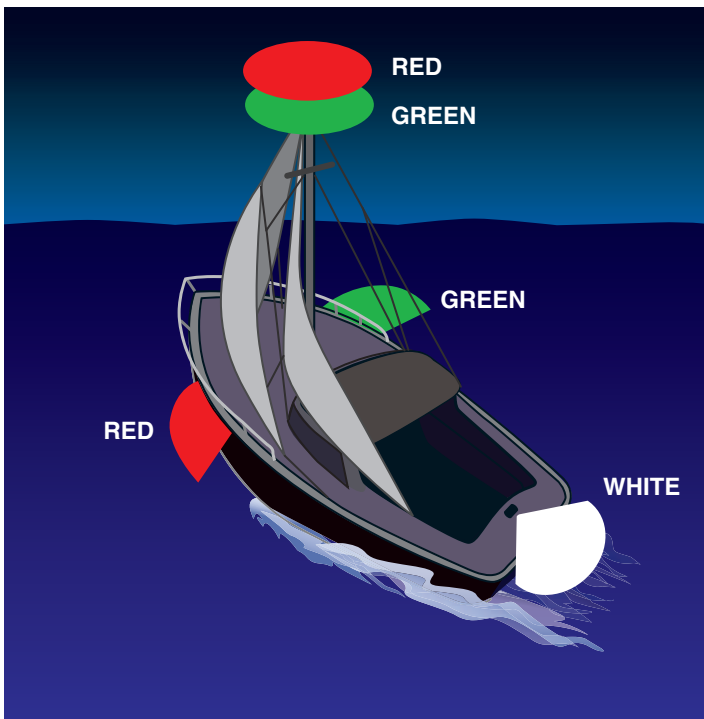
Option 2

Power Boats under 12 m (39'4")



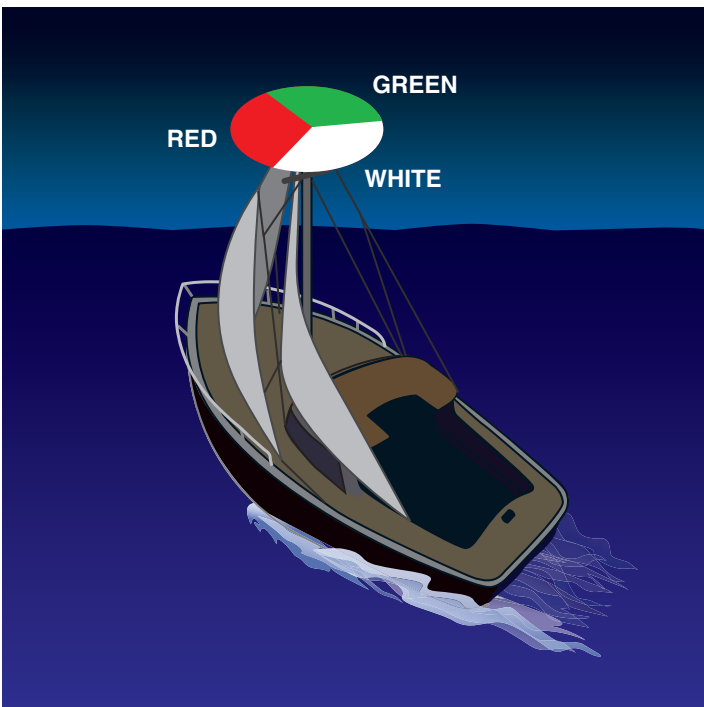
Option 3

Power Boats from 12 m (39'4") to under 50 m (164'1")



Option 3

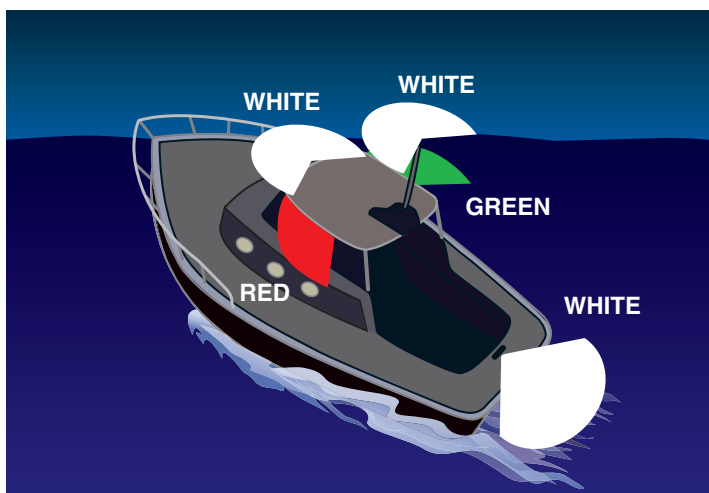
Sail boats underway may use the above lights. Under this option you cannot use the combined red, green and white lantern as in option 4.



Option 4

Sail boats less than 20m

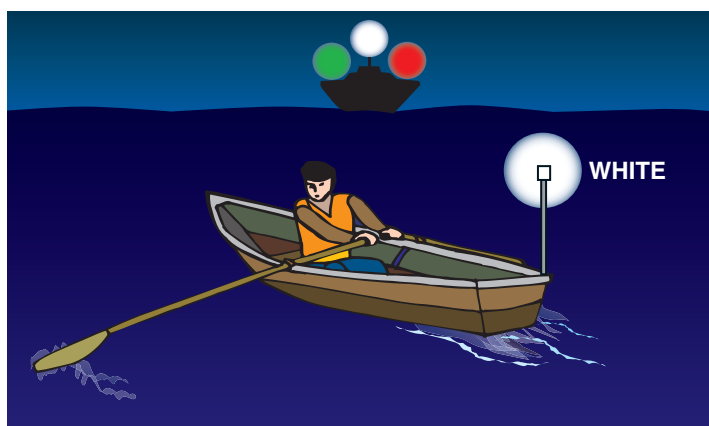
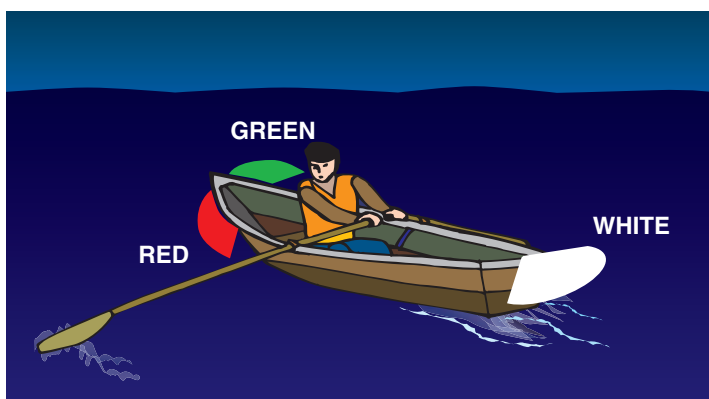
NOTE: OPTIONAL - In Canadian waters of a roadstead, harbour, river, lake or inland waterway, a sail boat that is also being propelled by a motor may exhibit forward where it can best be seen a conical shape, apex downwards, (a cone with the pointy end down).



Option 4

Power Boats from 12 m (39'4") to under 50 m (164'1")
May display a second masthead light

A power-driven vessel of less than seven metres in length whose maximum speed does not exceed seven knots may exhibit an all-round white light and shall, if practicable, also exhibit sidelights.



Rowboats, kayaks, canoes and other human powered boats **may use a flash light or lantern** showing a white light provided it is displayed in sufficient time to prevent a collision or the same lights as sail boats, according to length. Collision regulation rule # 25 To reduce the chance of your wake, capsizing or swamping unstable boats always slowdown when operating around these small craft.



Peel Marine Unit on patrol

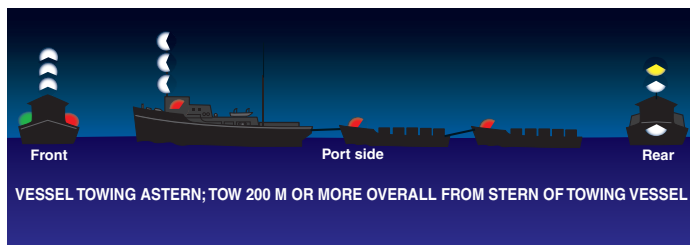
Police vessel

Police boats have a flashing blue light as well as standard navigational lights.



When this light flashes it means stop your vessel

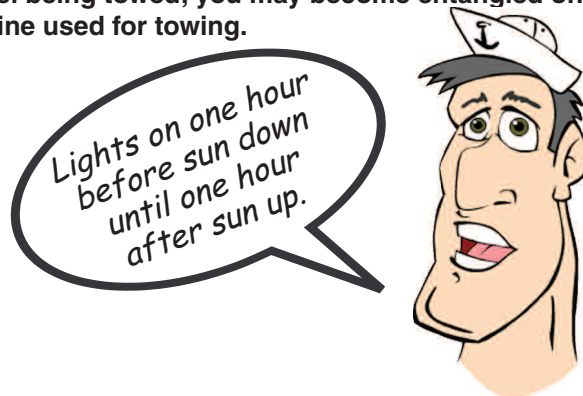
Tow vessel



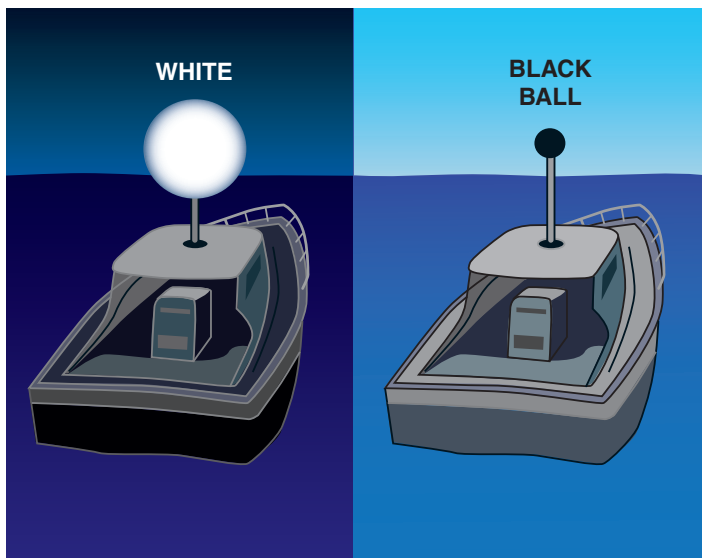
When a vessel is towing or pushing and the tow exceeds 200m (656 feet) bow to stern, the tow vessel shall display three masthead lights in a vertical line as opposed to the standard masthead lights. In addition to sidelights **and stern lights, must display a yellow light directly above her stern light**. The object or vessel being towed or pushed may use a flashing yellow or special flashing yellow light in addition to standard nav lights. Depending on the configuration, the tow vessel and vessel(s) or object(s) being towed or pushed may be identified as a single lit vessel or separate lit vessels.

When a vessel is towing or pushing and the tow is less than 200m (656 feet) bow to stern, the tow vessel shall display two masthead lights in a vertical line as opposed to the standard masthead lights. In addition to sidelights and stern lights, must display a yellow light directly above her stern light.

Never travel between the towed vessel and the object or vessel being towed; you may become entangled on the tow line used for towing.



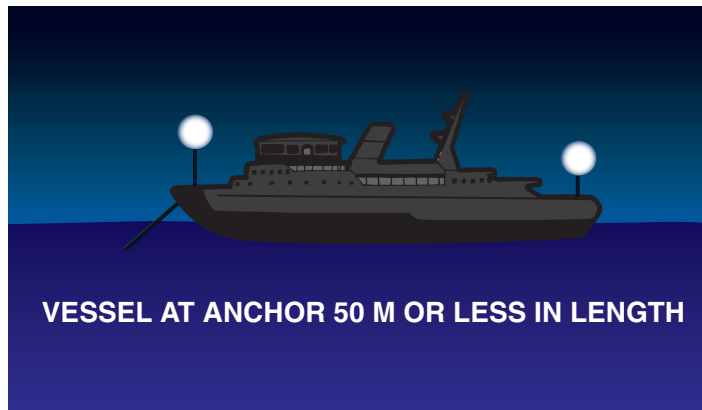
Anchored vessels



Option 1 Anchored vessel less than 50m

Boats under 50 m (164'1") must display the following lights or shape when anchored in a channel, fairway or anchorage area or any other location that boats may navigate:

- One (1) ball (during the day)
- One (1) all-round white light at night near the front part of the boat and a second all round light near the stern of the boat if needed. Lower than the front light. She may also use lights to illuminate the decks.



Option 2 Boats under 50 m (164'1")

Vessel more than 100 m (328 ft) in length shall use lights to illuminate the decks at night.

Vessels aground, partly submerged must use the above lights and (i) two all-round red lights in a vertical line, (ii) three balls in a vertical line.

The above anchoring regulations are not required, when anchored in designated anchorage areas.

Sound signals as per collision regulations

A boat comes up from behind you and toots the horn, you wave to them. They toot again and as they pass with a glare you wave again! As discussed under sound signaling devices, horns, bells and whistles can be used for communication on the water.

The following is a list of sound signals.

"Short blast" - is one second in length

"Prolonged (long) blast" - is four to six seconds' in length

Under International Collision Regulation Rule 34:

One short blast - means *"I am altering my course to starboard"*

Two short blasts - means *"I am altering my course to port"*

Three short blasts - means *"I am operating astern (reverse) propulsion"*

Five or more short and rapid blasts - means *"I don't agree, or danger signal"*

When in agreement the vessel being over taken responds in the same manner

Rule 34 also states when overtaking another vessel in a narrow channel or fairway you shall sound:

Two long blasts followed by a short blast - *"I intend to overtake you on your starboard side"*

Two long blasts followed by two short blasts - *"I intend to overtake you on your port side"*,

Five or more short and rapid blasts - means *"I don't agree or danger signal"*

When in agreement the vessel being over taken responds with one long blast, one short, one long and one short blast.

Canadian Modifications of rule 34

One short blast - *"I intend to leave you on my port side"*

Two short blasts - *"I intend to leave you on my starboard side"*

Three short blasts - *"I am operating astern (reverse) propulsion"*

Five or more short and rapid blasts means *"I don't agree or danger signal"*

Note: that an all-round white light, visible for 8 km (5 miles) may be substituted for sound signals

One (1 second) flash - repeated every 10 seconds
"I am altering my course to starboard"

Two (1 second) flashes - repeated every 10 seconds
"I am altering my course to port"

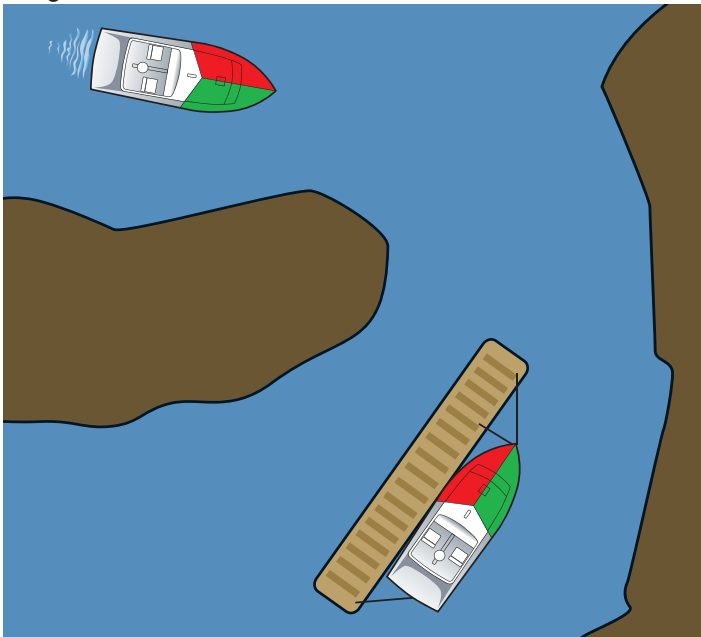
Three (1 second) flashes - repeated every 10 seconds
"I am operating astern (reverse propulsion)"

A flood light may be used to attract attention or to indicate danger but cannot be aimed as to create a nuisance.

Sound signals in restricted visibility international

- Power vessels** - shall sound one prolonged blast every two minutes
- Power vessels** - stopped underway but making no way, shall sound two prolonged blasts every two minutes
- Sailing vessels** - shall sound one prolonged blast plus two short blasts every two minutes
- Boats at anchor** - shall sound rapid strokes on the bell for 5 seconds at intervals not less than one minute intervals
- Boats aground** - shall sound three distinct strokes on the bell, followed by five seconds of rapid ringing of the bell, and followed by three distinct strokes on the bell
- A towed vessel** - sounds one prolonged followed by three short blasts every two minutes

A vessel engaged in fishing, when at anchor, and a vessel restricted in her ability to manoeuvre when carrying out her work at anchor, sound at intervals of not more than two minutes, one prolonged and two short blasts. Vessels approaching a blind bend in a river or channel or if the vessel is partially hidden, the vessel shall sound One Long Blast.



Vessels larger than 12 meters must carry a whistle.

A vessel less than 12 metres in length, not used for pushing, pulling, floating objects or not employed solely in yarding or warping, does not have to carry a sound signalling appliance, provided that it has other means of making an efficient sound signal.

A vessel greater than 20 meters in length must carry a Bell and Whistle.

Become safe and certified. Get your card today at betterboating.ca



Slow down or anchor when visibility is restricted



Courtesy and common sense

Under Transport Canada Small Vessel Regulations. It is illegal to operate in a reckless or careless manner or without due care and attention or without reasonable consideration for other persons.



Wake is the V shape wave created by the forward movement of a boat, and will increase in size when combined with the wind and other waves! Control your wake so as not to create a nuisance or damage to docks, shoreline, wetlands, wildlife or water front property. Canoes and other small watercraft can easily be swamped or capsized and swimmers drowned from the wake of a passing boat.

Canoes, and other small watercraft can easily be swamped or capsized and swimmers drowned from the wake of a passing boat. Wakes can also cause floating docks to raise violently tossing little ones into the water not to mention make a person drop the book they were reading.



Regardless of the area one must always consider the wildlife, marine life, canoes, paddleboats, people swimming, divers at work, and the shoreline while operating a boat. Whether water skiing, tubing, wake boarding, or riding a personal watercraft, stay well clear of boats engaged in diving, fishing, under human power or hunting. The wake from your boat could capsize them. You must also keep clear of swimming areas as the boats wake may accidentally cause harm to persons playing in the water. Stay clear of anchored or drifting boats there may be a swimmer in the water. Always maintain a proper look out for logs, docks, and other hazards such as a rocks or persons who may be enjoying a swim across the lake.

Water activities

According to a Life Saving Society study, boating accounts for about 40% of all drownings and 45% of them are drownings during recreational activities. Small open powerboats less than 5.5 metres (18 ft) long and canoes account for most recreational boating drownings.

Not wearing a flotation device continues to be associated with the vast majority of drownings in these small boats, even among non-swimmers and weak swimmers.

According to a Red Cross report, 90% of drowning victims were not wearing a P.F.D.



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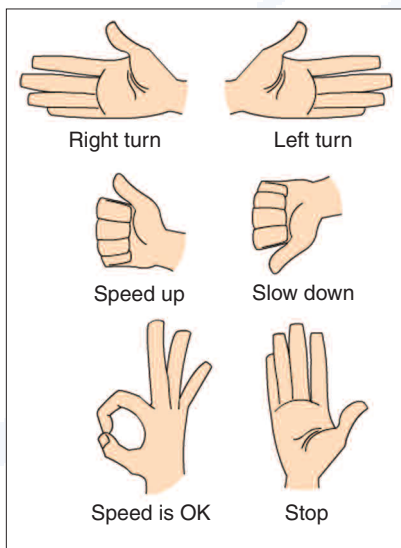
Most frequent drowning incidents involving these boats are a results of capsizing, swamping, and falls into water that potentially affect all occupants of the boat.

The most common cause of non fatal boating accidents is collisions with another boat or a fixed object such as the shoreline, dock or a navigational aid. This in turn can result in capsizing of the boat. Water-skiers or persons being towed on tubes and other devices can collide with rocks, docks and other boats or be struck by a propeller while being retrieved from the water. Capsizing of the boat can be the result of horse play such as rocking the boat or standing or sitting on the edges of the boat (gunwales). It can also be the result of a wave or wake from a passing boat.

Towing a person

Water skiing, tubing and wake boarding can be an enjoyable way to spend an afternoon. When towing a person there **must be a spotter and a seat for each person being towed**. If not already familiar with the boat's handling characteristics, do so before towing anyone. When towing, everyone on board must remain seated. Develop and understand some basic hand signals to allow communication between persons being towed and the spotter. The spotter relays commands from the person being towed to the operator. Towing speeds range from 16 to 35 km/h (18 to 30 mph) depending on the age of the skier and skill level. Never tie the tow rope to one side of the transom, this could capsize the boat. To prevent injury, gently move the boat ahead to take up slack before punching the throttle. Make sure the motor is straight before engaging the throttle. When the person yells "HIT IT", begin towing. When the person is on an outside turn they will begin to accelerate (whip), backing down on the throttle will reduce the whip effect. When they are on an inside turn,

they will slow down, throttle up to help prevent them from falling. Keep in mind that the person being towed will travel farther on the turn than the boat! Steer well clear of the shore and other hazards such as marshes and weedy areas. Slowly circle around a person who has fallen into the water keeping a close eye on the tow rope ensuring that it does not entangle them. Turn the engine off before re-boarding, and use a re-boarding device to retrieve the person from the water. People being towed should wear appropriate clothing such as wet suit as this will help prevent hypothermia. People being towed should also wear a high impact P.F.D. must be competent swimmers, know their physical limits and not participate in a water activity beyond those limits. Keep dry clothing, towels and a first aid kit on board just in case there is an injury. It is illegal to tow a person from one hour after sunset to sunrise.



To prevent propeller strikes and the chance of injury, reduce speed and stay well clear of divers and persons swimming.

Always use a reboarding device to get persons back on board after swimming, water-skiing or other water related water activities. Always turn the motor off, even when in neutral, a propeller may continue to spin.

Under the Vessel Operation Restriction Regulations (VORR):

You must obey boating restrictions such as **NO WAKE** and **SPEED LIMIT** signs. Regardless if it is posted or not posted the standardized speed limit is **10 Km/h** within **30 meters**



Standardized speed limit
(normally 5, 10, 25, 40, 55)



No regatta



Power limit



No skiing



No power vessels



No power driven vessels in
the direction indicated by
the arrow



No boats



No internal combustion
or steam engine
is permitted



No power vessels
between the hours
and days in red



No skiing
north of the sign



Combined sign
(no skiing
and speed limit)

(98.4ft) of the shoreline. Before heading out always check the local regulations for restrictions to operating a boat.

Some local restriction can be but are not limited to

- speed restriction
- prohibited types of boats
- engine Horsepower restrictions
- anchoring restrictions
- No skiing
- restricted hours of operation

Hunting and fishing



Hunting and fishing are great way to enjoy a day on the water. Who knows you may even get lucky and catch a trophy of a life time! Unfortunately hunting and fishing accounts for a vast number boating accidents.

**When hunting or fishing:
Do**

- check the weather forecast
- **remain seated** at all times even when think you have the big one hooked
- carry the mandatory recommended equipment
- set the anchor from the bow, anchoring from the stern puts the boat at risk from a passing boats wake that could come over the stern and swamp you.
- wear appropriate life jacket or P.F.D. and clothing to suit



the weather and water conditions. Thermal protective P.F.D. jackets and flotation suits are available and should be worn when the water temperature is below 15 degrees Celsius

- turn on the all round light when anchored at night
- carry water and other nutritional supplies for the day's outing
- keep in mind wearing hip waders or rubber boots both can fill with water and increase your chances of drowning



Don't

- anchor in narrow channels, or river mouths where heavy boat traffic is present or in shipping lanes exist
- tie up to or obstruct the view of any navigational buoys
- relieve yourself on the lake more than one person has been found face down in the water after relieving themselves over the side of the boat
- venture near head dams or waterfalls the currents from both below and above these hazards can cause swamping capsizing or sinking
- advise someone on shore when you plan to return shore

Swimming

Whether you are swimming across a lake for exercise or just playing beside the boat

Do

- **stay close to shore and away from boats underway**
- swim with a buddy and in sheltered waters
- wear swimming shoes to protect your feet from fishhooks, broken glass, and sharp rocks
- keep an eye out for boats and their wakes
- make sure that the re-boarding device is accessible and in working order. A heaving line tied to the boat with a life jacket, P.F.D. or lifebuoy attached, can be used to hold onto, when you become tired and cannot get back to the boat. Weak swimmers should wear a lifejacket when playing in the water
- turn the engine off, a neutral propeller may continue to spin

Don't

- swim near marshes, or weed beds not only are they disgusting to swim in. They are also dangerous! Your feet may be sucked into the soft bottom of a marsh and your legs may become trapped in weeds BOTH can cause drowning
- swim near dams
- swim near strong currents found in rivers you may be swept downstream over a dam or water falls
- swim near a lock, currents found near locks may sweep

you into the path of a passing boat or into a closing lock gate. Not to mention it is against the law!

- swim near tidal waters. Changing tides can cause strong currents (rip tide) which may pull you out to sea!
- run the motor or generator while in the water both cause deadly clouds of carbon monoxide gas

Wearing a Lifejacket or P.F.D. is not a bad idea while swimming or playing in the water.

Kayaking, canoeing and other paddle sports



Paddling a canoe or kayak can be a fantastic way to visit quite back bays of a lake! Unfortunately canoes and kayaks' also accounts for a vast number of boating accidents.

When loading a canoe you will notice that they are **very unstable**. Hold on to the gunwales and step into the center of the vessel. **NEVER** step on the gunwales

Do

- check the weather forecast
- **remain seated at all times**
- wear an approved appropriate bright coloured P.F.D. or Lifejacket
- a helmet when riding white water rapids
- carry water and other nutritional supplies for the day's outing
- stay clear of heavy boat traffic and be mindful of wakes and waves
- carry a flashlight, whistle, heaving line, bailer, anchor and anchor line
- wear appropriate clothing for the weather forecast
- stay close to shore
- keep in mind that paddling against the currents or the wind is difficult and will create fatigue
- keep in mind that you need save enough strength to paddle back to your starting point
- to keep the canoe in a straight line, paddle on opposite sides when two persons are paddling

- keep all gear and persons positioned along the center of the boat
- advise someone on shore when you plan to return to shore

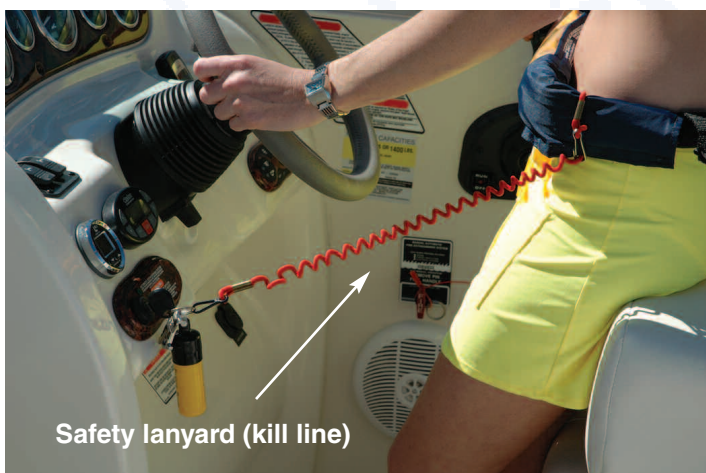
Don't

- **stand up in a canoe**
- anchor in narrow channels, or river mouths where heavy boat traffic is present or in shipping lanes exist
- tie up to or obstruct the view of any navigational buoys
- relieve yourself on the lake more than one person has been found face down in the water after relieving themselves over the side of the boat
- fish near locks, dams or waterfalls the currents from both below and above these hazards can cause swamping capsizing or sinking

Note: waterfalls and dams of all sizes and types should be avoided by walking around them (portage)

IF you are unable to avoid a waterfall or a dam PADDLING AS HARD AS YOU CAN BEFORE, DURING AND AFTER THE HAZARD MAY PROVIDE ENOUGH SPEED TO GET YOU OUT OF DANGER!

PWC and Jet Boats



Both a PWC and a jet boat can be exciting to ride. Their ability to complete 360 degree turns, jump wakes and waves is what makes them so attractive to operate! They can also be lethal weapons on the water when not operated at safe speed. They are considered boats and must obey the same laws as boats. Always attach the safety lanyard your wrist or life jacket. Should you fall off; **the lanyard will turn the machine off**, preventing it from sailing away from you and then circling back towards you, perhaps running over you.

Avoid wake jumping!

The wake of a passing boat may look tempting to jump but should be avoided. Why? Jumping the wake of a passing boat and falling off a PWC obligates the operator of the passing boat to render assistance when needed!

Jumping wakes and waves on a PWC is dangerous and can result in serious injury. Crossing at any angle and at high rate of speed can result in barrel rolling. Crossing large waves at 90 degrees and at a high rate of speed can result in nose diving into the next wave or even the one after that. This may result in the machine pitch polling and causing serious injury to you or someone else.

Avoid sharp turns!

Jet boats attempting to complete 180 or 360 degree turns put persons on board at risk of head and other bodily injuries. PWC operators attempting the same maneuvers are at risk of being catapulted off the machine. This could



result in the PWC rolling over and landing on top of you. Carrying or towing a person on the back of a PWC will make steering sluggish, harder to control and decrease acceleration. Neither type of boat steers very well when at idle and perhaps even worse when in reverse. Caution must be used when operating at low speeds near docks and other boats. Unless you operate a PWC that is equipped with breaking capabilities, it will not stop abruptly like other types of boats. In fact they can travel a great distance before coming to a rest.

Safe operation

For safe operation, PWCs generally require half a meter of water depth. This is due to the water intake located under the machine. The intake swallows large amounts of water and discharges it out the rear of the machine through a nozzle at very high pressure. There are three concerns here.

- One is operating in weedy or muddy areas may clog the intake grate preventing the machine from moving forward, and perhaps overheating.
- The second is operating in waters that have a rocky or gravel sea bed, rocks and gravel may be sucked into the impellor and discharged like a bullet, possibly hitting a person causing serious injury.
- The third is operating in shallow water may cause injury, damage to aquatic vegetation or marine life!

Do

- **wear a bright coloured high impact P.F.D.**, remember these machines are capable of speed in excess of 80 Kilometres an hour, that's equivalent to 50 miles an hour. Falling off and hitting the water at that speed is like running into a cement wall
- attach the **safety lanyard (kill line)** your wrist or Lifejacket
- become familiar with the controls and operation of the vessel before towing person, carrying passenger or showing off to your friends!
- read the owner's manual with regards to maintenance and which direction to roll a PCW back over should you fall off
- take care to look **before you turn and look well ahead** in the direction you are travelling. These machines are relatively small and quick, other boats may not see you before you see them so maintain a **proper look out**
- carry a spotter when towing persons
- **Find the stopping distance and maneuverability characteristics of your vessel by practicing starting stopping and figure eights in sheltered waters away from other vessels.**

OPERATE AT SAFE SPEED!

Do not

- operate a PWC in conditions of poor visibility or from one hour after sunset to sunrise
- **allow anyone under the age of 16** to operate a PWC.
- lend your PWC to anyone before making sure you have instructed them on how to safely operate the machine.
Remember you are responsible for them and their actions
- buzz people ,docks or other boats
- operate near or around people swimming
- create a nuisance to wildlife or other people
- tow persons unless familiar with the PWC and its towing characteristics

IF: A COLLISION SEEMS UNAVOIDABLE IT MAY BE APPROPRIATE TO APPLY THROTTLE and steer away from the danger.



A muffler system in good working order must be used at all times or operated at five or more nautical miles (9.26km) from shore.

MUFFLERS



Boats like this beautiful Scarab commonly referred to as “GO FAST or Cigarette boats “ Should be operated at idle speed near shore

Some people are not amused by the sound of a PWC or other related water activities constantly circling around or buzzing by them and there are not many that can take the thunderous roar produced by a muffler (or lack of) from a high performance boat.

A muffler system in good working order must be used at all times or operated at five or more nautical miles (9.26km) from shore.

Unless the boat:

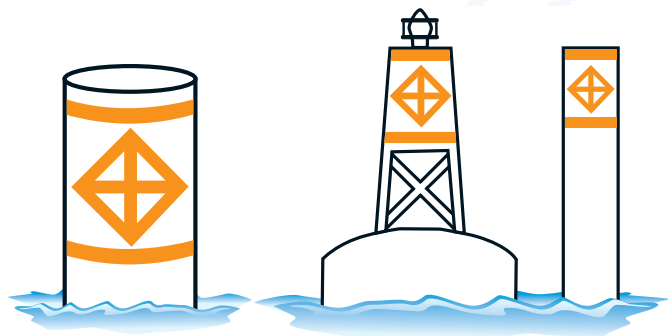
- Was built or constructed before 1960
- Is used in a formal race or training exercise
- The exhaust gases are directed under water below the cavitation plate
- Is propelled by gas turbines or by an aircraft-type propeller operating in air
- Or operated at five or more nautical miles (9.26km) from shore.

Play nice and the keep the peace!



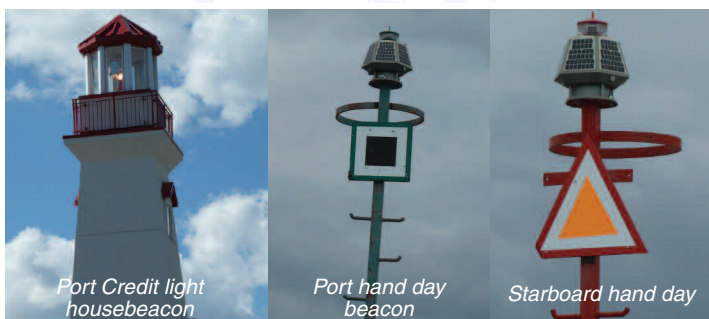
CANADIAN AIDS TO NAVIGATION

Do you know what these structures are? For the answers, continue reading.

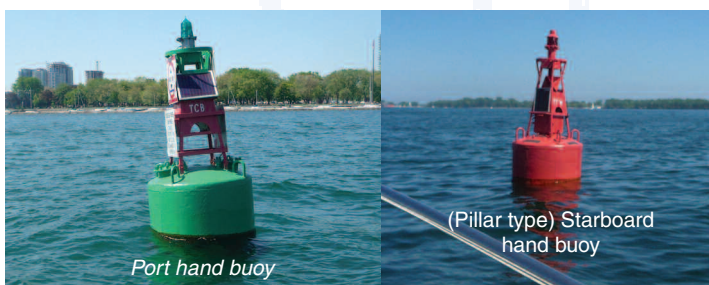


Aids to navigation are an important tool to be used by all boaters. Knowing how to identify and use them will provide you with peace of mind. They are to boaters what road signs are to drivers. That is to say, they provide the **preferred route**, location of navigational hazards, can provide information, and are used to locate **position** and plot a **course direction**.

They consist of floating and land based markers and are divided into two groups, Lateral and Cardinal. To identify them markers may carry a light, display a combination of letters and or numbers and come in various colours, shapes and sizes. Different shapes are used to assist those who may be colour blind. **Floating** markers are called **buoys** sometimes they are referred to as spar, pillar, or can. Buoys are secured using chains and anchors and caution should be exercised when operating around them.



Land based markers such as light houses and other navigational aids such as **day beacons**, are not called buoys.



Red buoys if marked are even numbered, **green** buoys are odd numbered. The numbers increase as you proceed in an upstream direction. **Red** is kept on your **starboard** (right) and **green** on your **port** (left) side when proceeding in an upstream direction, returning to harbour or returning from sea. Remember **Red Right Returning**. They are

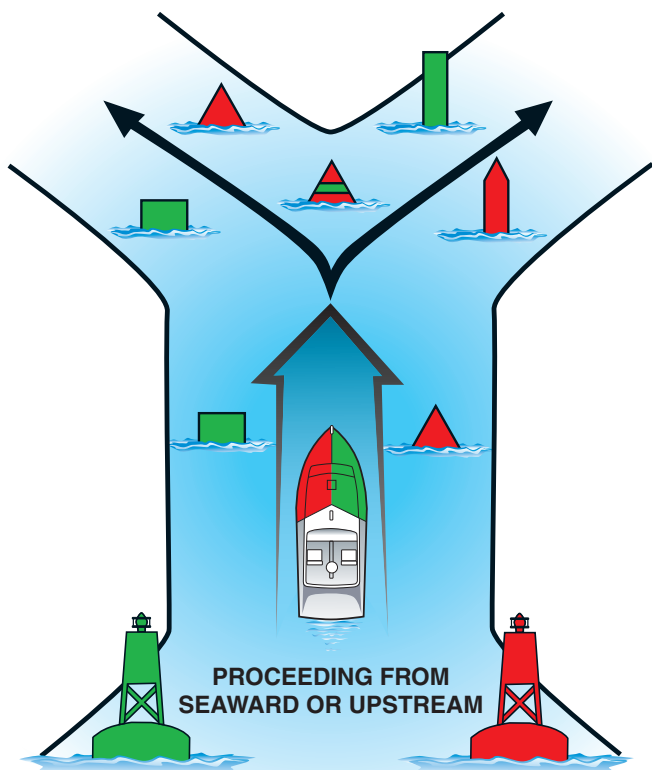
reversed when heading downstream, green on right and red on Left Generally speaking buoys are marked with two letters preceding a number; **example** TM4 meaning TARA MARIE # 4. Locating the buoy on a chart will provide you with your position. Navigational aids are marked on charts, and can be purposely relocated from time to time by the Canadian Coast Guard. They also can be moved by the forces of nature such as ice and wind.

Regardless of shape, size, colour or location they are there to indicate the preferred route or main channel.

To help understand lighted buoys please consult the Canadian Aids to Navigation table:

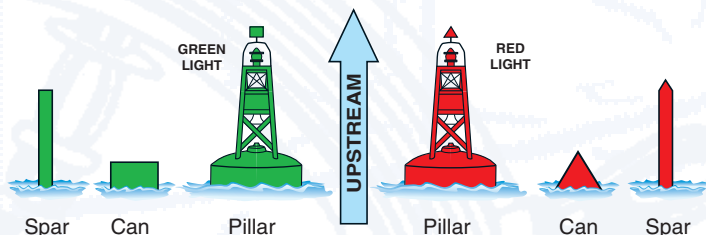
Names, abbreviations and descriptions of buoy light flash characters

Name	Abbrev.	Description	Buoy
Flashing	Fl	A light in which a 0.5 second flash is regularly repeated at a rate of 15 flashes per minute (one flash every 4 seconds)	Port Starboard Anchorage Cautionary Mooring Keepout Control Hazard Information Swimming Diving
Quick Flashing	Q	A light in which a 0.3 second flash is regularly repeated at a rate of 60 flashes per minute (one flash every second)	
Very Quick	VQ	A light in which a flash is regularly repeated at a rate of 120 flashes per minute (a flash every 1/2 second)	
Morse "A"	Mo(A)	A light in which a 0.3 second flash is followed by a 0.6 second eclipse then a one second long flash repeated at a rate of 10 times per minute (every 6 seconds)	Fairway
Long Flash	LFI	A light in which a flash of 2 seconds duration is repeated at a rate of 6 flashes per minute (one flash every 10 seconds)	Fairway
Group Flashing (2)	Fl(2)5s or Fl(2)10s	A light in which a group of 2 flashes is regularly repeated 12 times per minute (every 5 seconds) or A light in which a group of 2 flashes is regularly repeated 6 times per minute (every 10 seconds)	Isolated Danger
Composite Group Flashing	Fl(2+1)6s or Fl(2+1)10s	A light in which a group of 2 flashes is followed by a single flash, the whole sequence being repeated 10 times per minute (every 6 seconds) or A light in which a group of 2 flashes is followed by a single flash, the whole sequence being repeated 6 times per minute (every 10 seconds)	Port and Starboard Bifurcation



Lateral buoys - indicate the side on which they may be safely passed. There are six types of lateral buoys: port hand, starboard hand, port bifurcation, starboard bifurcation, fairway, and isolated danger.

8.1 8.4

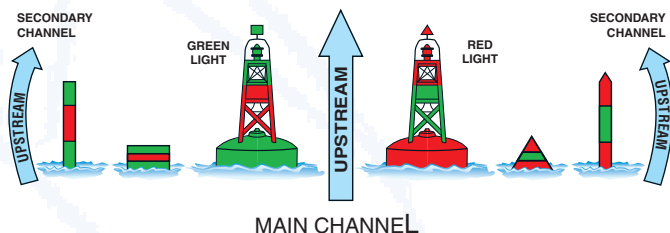


Starboard hand buoy

Marks the starboard (right) side of a channel, or the location of danger and must be kept on the starboard side (right) when proceeding upstream. They are coloured red and they display an identification letter(s) and an even number(s). It may have a single red cone top, the top mark is pointed upward. May carry a red light (F1) 4s; or quick flashing (Q) 1s

Port hand buoy

Marks the port (left) side of a channel, or the location of danger, and must be kept on the port (left) side when proceeding upstream. Are coloured green, displays identification letter(s) and odd number(s), May have a top mark, the top mark is a single green cylinder. may carry a green light (F1) 4s; or quick flashing (Q) 1s



Starboard bifurcation buoy

May carry a light, the light is red FI (2+1)6s or FI (2+1)10s light. It may carry retroreflective material, this material is red. If it does not carry a light, is conical and is colored red with one broad green horizontal band. If it carries a topmark, the topmark is a single red cone, pointed upwards.

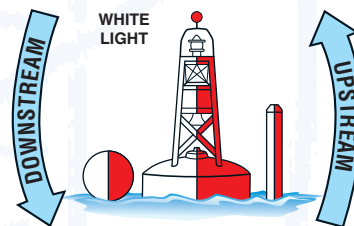
Red and Green may be passed on either side when proceeding up stream. The main or preferred channel is indicated by the colour of the top most band.

Port bifurcation buoy

May carry a light, the light is green FI (2+1)6s or FI (2+1)10s It is coloured green with one broad red horizontal band. It may carry retroreflective material. This material is green. If it does not carry a light, the top of the buoy is flat, and if it carries a topmark, the topmark is a single green cylinder.

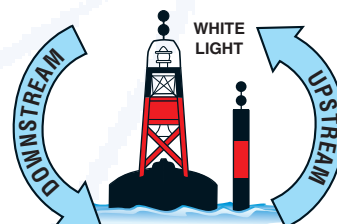
Fairway buoy

A fairway buoy indicates safe water. It is vertically colored red and white. It is used to mark landfalls, channel entrances or the centre of a channel. It may be passed on either side but should be kept to the port (left) when proceeding in either direction. It displays identification letter(s). May carry a white light flashing Morse "A" Mo (A) 6s light or a long flash (LFI) 10s light, If it does not carry a light, the top of the buoy is spherical and if it carries a topmark, the topmark is a single red ball. It may carry white retroreflective material.



Isolated danger buoy

An isolated danger buoy is moored on, or above, an isolated danger, which has navigable water all around it. Displays identification letter(s). It may carry a white light, group flashing FI(2)5s or FI(2)10s. If it does not carry a light, it is normally sphere shape, although other shapes may be used. The topmark is two black spheres, one above the other. May carry white retroreflective material.

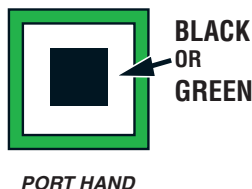


Standard Day Beacons

Day beacons serve the same purpose as buoys however they are not lighted. Day beacons may be reflective in nature to assist in conditions of poor visibility.

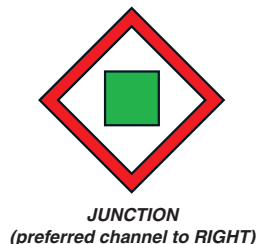
Port Hand

(Center black or green)
When proceeding upstream, a port hand daybeacon must be kept on the vessel's port (left) side. The port hand day beacon may have an odd number made of white reflective material.



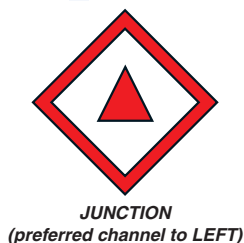
Junction

(Preferred channel to right)
Marks a point where the channel divides and may be passed on either side. If the preferred channel is desired the day beacon should be kept on the vessel's port (left) side.



Junction

(Preferred channel to left)
Marks a point where the channel divides and may be passed on either side. If the preferred channel is desired, the day beacon should be kept on the vessel's starboard (right) side.



Starboard Hand

When proceeding upstream, must be kept on the vessel's starboard (right) side. The starboard hand day beacon may have an even number made of white reflective material.



Special buoys

Special buoys are used to convey a variety of information to the mariner which, while important, is not primarily intended to assist in the navigation of the vessel. The shapes of special buoys have no significance and a variety of shapes may be used in practice.

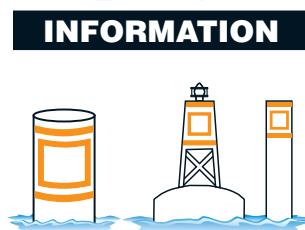
Cautionary buoy

Marks an area of danger such as firing ranges, racing courses, seaplane bases, underwater structures, aquaculture, or areas where no safe through channel exists, and for traffic separations. You must consult a chart to determine the precise nature of the danger being marked. It is coloured yellow, displays identification letter(s) and if it carries a topmark, the topmark is a single yellow "X" shape.



Information buoy

An information buoy displays, by means of words or symbols, information of interest to the mariner. Examples are campsite, marina or restaurant location. It is white in colour and has an orange, open faced square symbol on two opposite sides and two orange horizontal bands. One is above and one is below the square symbols. It may display identification letter(s).



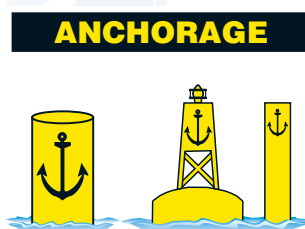
Hazard buoy

Marks random hazards such as rocks, shoals or turbulent waters located outside the main channel. It is colored white and has an orange diamond on two opposite sides and two orange horizontal bands, one above and one below the diamond symbol.



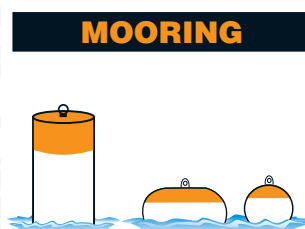
Anchorage buoy

An anchorage buoy marks the perimeter of a designated anchorage area. It is colored yellow, displays a black anchor symbol on at least two opposite sides, displays identification letter(s), and if it carries a topmark, the topmark is a single yellow "X" shape.

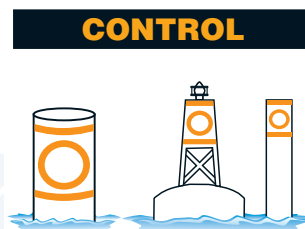


Mooring buoy

A mooring buoy is used for mooring or securing a vessel, seaplane, etc. It is coloured white and orange, the orange colour covering the top one third of the buoy above the waterline. It may display identification letter(s).



Control buoy



Marks areas where boating is restricted. Type of control is indicated in the circle, such as slow, no wake. It is colored white and has an orange, open-faced circle on two opposite

sides and two orange horizontal bands, one above and one below the circle. A black figure or symbol inside the orange circle indicates the nature of the restriction in effect. It may display identification letter(s).

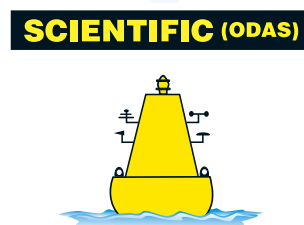
Keep Out buoy

A Keep Out buoy marks an area where boats are prohibited. It is colored white and has an orange diamond. This diamond contains an orange cross on two opposite sides and two orange horizontal bands, one above and one below the diamond symbols. It may display identification letter(s).



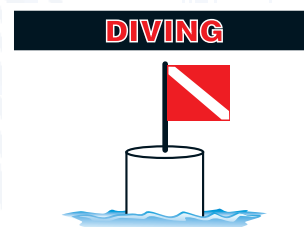
Ocean Data Acquisition System (ODAS) buoy

An ODAS buoy marks a scientific, meteorological or oceanographic station. An ODAS buoy shall not exhibit a shape that conflicts with any navigational mark. An ODAS buoy is coloured yellow, and displays identification letter(s). It may carry a yellow light, group flashing light of 5 flashes every 20 seconds, FI(5)20s, and if it carries a top mark, the top mark is a single yellow "X" shape.

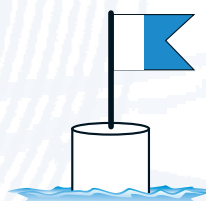


Diving buoy

A diving buoy marks an area where scuba or other such diving activity is in progress. A boat may fly the alpha flag when diving is in progress or it may be located on the water. A diving buoy is white in colour and carries a red flag not less than 50 centimetres square with a white diagonal stripe extending from the tip of the hoist to the bottom of the fly. It may display identification letter(s) and if it carries retroreflective material, such material is yellow. **You shall take early and substantial action to keep well clear.**



Flag "A" is from the International Code of Signals, and means "I have a diver down", **keep a safe distance away and at slow speed.**



Swimming buoy

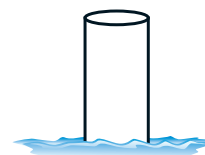
A swimming buoy marks the perimeter of a swimming area. It is colored white and may display identification letter(s).

Some buoys are privately owned. As required by the Private Buoy Regulations such buoys must display the letters "PRIV" as well as the owner's name, address and telephone number. They will not display numbers or letters conforming to the Coast Guard identification system.

A person may place a private buoy to mark a hazard such as a rock, submerged island or some other local hazard that has not been marked. However, the buoy must meet the standards set out in the private buoy regulations. This means propane tanks and javex bottles, although popular, should not be used as buoys.

If you place private buoys in charted waters contact the nearest Canadian Coast Guard office and provide information on their characteristics and positions, so that it can be published in marine notices (i.e., Notices to Mariner, Notices to Shipping) and charted by the Canadian Hydrographical Service.

SWIMMING



PRIVATE

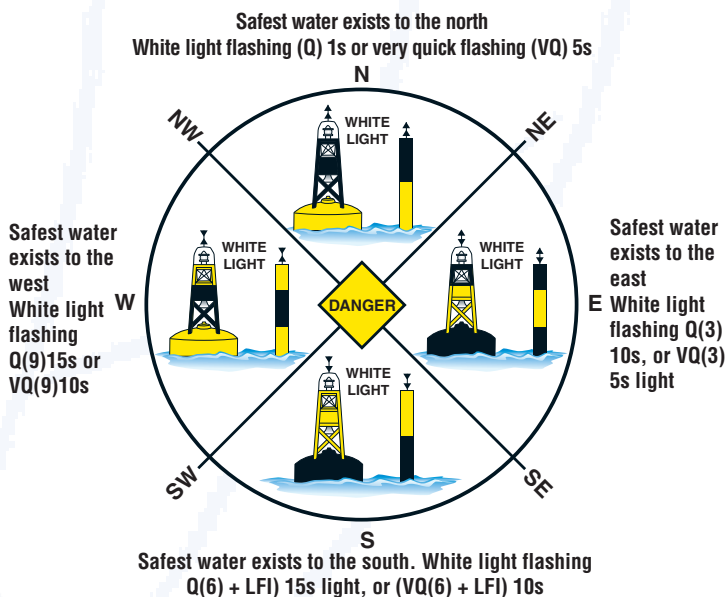


Boaters Tip

Just because you can see a buoy or day beacon does not mean that there is not an island, sandbar or some other hazard between your position and the marker!

Remember it is illegal to tie up to or interfere with any type of navigational aid

Cardinal buoys



Indicate the location of the safest or deepest water by reference to the cardinal points of the compass. There are four cardinal buoys: North, East, South and West. Example: keep to the south side of a south cardinal buoy, and to the north side of a north cardinal buoy. Although cardinal buoys are not as common as other buoys, you should still keep them in mind.

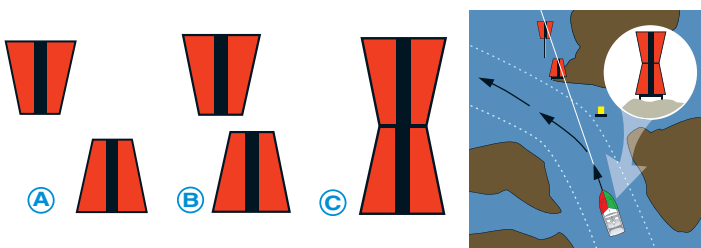
The number of light flashes on the buoy will match that on the face of a clock, i.e. the east buoy will flash 3 times (3:00) the south 6 times (6:00) west 9 times (9:00), north 12 times (12:00)

One of the most asked questions is, when there are no green or red buoys on the water how do I know which way is upstream? The simple answer is it does not matter, just pass port to port when meeting a boat head on!

When there is only one green or one red buoy in the water locate it on a chart to determine the upstream direction. There are a few other ways to determine upstream and downstream. Presuming there is no wind, come to a dead stop, wait and see which way the boat drifts and that is the down stream direction. Lilly pads and other foliage may indicate the downstream directions. Generally, water foliage will bend with water flow. When all else fails remember that, in general terms, water flows in counter clockwise direction around North America. This means that on the west coast water generally flows south, on the east coast water flows north, in the arctic it flows from east to west. This means when heading in a northerly direction on the west coast you are heading upstream.

Range Day Beacons

Range day beacons are generally used to guide larger vessels such as ferries, freighters and oil tankers to or through a channel. They consist of two fixed navigation marks. One is located near the shore line the second is set back inland and higher than first one. They can be seen from great distances, and once aligned indicate you are on the proper course. Steering in the direction of the lower beacon will cause the two beacons to appear as one.



Additional signs

Posted command signs can be located in the water or on the shoreline. They display information such as:

- No wake zone signs
- No anchorage area signs (may display time restriction)
- Speed limit zone signs
- Low head dam hazard signs
- Power line hazard signs (over head or under water)
- Pipeline hazard signs



No anchorage

Vessel Operation Restrictions Signs

May be green and orange or just orange in colour. Signs with green contain special instructions such as time of day that the restriction applies to. There are five shapes and the arrow points to the direction that the restriction applies.



3.4

Under the Vessel Operation Restriction Regulations (VORR), you must also be aware that operating a prohibited vessel in designated waters or where special conditions apply is subject to fines and or tickets. Not all waters have posted command signs it is for this reason you should consult the local authorities or Transport Canada for the body of water you will be travelling on.

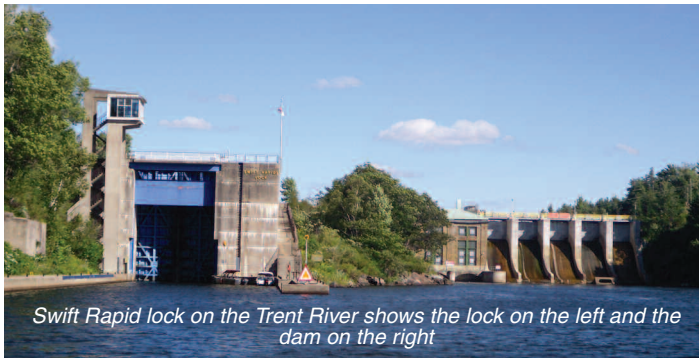
Regardless if posted or not posted, the universal speed limit is 10 km per hour when within in 30 meters (98.42ft) of shore unless you are towing a person straight out from the shoreline or in rivers that are less than 100 m (93.28 ft) in width or in canals or buoyed channels, or in any waters referred to in the VORR or in respect of which a maximum speed is set out. Posted and un-posted speed limits range from 5 km per hour to unlimited. Before heading out to a new destination Google Transport Canada Vessel Operation Restriction Regulations.

For more information on AIDS TO NAVIGATION IN CANADA, you may consult the following web site:
www.ccg-cc.gc.ca/eng/ccg/atn_home

NOTE: Keep out and Control buoys are governed by the Canada Shipping Act, Boating Restriction Regulations. ODAS and Diving buoys are governed by the Canada Shipping Act, Collision Regulations.



Navigating locks and bridges



Swift Rapids lock on the Trent River shows the lock on the left and the dam on the right

Water flows down hill and does not always allow for safe passage, so humans invented locks to traverse the different water elevations and obstacles. Locks are located where water falls and rapids may exist. They are gated at both ends. Opening one gate allows water to either flood or drain the lock chamber, allowing passage between two bodies of water with different elevations. When travelling on any river or canal system that uses locks visit www.pc.gc.ca to obtain the latest hours of operation and current water depths.



Tying up to the painted blue strip (blue line) indicates to the lockmaster your request to pass through the lock.

Approaching the lock

Obey all speed limits around and between locks. Keep your wake to a minimum. Watch for boats exiting the lock. Remember the rules of the road and pass port to port. When approaching a lock be prepared to deal with **strong currents** and winds. Stay clear of the gates and out of the way of exiting vessels. Sounding three long blasts (5s) signals to the lockmaster your intention to pass through the lock. Tying up to the painted blue strip (blue line) above and below the lock also indicates to the lockmaster your request to pass through the lock.

Entering a lock

Some locks use a traffic light to signal when to proceed into the lock. The lockmaster's instructions must be followed precisely. They will decide who will enter the lock and when and where they will be moored (docked). As you approach an appropriate position inside the lock, post a crew member at the bow and stern ready to **loop lines** around the **black drop cables**. **DO NOT TIE VESSEL LINES TO THE DROP CABLES.** Wear a P.F.D. when locking. Unexpected movement of the vessel could cause you to fall overboard.

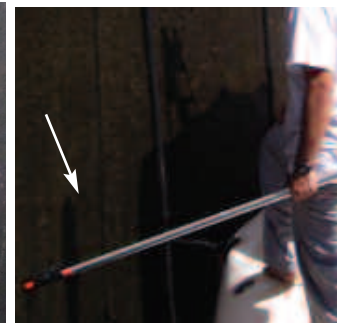


Inside the lock chamber

Never leave lines unattended you may experience turbulence as the water changes elevation, looping the line around a cleat will provide extra leverage.



Turn off the engine



A boat hook is good for grabbing drop lines

- Turn off all ignition switches (engine, generators etc.)
- Extinguish all open flames
- Do not smoke
- Turn on the exhaust blower for the entire duration
- **DO NOT TIE VESSEL LINES TO THE DROP CABLES.**

Exiting the lock



Follow the lockmaster's instructions and do not turn your engine on until instructed to do so. When exiting a lock be prepared to deal with **strong currents** and winds. Travel slowly, in single file, giving way to vessels travelling downstream.

Laws around locks and bridges

- No excessive noise between 11 p.m. and 6 a.m.
- No fishing within 10 m (32'10") of a lock or approach wharf or from a bridge that passes over a navigation channel.
- No diving, jumping, scuba diving or swimming in a navigation channel or within 40 m (131') of a lock gate or a dam.
- No water-skiing or other towing activities while in a navigation channel or within 100 m (328'1") of a lock structure.
- No mooring a vessel to a navigation aid.

Bridges

Travelling on the water, you are bound to come upon a bridge sooner or later that will need to be opened before you can safely pass. Check the chart for bridge clearance it should also be posted on approach to the bridge. Know the boat's bridge clearance, before requesting the bridge to be opened. Sounding three long blasts (5s) signals your request for the bridge to be raised or swung.



Be very careful near canal dams and waste weirs where currents and undertows can be very dangerous. It is against the law to jump, dive, scuba dive, swim or bathe within 40 m (131') of a dam. Dams are built to hold back water for a variety of reasons. They are hazardous both above and below the dam. Water flowing over a dam creates a **hydraulic suction** that can and will trap a person at the base of a dam. Low-head dams are especially dangerous. Getting too close to a dam, a person or boat may be drawn or sucked into the backwash current. The backwash current will carry the victim to the base of the dam, where they will be sucked under water perhaps being dragged along the face of the dam and struck by debris coming over the dam. The person will then be pushed away by the water current only to resurface, starting the cycle over again. Obey all posted warning signs and barriers surrounding dams.

Safety around dams



The current from a dam can drown you stay well clear!

Respecting the environment



Remember the phrase **“Give a Hoot, Don’t Pollute”**

Under the regulations for the Prevention of Pollution from Ships and for Dangerous Chemicals, it is against the law to pollute the water with things like fuel, oil, oily mixtures, fishing nets, plastics and any noxious liquid substance such as hydrocarbons and untreated sewage in inland waters.

Blackwater is a term used to describe waste water from toilets, and can be called brown water or sewage.

Greywater is a term used to describe waste water from showers and sinks. The regulations prohibit the use of freestanding portable toilets. They also require that boats fitted with toilets be equipped with either a holding tank or a marine sanitation device. If your boat was built before May 3, 2007, you must comply with these regulations by May 3, 2012. Boats built on or after May 3, 2007, must comply immediately. **Untreated human waste may not be dumped overboard** in specifically listed waters of Manitoba and British Columbia and never in any Ontario waterways. When boating on costal waters, sewage may be pumped overboard provided it has been macerated to less than 2.5cm (.9 inches) and the vessel is more than 3 nautical miles (5 km) from shore.

Holding tanks and marine sanitation devices

In some provinces, if your boat has sleeping accommodations (berth) it must also have a marine toilet (head). A holding tank is only used to collect and store sewage or sewage sludge and must be emptied at approved pump-out facilities. A marine sanitation device is designed to receive and treat sewage on board. Only sewage treated with a marine sanitation device that meets the standards set out in the regulations may be discharged in inland waters. Most marinas have pump-out stations and it's not a bad idea to pump-out before or after refuelling.

Leaky or Cracked Hoses

Leaky or cracked hoses, broken or loose clamps and other fittings can result in oil, fuel, anti-freeze and transmission fluids entering the bilge area and accidentally being pumped overboard. To prevent this from happening always perform regular maintenance checks before heading out on the water. To remove any of the above from the bilge use absorbent bilge cloths, they are made to repel water and absorb contaminates. Always dispose of used towels or bilge cloths in an approved garbage container.

Note:

As little as 250 ml of oil can pollute 2000 sq metres.

Repairs

After completing repairs to a boat or trailer, thoroughly wash them down with environmentally friendly cleaners. This will prevent paint, paint scrapings, fiberglass, grease or harsh toxic chemicals from entering and harming the water.

Controlling litter

On hiking trails the rule is **“you packed it in, you pack it out”!**



It's no different on the water, no one wants fishing line or nets to get caught up on the propeller hub and possibly wear out the seals. Paper towels and plastic bags can cover the cooling water intake for the motor which can result in an overheated engine. Plastic rings from pop cans and other beverages are a hazard to ducks, seagulls and other aquatic birds. Cigarette butts and empty packages are just plain disgusting on the water. You took it out there, bring it back and dispose of it properly.

Stop the spread of invasive species



Zebra mussels about the size of a dime

Trailing a boat from one body of water to another increases the chances of spreading invading species such as zebra mussel, round goby and sea lamprey. These little aquatic hitch hikers are capable of altering the natural food chain. Recreational boating is not the only reason they spread from one body of water to another. Ballast water from foreign ships has also contributed to the introduction of invading species.

Preventing the spread of invading species

Run your boat through the water to dislodge zebra mussels and malicious life from the hull. This will also prevent any new mussels from attaching to your boat, **empty live wells and bilges**. Remove any plant life that is clinging to the hull of the boat. **Scrape the zebra mussels from the hull** using a non abrasive tool with a flat, wide blade. Wash the boat with hot (40C), soapy water. Use a hose with a powerful spray or put your boat on a trailer and run it through a car wash to remove any remaining zebra mussels and residue. Leave your boat out of the water and in the sun to thoroughly dry. Zebra mussels need water or humid air to live.

Green boating tips:

The following list of natural cleaning products is from the Safe Boating Guide. There are other natural cleaning products available, Google search “natural cleaning products for boats”.

ALL-PURPOSE CLEANSER

Mix 30 ml of baking soda or borax, 30 ml of tea tree essential oil, 125 ml of vinegar, 15 ml of biodegradable dish soap and 2 litres of hot water. Spray on the surfaces to be cleaned.

CHROME

Rub with baking soda. Rinse and polish with vinegar in hot water.

DECK AND FLOOR

One cup (250 ml) vinegar in 4 litres of water

DRAIN

Pour 60 ml of baking soda in the drain, followed by 60 ml of vinegar. Let it rest for 15 minutes. Then pour in a full kettle of boiling water.

MOULD

Add 60 ml of borax and 30 ml of vinegar to 500 ml of hot water. Spray the mixture to eliminate germs.

STAINLESS STEEL

Rub with baking soda, and then use vinegar to remove spots

TOILET (head)

Pour 125 ml of baking soda and 125 ml of vinegar into the toilet bowl. The foaming reaction cleans and deodorizes. Brush and flush.

WOOD (POLISH)

Mix 30 ml of edible linseed oil, 30 ml of vinegar and 60 ml of lemon juice in a glass pitcher. Rub the solution into the wood with a soft rag until it is clean. To store the solution, add a few drops of vitamin E from a capsule and cover.

- Make sure your engine is well maintained to reduce air pollution.

Note:

As little as 250 ml of oil can pollute 2000 sq metres.

For better fuel economy:

- **keep the boat clean and waxed it will increase your speed!**
- **Keep the motor properly maintained (Tuned)**
- **loaded it evenly and low**
- **run at 3/4 throttle once up on plain**
- **when equipped with lower all canvas and windscreens**

If you accidentally pollute the water or you witness or see the result of someone else polluting, report it to a Government of Canada pollution prevention officer or call one of the following telephone numbers right away.

- British Columbia and Yukon - 1-800-889-8852
- Alberta, Saskatchewan, Manitoba, Ontario, Northwest Territories and Nunavut - 1-800-265-0237
- Quebec - 1-800-363-4735
- New Brunswick, Prince Edward Island and Nova Scotia - 1-800-565-1633
- Newfoundland and Labrador - 1-800-563-9089

Remember it is your responsibility to make sure you know and obey the laws wherever you go boating.

Anchoring

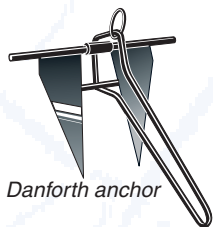
Awww Kurplunk! There it goes. Before lowering the anchor securely **tie one end of the anchor line (rode) to the anchor and the other end of the rode to the boat**. Keep your feet and legs clear of the anchor line when lowering the anchor. Consider anchoring in a sheltered bay or behind an island when severe weather threatens or in the event of mechanical breakdown. Remember you must carry 15 m of anchor line on board.

An anchor is device used to prevent the boat from moving from a designated position. Any object can be used as an anchor such as a cement block, a large rock or a bucket full of concrete. What makes a good anchor is **design and weight**.

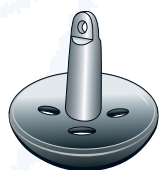
There are three different uses for anchors:

- Main anchor is used when wanting to stay in one location
- Storm anchoring is when you drag the anchor behind the boat to slow it down
- Kedge anchoring is when the anchor is used to move around in tight spots or if you run aground it can be used to pull you off the obstruction

There are many **types of anchors** on the market. The reason is simple there are **many different types of bottoms (sea beds)**. There are grassy bottoms, rocky bottoms, muddy bottoms, sandy bottoms even clay bottoms. Deciding which **type of anchor to use** is made easy by the use of nautical charts or asking the locals in the area what the seabed conditions are in the area. Charts (see charts) show the location of navigational aids as well as water depth, and the type **sea bed** conditions. Some popular types of anchors are the Danforth, Fisherman, Plough and Mushroom anchor. The Danforth anchor is good in sand, gravel and mud. Danforth anchors may slip in rocky, clay or grassy bottoms better to use a Plough anchor in these conditions



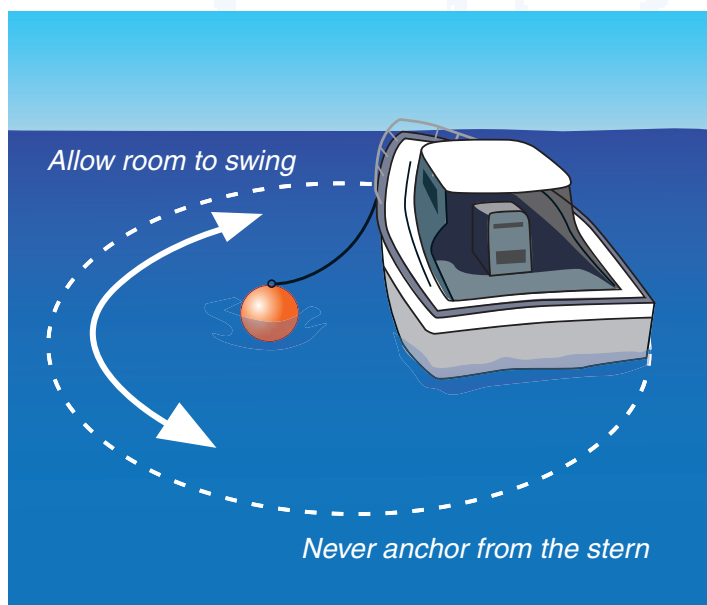
Danforth anchor



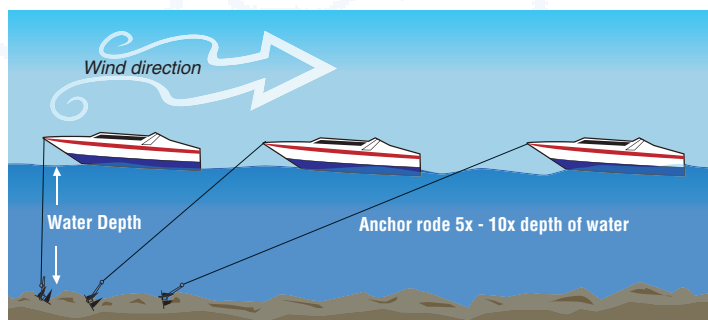
Mushroom anchor

The **Danforth and Plough anchors have flukes** (pointy ends) that help them **dig into the sea bed**, and when a chain is added to prevent the rode from chafing makes them a very effective anchor.

Mushroom and Fisherman (navy) anchors are very **dependent on their weight** to be effective.



Anchors can be attached to the anchor rode directly or using a shackle and chain, put it all together and it is called ground tackle. Using a shackle and chain with the anchor does two things. One is it helps prevent the rode from chafing (wearing out) and second it adds weight. They can be used to keep a boat stationary, or dislodge one that has run aground. Dropping anchor is easy, getting it to hold (set) can be a different story. The trick to getting the anchor to set is choosing the right type of anchor for the sea bed conditions and letting (paying out) out enough rode, for the anchor to set. Pay out between 5 and 10 times the water depth (scope). The more rode you pay out the more holding power the anchor will have. Choose a location where the wind and water currents are minimal. Keep in mind the boat may swing, so will other boats in the area. The right of swing is given to the first boat anchored, which has right of swing.



Never anchor over the side or the stern of small boat. Wakes or waves may come over the stern swamping or capsizing the vessel.

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To set anchor pass the intended anchor location. Stand clear of the rode, slowly lower; never throw the anchor over the bow. Once it reaches bottom slowly go astern paying out the rode, lightly holding the rode, you will feel when the anchor has set, stop when sufficient rode has been payed out then tie it off to the bow, take two bearings. Periodically check your bearings to see if your position has changed. Turn on the all round light when anchoring over night or in conditions of poor visibility. **You may need to use a larger or sometimes even a second anchor tied to the bow when anchoring in poor weather conditions.**

Retrieving an anchor can be done a couple of ways. One is to slowly haul on the line until the anchor rode is vertical, and then lift the anchor and wash it off, hang the rode to dry before stowing. Another way is to slowly move the boat ahead while hauling in the rode so as not to foul up in the propeller, until the anchor rode is vertical, and then lift the anchor and wash it off, hang the rode to dry before stowing. **If your boat is equipped with an anchor locking device ensure the shackle pin is properly inserted into the anchor locking device.**

Sometimes the anchor will become fouled (get hung up) under a rock, log or some other obstruction refusing to pull free. To retrieve a fouled anchor, pull on the rode, once it is vertical tie it off to a bow cleat, using the boats weight slowly move ahead to free the anchor. Never hold onto the rode using this method as the rode may break, pulling you into the water.

The following information is meant only as a guide when purchasing anchor rope.

*****These are average approximations only, when in doubt use the next size up*****

AVERAGE tensile strength of NEW Double Braid Nylon Rope

Rope diameter	Holding strength
3/8 (12mm)	5,000 lbs (2268kg)
1/2 (13mm)	8,000 lbs (36287kg)
5/8 (15mm)	14,000 lbs (6350kg)
3/4 (18mm)	20,000 lbs (9071kg)

The following information is only a guide when purchasing Slip Ring Danforth anchor.

Anchor size	Boat length
6lb (2.7kg)	may hold up to 15' (4.6)
9lb (4.8kg)	may hold up to 20' (6M)
13lb (5.9kg)	may hold up to 25' (6-7.5M)
19lb (8.6kg)	may hold up to 30' (9M)

The above anchor and anchor line sizes are guidelines only and are dependent on weight & size of the boat, boat displacement & WEATHER CONDITIONS. Remember the heavier the anchor the more holding power it will provide.

Docking 5.31

The wind, boom, bang, screech, thump. Docking a boat sure can test one's nerves. The key to docking is being prepared for the effects of the wind and water currents. Knowing how your boat reacts to the wind and currents is something you will need to learn by trial and error, away from other boats. A key factor to docking is maintaining control of the boat at all times. Keep in mind that the height, draft and weight of the boat will play a role in the manoeuvrability of the boat. Height allows the wind to push you around, the draft of the boat exposes the boat to currents and the weight will effect how fast the boat stops and turns. Some marinas are busier than a shopping mall parking lot; pay extra attention for boats going astern (reversing) from a slip.

When heaving lines to a person on the dock, have them hold one arm out, then throw the line over their arm. Secure (make fast) the bow line first. Sometimes the stern line will need to be tied first, particularly if you are alone on the boat and the wind is gusting. When in tidal areas always leave enough line for changing tides.

Docking checklist :

- Lines ready
- Fenders hung
- Inform crew (guests) of their roles (handling lines) and to keep their hands and feet inside the boat until it is secured
- Check wind direction, can it be used to your advantage or will it be opposing you?

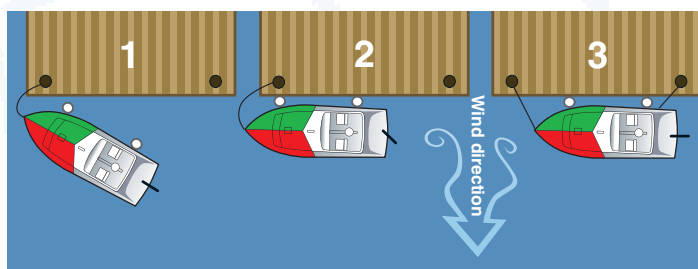
Watch wind and current



- Check the water current, will it work for or against you?
- Use steering and throttle to ease up to the dock
- Remember boats do not steer like cars, they have a pivot point; it is helpful to shift to neutral then turn the wheel, before using short bursts of thrust to swing the stern around
- Make fast
- Turn off the engine
- Stow all gear and dispose of trash appropriately
- Close up and secure the boat as if you expect a hurricane, you never know when the unexpected will keep you from returning to the boat
- Close out sail plan if applicable
- Pull aluminium boats and canoes up on shore, this will prevent them from filling with water and possibly sinking after a heavy rain fall

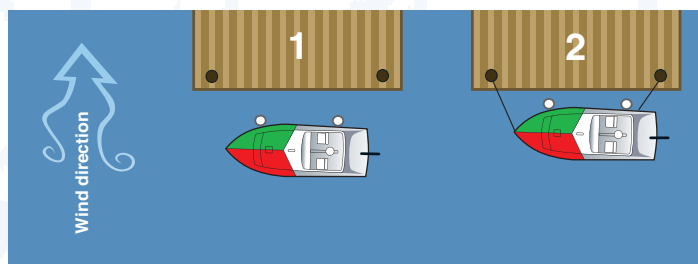
Docking scenarios

Wind is off the dock



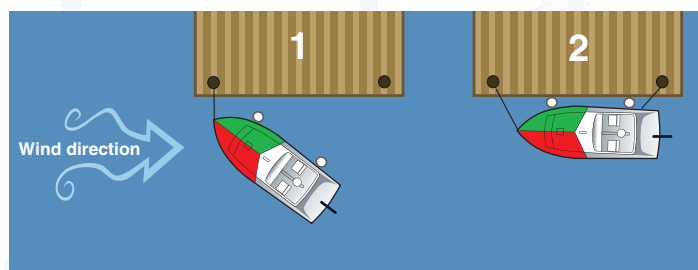
Approach the dock at a slight angle, 25 to 30 degrees. Secure bow line, short bursts of power may be needed to push the stern onto the dock. Note the rudder position in picture # 2

Wind is on the dock



Approach parallel to the dock, use a short burst of reverse to stop and let the wind do the rest.

Wind is parallel to the dock



Secure the bow line and let the wind do the rest. Boaters are friendly and will gladly help you when docking without asking. Jumping off a boat while docking will only push the boat away from the dock.

Note: be mindful of prop walk when going astern.

Dock line size and strength

Boat size	line size
up to 20' (6M)	3/8 (9mm)
20-30' (6-9M)	1/2 (12mm)
30-35' (9-10.5M)	1/2 (12mm)
35-40' (10.5M-12M)	5/8 (15mm)
40-50' (12-15.5)	3/4 (18mm)

Length of Dock Lines--Stern & Bow Lines equal length of boat or 1.5 to 2.5 x the Beam

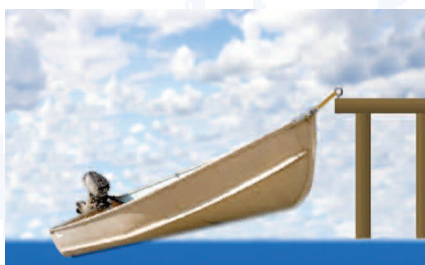
Note: the above are general guidelines only and are dependent on the boat's manufacturer, weight, height & its displacement.

Don't get left high and dry!



High tide

Low tide

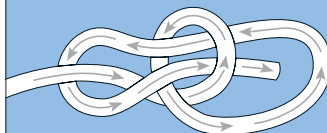


Tides are the horizontal movement of water caused by the gravitational pull of the sun and moon. This pull causes water to rise and fall. In some areas like the Bay of Fundy the tide change is 15.24 meters (50 ft).

Knot Knowing

For convenience at the dock standardized knots are used for boating.

Bowline



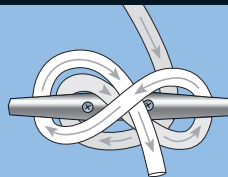
For an easy, secure noose. Probably one of the most common knots on board a vessel.

Figure of Eight



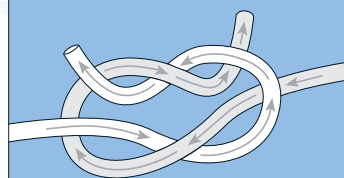
A good stopper knot to keep lines from running blocks or grommets.

Cleat Hitch



For securing rope to a cleat. Very strong yet easy to undo.

Reef Knot / Square Knot



For connecting two lines together.



Responding to emergencies

Preventing an emergency is better than having to respond to one. However, that being said, mishaps do happen. Knowing how to respond to an illness such as seasickness or a collision with a rock, log or another boat and persons overboard could save a life.

Under the Collision Regulations, operators must maintain a proper look out at all times, if you witness or are directly involved in an accident such as a collision or other type of emergency, you shall render assistance by all means available and stay with the person(s) or vessel(s) involved in the collision or in need of assistance, provided that there is no risk or danger to your own crew or vessel. This also applies to a person who is found at sea in danger of being lost. Regardless of the emergency the basic response is the same. If you are in grave and imminent danger, use a recognized distress signal to call or to display the need of assistance. Remain calm, panicking only leads to confusion. Assess the situation. Take the appropriate action. When needed, call for help using the VHF radio, cell phone or a recognized distress signal.

Person overboard

The ultimate challenge for a boat crew is rescuing someone who has fallen overboard. Other cases for emergency recovery may be a person water-skiing or tubing, there is really no perfect way to recover a person overboard.

The following are items that can be used to recover a person overboard

- Lifebuoys
- Buoyant heaving lines
- Reboarding ladders
- Paddles/oars
- Lifejackets attached to a buoyant heaving line
- A heavy rope, chain or cable secured at both ends and draped over the side or back of the boat

A practice drill for recovering persons overboard should be developed and practiced for your boat. Never practice with a person, instead use a life jacket, hat, or beach ball.

The following is an **example** on how to recover a person who has fallen overboard:

- The first thing to do if a person falls overboard is sound the alarm and mark the position on your GPS then throw anything that floats to the person in the water. This will help mark the spot in case the person submerges.
- Delegate someone to keep an eye on the person in the water by pointing to the person in the water
- Stop the boat if possible and let them come to you. If this is not possible, then approach from the leeward side (opposite side that the wind is blowing from).



Keep a life ring and lighted buoy near the stern

You will need to decide if you will be recovering from the side or the stern of the boat. Hauling a person, especially an unconscious person, in over the side of a small boat could result in capsizing. It may be best to bring them over the stern. Before recovery shut the engine down, a neutral propeller may continue to spin, stay low in the boat and be sure of your footing and get the person back onboard by all means possible. Once the person is safely back onboard treat them for hypothermia if needed. **When needed use recognized distress signals to call for, or to display the need of assistance.**

Recovering a person from shore:

Reach Throw Row Go

Reach them using anything such as a tree branch, fishing rod, paddle, dock line or any other object that is handy

Throw any object that floats such as a Lifering, Lifejacket or a P.F.D. with a rope attached will also suffice

Row out to them if you cannot reach them, then let them hang on to the side off the boat while you row back to shore

Go for help when necessary

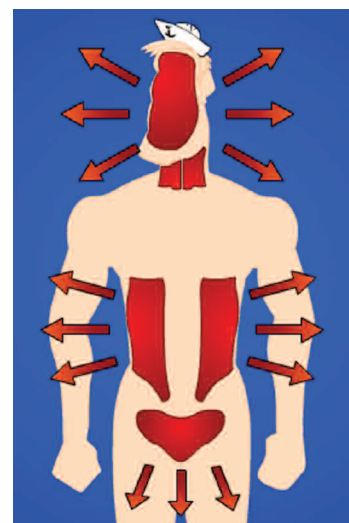
If a person must go into the water to retrieve a person overboard make sure they are wearing a P.F.D. Keep in mind a person who has fallen into the water unexpectedly or who cannot swim will be in a panic state of mind and very hard to recover!

You as the person overboard should remain calm (control your breathing) panicking will only lead to fatigue and perhaps drowning.

Survival in cold water

Wearing a P.F.D. or Lifejacket can save your life. The majority of people who drown are found not wearing a Lifejacket. Cold water and cold air both rapidly conduct heat from your body. The head, neck, lower abdomen and sides of your torso lose heat the quickest.

If you find your self in cold water assume the **HEAT ESCAPE LESSENING POSITION (H.E.L.P.)**. This position will help reduce heat loss from the head, armpits and groin area. Wearing one of the



Arrows indicate heat loss.

following will provide further protection from hypothermia: dry suit, wet suit, immersion suit, survival suit, exposure coveralls, multiple layers of dry, light clothing, waterproof or windproof outer layer of clothing. When you are in a group cuddle up to the sides of everyone's chest, wrap your arms around each other's mid to lower back sections and intertwine legs.



Cold water shock

The best advice for falling into the water is don't. Even though the weather may be sunny and warm the water may not be. It takes time for Canadian waters to warm up to a comfortable swimming temperature. Unless you are mentally and physically prepared for cold water shock, you are certain to succumb to the effects of cold water immersion. Whether you are riding a PWC, canoeing, kayaking or just boating in general, the importance of wearing a P.F.D. or LIFEJACKET cannot be stressed enough. For additional protection it is advisable to wear a wetsuit while riding a PWC, particularly in the early spring and summer months.

Death may occur from one of the four stages of cold water immersion:

Stage 1: Cold shock (3-5 minutes)

Stage 2: Swimming failure (3-30 minutes)

Stage 3: Hypothermia (after 30 minutes)

Stage 4: Post rescue collapse (during or hours after rescue)



Stage 1

On initial immersion, there is a **large gasp for air** which can lead to severe **hyperventilation**. With your head under water it could be your last breath! This on its own can cause small muscle spasms and drowning. Along with this, there is a massive increase in heart rate and blood pressure. These latter cardiac responses may cause death, particularly in older, less healthy people. These effects last for the first two to three minutes. The first few minutes of immersion are very important to your survival, keep your head up, control your breathing and get a lifejacket on!

Stage 2

As your body cools more and more the ability to **use arms, hands, fingers and legs will diminish**, making it harder and harder for you to function. Death can occur in a little as thirty minutes. You may think swimming to shore or to a nearby boat is a good idea. This would be the wrong idea. As the body cools your thought process begins to slow down and your body begins to shut down. Swimming will only lead to the acceleration of this process. The best option is to climb on to anything that floats and wait for rescue! It is for this reason that you should always wear a Lifejacket or P.F.D.!

Stage 3

If you have reached this stage the next hurdle is surviving hypothermia. There is very little chance of rescuing oneself after reaching stage three. As the deep body temperature falls, you will **become unconscious**. Death from drowning may occur in two ways; drowning through incapacitation, and cardiac arrest. Death from drowning will occur in a lightly dressed individual even when wearing a Lifejacket, approximately one hour after immersion in water at 5°C, or two hours in water at 10°C, or in six hours or less at 15°C. Immediate medical attention is required.

Stage 4

Warming a person up or moving them too quickly after rescue may result in a post rescue collapse; the result is a stroke or heart attack. Immediate medical attention is required!

Hypothermia

Hypothermia is a drop in body temperature **below normal operating temperature 37°C° or 98.6 F°**. It affects the brain and body. It can happen over a period of time, as in the case of wearing wet clothing while riding a PWC on a cool day. It can also happen quickly, when suddenly immersed in cold water.

Wearing one of the following will provide further protection from hypothermia: dry suit, wet suit, immersion suit, survival suit, exposure coveralls, and multiple layers of dry, light clothing, waterproof or windproof clothing.



Hypothermia progresses in three stages.

Stage 1 begins when the body temperature drops below 37C° or 98.6 F°

Shivering and slurred speech while conscious (awake), but withdrawn (quiet).

Stage 2 begins when the body temperature drops below 35C° or 95 F°

The person will have a slow and weak pulse, slow breathing, and poor co-ordination, be irrational, confused, and sleepy and may need emergency care.

Stage 3 begins when the body temperature drops below 33C° or 91 F°

A weak, irregular pulse or none at all, weak breathing or none at all, unconscious. The person will require emergency care.

Treatment

Remove the person(s) from the source of cold exposure; get them to dry, sheltered surroundings. Replace their wet clothing with dry clothing. Wrap them up with dry blankets. Place dry coverings on them, cover their head and neck. Warm them up slowly. They may have a warm drink, such as milk; never give them stimulants such as alcohol, coffee, tea or hot chocolate. Never rub or massage the person, doing so will cause blood to leave the vital organs. **Call or display the need for assistance.**

Carbon monoxide poisoning

**WARNING**



Carbon monoxide (CO) can cause brain damage or death.
Engine and generator exhaust contains odorless and colorless carbon monoxide gas.
Signs of carbon monoxide poisoning include nausea, headache, dizziness, drowsiness, and lack of consciousness.
Get fresh air if anyone shows signs of carbon monoxide poisoning.
See Owner's Manual for information regarding carbon monoxide poisoning.

Carbon monoxide is a colourless, odourless and tasteless gas. Its specific gravity is the same as air. Meaning it will rise and fall with the air flow in or around the boat. It enters the bloodstream through the lungs and displaces the oxygen your body needs. Carbon monoxide poisoning occurs when enough of the deadly gas has been inhaled. Breathing concentrations as low as 35 parts per million ppm (0.0035% of fresh air) can cause early symptoms to appear such as weakness and dizziness and is often confused with seasickness or intoxication:

Other symptoms of carbon monoxide poisoning include:

- irritated eyes
- headache
- nausea
- vertigo
- flu like symptoms

Prolonged exposure to low concentrations or very short exposure to high concentrations such as 12,800

ppm (1.28% of fresh air) will cause damage to your nervous system and heart and can cause death.

Treatment

- Move victim to a ventilated area
- Call 911
- Seek medical treatment

Sources of the deadly gas are gas, diesel engines, and generators, cooking appliances, propane BBQs and propane space heaters or hot water tanks. To prevent carbon monoxide problems, never allow anyone to swim behind the boat when the generator or engine is running. Never sit on or go under the swim platform while the generator is running, exhaust gas exiting the exhaust ports may have created a deadly cloud of gas to build up around the platform. Always install and maintain a carbon monoxide detector on board the boat. Keep forward-facing hatches open, even in less than favourable weather conditions, this will allow fresh air to circulate in living spaces. When possible, run the boat so that bow points into the wind this will help dissipate the exhaust. Be cautious of other boats operating their engines or generator while in the marina.

Do not confuse carbon monoxide poisoning with seasickness, intoxication, or heat stress. If someone on board complains of irritated eyes, headache, nausea, weakness, or dizziness, immediately move the person to fresh air, investigate the cause and take corrective action. Seek medical attention, if necessary.

Heat exhaustion, heat stroke & sea sickness

Heat Exhaustion

Prevention; drink lots of water, stay in shady cool surroundings, don't stay too long in the sun!

Signs and symptoms

Include heavy sweating, paleness, muscle cramps, tiredness, weakness, dizziness, nausea and fainting.

Treatment

Give cool, non-alcoholic beverages, rest, cool shower, bath, or sponge bath, an air-conditioned environment, lightweight clothing. If left untreated may lead to heat stroke.

Heat Stroke Prevention

The most important measures to prevent heat strokes are to avoid becoming dehydrated and to avoid vigorous physical activities in hot and humid weather. If you have to perform physical activities in hot weather, drink plenty of fluids such as water and sports drinks, but avoid alcohol, and caffeinated beverages which may lead to dehydration.

Symptoms

High body temperature, the absence of sweating, hot red or flushed dry skin, rapid pulse, difficulty breathing, strange behaviour, hallucinations, confusion, agitation, disorientation, seizure or coma.

Treatment

Get the victim to a shady area, remove clothing, apply cool water to the skin, fan the victim to promote evaporation, and place ice packs under the armpits and groin. Monitor body temperature with a thermometer and continue cooling efforts until the body temperature drops to 101-102°F (38.3-38.8°C). Always notify emergency services (911) immediately. If their arrival is delayed, they can give you further instructions for treatment of the victim.

Sea sickness

Sea sickness is the reaction of the inner ear balance system to the unfamiliar motion of the boat. The movement



of the boat causes stress on the balancing portion of the brain. Your brain sees things on the boat such as walls and furniture and instinctively knows from past experience that they are supposed to be still. However, since these items are actually moving with the sea and the boat, the inner ear gets stressed and confused and nausea sets in.

Sea sickness can be bad for you and your guests, bad for your guests as they will be sick, bad for you as you may need to unexpectedly return them to shore!

Prevention

There are several types of pharmaceutical solutions for prevention of sea sickness. Always consult your doctor prior to taking any medication. Non medical prevention is applying pressure to your wrist where your pulse would normally be taken. Ginger is the most common herbal remedy for seasickness. When taking a guest(s) on the water for the first time, plan a short trip, this will allow you to judge if anyone is susceptible to sea sickness.

Treatment

Face forward on the deck and focus on the horizon, not the boat! Lying down on the deck in the fresh air often helps. Just remember to take a remedy after you wake up!

Running aground and collisions

This is not likely to happen as you will be paying attention at all times! When in grave and imminent danger use a recognized distress signal to call for or to display the need of assistance.

Whether you end up on a rock, sandbar, shoal or run into another boat, immediately shift the boat



to neutral, and put on P.F.D. or lifejacket. Make sure everybody is accounted for. Check for leaks and mechanical damage and make the decision if it is safe to stay on the vessel. If it is not safe to stay on board call for or display the need for assistance and abandon ship. To help rescuers spot you, stay with the craft whenever possible.

If the decision is made to stay on board, attend to any injured persons, check for holes in the boat and repair if possible. Be sure to remove any water that has entered the boat. Tapered wooden plugs, tape, blankets, or towels can all be used to slow down or stop a leak. When safe, stay on board, if needed call for or display the need for assistance. A boat that has run aground should be left aground unless it is absolutely safe to dislodge it from the obstruction.

Hull leaks and flooding

When in grave and imminent danger use a recognized distress signal to call for or to display the need of assistance. Running over a log, submerged rock or tree limb can cause a hole or crack in the vessel. This in turn can cause a leak and if not dealt with swiftly, could result in flooding and perhaps the sinking of the vessel. The cause of the leak may be as simple as a loose fitting or rain water that was not removed by the bilge pump.

Regardless of the reason, when water is found to be entering the boat, immediately

- Don Lifejackets or a P.F.D.
- Stop or slow down the boat this action will reduce the water pressure and the flow of water entering the boat.
- Find the source of the leak and if possible, stop the leak.
- Use tapered wooden plugs, blankets, tape or towels can all be used to slow down or stop a leak.

If required use a recognized distress signal to call for or to display the need of assistance. When it is safe to do so, stay on board the vessel. Abandoning ship may be an option.

Swamping and sinking

When in grave and imminent danger use a recognized distress signal to call for or to display the need of assistance. Swamping is when enough water has entered the boat unexpectedly to the point that sinking may become a reality. The passing of other boats or the wind can both cause large waves that may crest over and into the boat. Slowing down too fast may also allow water to crest over the stern and swamp the boat.

Should the boat become swamped

- Don Lifejackets or P.F.D.
- Determine the risk of injury by passing boats
- When possible use manual bailers or electric pumps, bail until the boat is safely floating
- If the engine has stalled, restart it and proceed to safety
- When determined that sinking is inevitable, use a recognized distress signal to call for or to display the need of assistance.

A wave measuring 1m high x 1m wide weighs 1000kg. Keep a sharp eye out for rogue waves, it only takes one to swamp you!

Capsizing

When in grave and imminent danger use a recognized distress signal to call for or to display the need of assistance. Capsizing is when the boat flips over. Causes can include operating in an unsafe manner, or large waves caused by other boats or the wind.

When capsized

- Don lifejackets or P.F.D.
- account for all persons onboard
- determine the risk of another boat hitting you
- Use all means possible to stay afloat
- Depending on the size of the boat, flipping it over and bailing it out may be an option. If this
- is not an option, cling to the hull or anything else that floats
- Abandoning ship may be an option
- When required use a recognized distress signal to call for or to display the need of assistance.

Mechanical breakdowns

Proper maintenance and regular inspections will reduce the chance of breakdowns. If the cause of the breakdown cannot be rectified and you are in grave and imminent danger of running aground or drifting into danger, lower the anchor and use a recognized distress signal to call for or to display the need of assistance. **The most common cause of breakdowns is running out of fuel.** Before heading out remember the one third rule. You need one third to get there, one third to get back, and one third for reserve. When a motor is being starved for fuel or running out of fuel it will generally sputter or run faster (surge) just before it stops.

When the boat stops:

- Check the fuel level
- When using a portable tank, ensure that the vent screw located on the gas cap is opened and not damaged.
- If the boat is equipped with a fuel filter, check it for dirt or water
- Check the fuel lines for kinks and cracks
- Check oil levels, to prevent damage some motors will shut down when low on oil. Top it up and you should be ok
- Check the wiring, spark plugs running through rough water may have caused the wiring to the spark plugs, ignition system, or fuse panel to come loose. Repair as necessary.
- Check the water intake, plastic bags, weeds, mud, and silt can clog the water intake which in turn will cause the motor to overheat and shut down. Use a paddle or oar to clear the blockage. Then start the engine and check that the cooling water is exiting the motor. If it does not you may need a marine mechanic.

If the problem cannot be solved, options include anchoring and using the VHF RADIO TO CALL FOR HELP or waiting for help from a passing boat or paddling towards shore. When needed use a recognized distress signal to call for or to display the need of assistance.

Always carry oil, spare clamps, fuel lines, wire terminals and the necessary tools to make minor repairs to the boat.



To reduce heat loss climb up onto anything that floats.

REGARDLESS OF THE CIRCUMSTANCES STAY WITH THE BOAT EVEN STRONG SWIMMERS HAVE FAILED TO REACH SHORE THAT WAS LESS THAN 1KM AWAY!

Fire

If you are in grave and imminent danger, use a recognized distress signal to call for or to display the need of assistance. Where there is smoke there is fire! The fire may have been started by careless smoking, cooking, poor wiring, or a leaky fuel hose. How the fire started, whether small or large, does not matter; how you deal with it does! If a fire starts, you should be prepared and act swiftly. Generally, if you don't get to it within a few minutes, you're too late. You need to make a very fast and decisive decision. Can you safely put out the fire or should you abandon ship? If the decision is made to abandon ship send a MAYDAY, state your location, the number of persons the cause for the MAYDAY and that you are abandoning ship. Grab lifejackets, survival suits and anything else that will help you stay afloat and alive in the water. Grab the flares and any other items that can be used to assist rescue teams in locating your position.



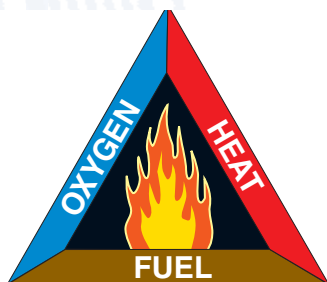
Should you decide that you can put the fire out safely then do it, don't hesitate! If underway and a fire starts, if possible, stop the boat and position it so that the fire is downwind. Get the fire extinguisher, activate it, and direct it at the base of the flames using short bursts and a sweeping motion from side to side to put it out.

Remember P.A.S.S.

- P. Pull pin
- A. Aim at the base of the flames
- S. Shoot
- S. Sweep side to side

Order everyone to put on lifejackets. If possible turn off the fuel supply. Never use water to put out gasoline, oil or electrical fires. Water will only spread the flammable liquids and can conduct electrical current.

Remember the fire triangle to put a fire out the fire must be starved of oxygen, air or fuel. Just because the fire looks out does not mean that it is out, spray it again until it is cold.



NOTE: Burning fibreglass is extremely hot and gives off noxious fumes. If fibreglass is burning, get off the boat immediately. Use a recognized distress signal to call for or to display the need of assistance.

Shake the fire extinguisher at least once a month and check the charge.

Trailing

Your boat trailer is only one part of the entire boating package, which consists of the boat, trailer, hitch and your vehicle. Neglecting trailer maintenance can result in damage to your boat, your vehicle, or an accident on the road. The trailer must be strong enough to carry the boat, motor, fuel and all the other gear, which you will be carrying in the boat while towing it to your destination. (Check the trailer's Gross Load Capacity Plate). Do not exceed 80% of your trailers load rating. Towing can be very stressful on a vehicle especially when the load exceeds the vehicles towing capacity. Consult your owner's manual before towing any trailer.



Don't forget to grease the bearings

Types of trailers

Essentially there are two types of trailers; bunk trailers and roller trailers. Bunk trailers are constructed using a metal frame with wood bunks covered with carpet (boards the boat rides on). Roller type trailers use a metal frame to support rubber rollers attached to swivelling cradles. Regardless of the type, make sure that it supports the boat adequately, if not the hull may warp or sag.



Roller trailer



Bunk trailer

Getting hitched

Hitches come in a variety of styles and ratings, in the past hitches were an after market purchase and installed at local retailers. Most modern vehicles come with a hitch already installed; these are generally sufficient and safe. Always ensure that any



hitch that is used is rated for the intended load. When using the manufacturer's hitch it is a good idea to purchase the manufacturer's receiver and ball. Match the ball size to the trailer tongue, meaning that a 1 and 7/8 tongue requires a 1 and 7/8 ball. **The use of safety chains is mandatory, chains must be crossed so as to create a cradle.** The cradle is meant to catch the tongue in the event of a receiver or tongue failure. Leave enough slack in the chains to allow for safe turning but not enough slack that the chains drag on the pavement which will cause a shower of sparks and wear through the chain.

Loading

Loading a boat on the trailer is one thing, achieving proper balance is another. Secure and stow all gear in the boat to prevent uncontrolled movement with heavy items on bottom. **The gear and boat should not exceed 80%** of the trailers rated capacity plate. **The tongue weight should be approximately 10%** on the heavy side. This can be hard to judge looking at a trailer from the side. So use your best guess and level as best as you can. A trailer that is too tongue heavy will make the vehicle tail drag, this will affect the steering and may bottom out the vehicle's suspension. When the trailer tongue is too light, the vehicle may fishtail. Most times repositioning items in the boat can help solve this problem. The alternative is to reposition the boat on the trailer.

Secure the boat to the trailer. Tie down straps work well, the ratchet type are easy to use just make sure to wrap a protective cloth around the ratchets. Secure the safety chain from the winch to the tow ring. Connect wire harness from the trailer to the vehicle, check the lights, tire pressure, when needed grease bearings, check trailer brake reservoir (when equipped with brakes), make sure the licence plate is attached and you are good to go! Carry a spare tire (even two), a jack, road safety flares, and flashlight, spare bulbs, for the trailer and necessary tools. Drive smoothly and cautiously.

Driving

When towing a trailer keep in mind that the added weight of the boat will decrease acceleration, increase breaking distance, and turning radius. Use the mirrors, practice backing up, parking and turning in an empty parking lot. When backing up a trailer, place both hands at the bottom of the wheel and steer in the direction you want the rear of the trailer to travel.

Launch time

After successfully reaching the launching site, you may be anxious to get out on the water. Relax, and take some time to look around at the surroundings. Have you checked the weather forecast for the day? Is the boat ramp safe to use?



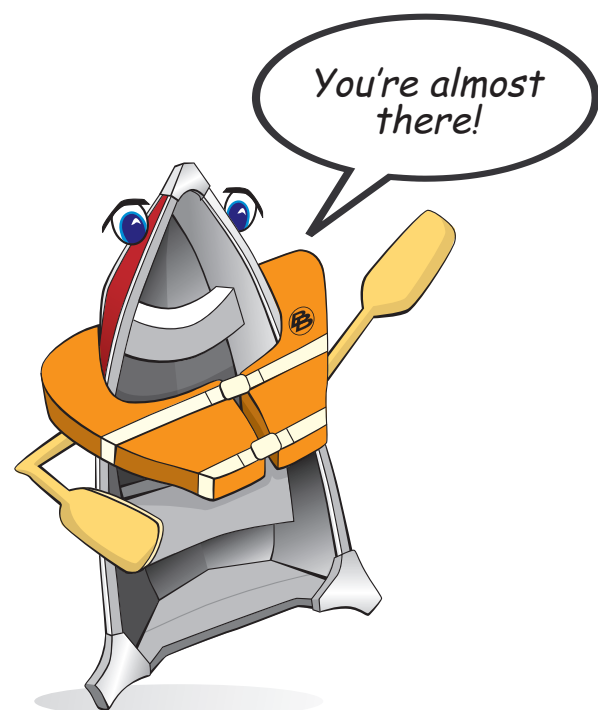
Install the drain plug

Loose gravel or sand on a concrete boat ramp is dangerous! Take a few minutes to allow the wheel bearings on the trailer to cool down. Hot bearings and cold water do not mix well.



- Remove the boat's cover and tie down straps
- Is the **drain plug** in place?
- Disconnect the trailer lights
- Attach a line to the boat
- Go through your pre departure check list
- Apply the emergency brake when parked on the boat ramp
- Launch the boat

To avoid an accidental injury, never start your engines until the boat is in the water.



Maintenance and pre season checklist

Unless you are quite competent or have a knowledgeable friend whom you trust, it is a good idea to hire a professional to perform regular required maintenance on the boat. Proper and regularly scheduled maintenance will reduce the chance of breakdowns on the water. Follow the manufacturer's recommended instructions and maintenance schedule. Because not all boats are the same you should create your own pre-season, end of season (haul out) checklists. Do not forget to conduct regular maintenance during the season.



Outside hull

Make sure the drain plug is in place; more than one trailer and boat has sunk due to a forgotten drain plug. Is the boat mechanically sound and does it hold water? When the boat is on a trailer or a lift put a little water in the bilge area, check to see if the water leaks out. No leaks means it should float safely.



- Check for broken welds, seams, structural fittings or loose nuts and bolts
- Check for leaky seals around hatches and ports
- Check all fittings and hand rails for tightness
- Check all through hull fittings and seals for tightness and integrity
- Check all screws and bolts on seats and hatches
- Check trim tabs function, no leaks
- For maximum fuel efficiency wash, wax and buff
- Steel and aluminium hulls should be checked for rust or oxidation, broken welds and leaky rivets, and sanded and painted (marine grade) as required.
- Check fibreglass hulls for blisters (osmosis), cracks, holes, and deep scratches that may have penetrated the gel coat. Gel coat should be buffed and waxed. Repair as necessary.
- Wooden boats; sand, paint (marine grade), repaired and refinish as needed. Soak hull before using, this allows the wood to swell and fill in the gaps between the boards.

Inside hull

- Check all drains (head and sink) are clear and tight
- Check head, lubricate as required
- Check all scuppers (for draining water off the deck)
- Check all bilges clean and free of debris
- Check sea cocks move freely, if not lubricate or replace with gate valves
- Lubricate steering and throttle linkage
- Fresh water tanks cleaned and filled
- Check all hoses and lines for leaks or cracks
- Check clamps are secure and double clamped when below water line
- Check that fuel burning or electric appliances are working properly and installed as per the manufacturer's instructions. In addition, propane tanks secured outside on the deck

Electrical

- Check all gauges
- Check the VHF radio and other electronics
- Check the charging system
- Check that carbon monoxide and smoke detectors are working
- Wiring is secured and sound
- Check wire connections are water tight and terminals covered
- Check sound signalling devices
- Other lighting
- Check fuse panel

Electrical; check all electrical connections and wiring for nicks and wear. When a wire is bent the casing may display white stress marks, replacing that section is probably a good idea. Use only marine grade wire and connectors and make them water tight when below the water line. Test all electrical equipment to ensure that it works especially, the bilge pump and nav lights.

Batteries; sanding or a mixture of baking soda and water will bring corroded, greenish looking terminals back to new. The use of Vaseline or a product called electrolyte will prevent corrosion on the battery terminals. Regardless, make sure your batteries are fully charged and the connections are tight each and every time you head out. Secure batteries in a plastic battery box.

Boats equipped with two batteries may be equipped with a battery switch. The switch has four positions off, 1, 2 and all. You can test this device by turning the nav lights on then turn the switch from one to two then to all and back to off. If lights turn off (1, 2, or all) you probably have a bad switch or a dead battery.

Motor

- Check maintenance schedule has been followed as per the manufacturer's instructions
- Does the generator need to be adjusted or tuned?
- Does the motor need to be adjusted or tuned?
- Check the propeller for fishing line or other debris tangled around the hub and seals
- Check the propeller for chips and dings. A bent or chipped propeller can cause vibration, which can damage the

motor and controls. This can be the result of striking an object in water or road debris.

- Check cooling system
- Check lubricate linkages
- Check and change oil, air and fuel filters
- Check all pulleys, belts for wear and tension
- Check the engine ventilation system
- Check all fluid levels
- Check exhaust for integrity
- If required mix oil gas as per the manufacturer's instructions
- Open the vent cap on portable tanks
- Change spark plugs, wires and coils as needed
- Check the oil and fuel filter lines and replace as necessary.

A little air leak in a fuel line will cause the engine to cough and sputter and even stall, this may happen at the dock but more than likely it will happen on the water. So check the fuel lines for cracks and firmness twice. Oil that is contaminated with water will appear greyish in colour.

To check the belt tension press on the middle of the belt, more than a half inch of deflection indicates the belt needs adjusting. The presence of black dust indicates belts need to be replaced and the pulleys need to be realigned.

Sacrificial zincs and anodes should be replaced when they are half gone, check for stray current at the dock.

Spare parts and tools

Bilge pump, switch, fuses, light bulbs, spark plugs, owner's manuals, belts, hoses, clamps, duct tape, electrical tape, water proof silicone, soft wooden plugs, wire, wire connectors, wire hangers, bailers, screws, nuts and bolts, oil absorbent rags, oil, and other fluids, shear pins for propeller, wiper blades, standard screw drivers, spark plug wrench, batteries for the electronic gadgets on board, emergency portable charging battery pack.



Trailers

- Check rollers for cracks and splits
- Trailer jack for lubrication and tightness
- Bunks for protruding staples and other fasteners.
- Check chains for broken, worn, or weak links.
- Test the lights, if they do not work, try spraying the ball, trailer tongue, and electrical connectors with WD 40. This will help make electrical connections.
- Check all nuts and bolts are tight
- Check winch if equipped works and the cable is not damaged, it is not a bad idea to fully extend the cable and rewind it
- Tires are inflated as stated on the wall of the tire, also check for cracks or bulges which indicate wear
- Grease and repack wheel bearing as needed
- Before dunking the trailer in the water let the bearings cool down and disconnect the lights
- Hot bearing, may warp or crack and lights may pop or cause a fuse to blow in the vehicle.

Winter storage



- To prevent freezing and cracking the hull or holding tanks, remove all water.
- To prevent wild life from using seat cushions and lifejackets as a home, clean and store them in the house
- Remove all electronics from the boat and store inside
- Remove propane, charcoal and other flammable items such as gas and oil
- To prevent mould the boat must be dry and ventilated before winter storage, do not seal it up tight. When storing the boat outside, try to park it where the wind can't blow the cover off, this helps to prevent leaves and other trash from entering the boat over the winter, not to mention snow
- Before putting the boat away for the winter always wash down the boat and trailer using running water and environmentally friendly cleaners.
- To prevent from freezing to the ground or filling with rain or snow, flip tin boats and canoes upside down and set on wood blocks
- Generally speaking, batteries need to be charged occasionally over the winter, this helps maintain their charge capability
- Fuel tanks: this is a tricky one, some motor manufacturer's suggest leaving the tank full before winter storage and others recommend running the tank dry. You will need to follow the engine manufacturer's directions for your particular motor
- Finally, run a chain through the rim and lock the trailer and boat up to a pole, tree or some other structure that will help deter a thief
- Over the winter study the charts for your next vacation.

Boating terms

ABAFT - In a direction towards the stern

ABEAM - At right angles to boat

ABOARD - On or within the boat

ABOVE DECK - On the deck

AFT - Towards the stern of the boat

AGROUND - Touching the sea bed bottom

AHEAD - in a direction or position pointing forward of a pleasure craft

AIDS TO NAVIGATION - Artificial floating and landmarks to indicate safe and unsafe waters

ALL-ROUND LIGHT - A light showing an unbroken light over an arc of the horizon of 360 degrees

ANCHOR - A heavy, metal device, fastened to a chain or line, to hold a vessel in position

ANCHORAGE - A place suitable for anchoring

ASTERN - in a direction or position pointing behind a pleasure craft

ATHWARTSHIPS - At right angles to the centreline of the boat

BATTEN DOWN - Secure hatches and gear

BEACON - A lighted or unlighted fixed aid to navigation

BEAM - the width of a vessel

BELOW - Beneath the deck

BIGHT - The part of the rope or line, between the end and the standing part, on which a knot is formed

BILGE - the hull below the floor boards

BITTER END - The last part of a rope or chain

BLUE FLASHING LIGHT - A blue all-round light flashing at regular intervals at a frequency of 50 to 70 flashes per minute

BOAT - A waterborne vehicle smaller than a ship. One definition is a small craft carried aboard a ship

BOAT HOOK - A shaft with a fitting at one end used for putting a line over a piling, recovering an object dropped overboard, or in pushing or fending off

BOW - the front of the boat, generally the pointy end

BOW LINE - A docking line leading from the bow

BOW SPRING LINE - A line used in docking to prevent the boat from moving forward or astern while made fast to a pier

BOWLINE KNOT - A knot used to form a temporary loop in the end of a line

BRIDGE - The location from which a vessel is controlled

BULKHEAD - A vertical partition separating compartments

BUOY - A floating anchored aid to navigation

CABIN - A compartment for passengers or crew

CAPSIZE - To turn or roll over

CAST OFF - To let go, release, push off

CATAMARAN - two hulls, side-by-side

CHAFING GEAR - Tubing or cloth wrapping used to protect a line from chafing on a rough surface

CHANNEL - water deep enough for navigation

CHART - A map used by marine navigators

CHINE - The intersection of the bottom and sides of a flat or v-bottomed boat

CHOCK - A fitting through which anchor or mooring lines are led. Usually U-shaped to reduce chafe

CLEAT - A fitting to which lines are made fast

CLOVE HITCH - A knot for temporarily fastening a line

COCKPIT - An opening in the deck from which the boat is controlled

COIL - To lay a line down in circular turns

COMPASS - Navigation instrument, either magnetic (showing magnetic north) or gyro (showing true north)

COMPASS CARD - Part of a compass, the card is graduated in degrees, which remains constant; the vessel turns, not the card

COMPASS ROSE - The resulting figure when the complete 360° directional system is developed as a circle with each degree graduated upon it, and with the 000° indicated as True North. Also called true rose. This is printed on nautical charts for determining direction

CURRENT - The horizontal movement of water

DAYBEACON - A fixed navigational aid

DEAD AHEAD - directly ahead

DEAD ASTERN - directly behind

DEAD RECKONING - A plot of courses steered and distances travelled through the water. using land based objects as points of reference

DECK - A permanent covering over a compartment, hull or any part of a ship serving as a floor

DISPLACEMENT - The weight of water displaced by a floating vessel

DISPLACEMENT HULL - A type of hull that pushes and plows through the water, displacing a weight of water equal to its own weight, even when more power is added

DOCK - A protected water area in which vessels are moored

DRAFT - the depth of water, which a pleasure craft requires to float freely

EASE - To loosen or relieve tension on a line

EBB TIDE - A receding tide

FAST - to make one object secure to another

FATHOM - Six feet

FENDER - Various devices serving to cushion the shocks and protect the side of a pleasure craft

FETCH - The distance travelled by waves

FIGURE EIGHT KNOT - A knot in the form of a figure eight, used as a stopper knot

FLAME ARRESTER - A safety device, such as a metal mesh protector, to prevent an exhaust backfire from causing an explosion; operates by absorbing heat

FLARE - The outward curve of a vessel's sides near the bow. A distress signal

FLASHING LIGHT - A light flashing at regular intervals at a frequency of 120 flashes or more per minute

FOLLOWING SEA - An overtaking sea that comes from astern(behind)

FORE AND AFT - In a line parallel to the keel

FORWARD - Toward the bow of the boat

FOULED - Entangled, knotted or dirtied

FREEBOARD - The minimum vertical distance from the surface of the water to the gunwale and the design waterline.

GALLEY - The kitchen area of a boat.

GANGWAY - The area of a ship's side where people board and disembark

GEAR - A general term for ropes, blocks, tackle and other equipment

GIVE-WAY VESSEL - a vessel that is required to keep out of the way of another vessel

GRAB RAILS - Handhold fittings mounted on the boat for personal safety when moving around the boat

GROUND TACKLE - Anchor, anchor rode (line or chain), and all the shackles and other gear used for attachment

GUNWALE - The upper edge of a boat's sides

HARBOR - A safe anchorage, protected from most storms

HATCH - An opening in a boat's deck

HEAD - A marine toilet

HEADING - The direction the boat is travelling

HEADWAY - The forward motion of a boat

HELM - The wheel or tiller controlling the rudder

HITCH - A knot used to secure a rope to another

HOLD - A compartment below deck in a large vessel

HULL - The body of a pleasure craft exclusive of masts, sails, rigging, machinery and equipment, the boat's shell

HYPOTHERMIA - A life-threatening condition in which the body cannot maintain the normal body temperature

INBOARD - a motor fitted inside the boat

KEDGE - To use an anchor to move a boat by hauling on the anchor rode, a basic anchor type

KEEL - The centreline of a boat running fore and aft

KNOT - A measure of speed equal to one nautical mile (6076 feet) per hour; way of tying a rope (line) together

LEEWARD - The direction away from the wind

LEEWAY - The sideways movement of the boat caused by either wind or current

LIFEJACKET - Small vessel lifejacket, a standard lifejacket or a SOLAS type lifejacket. Generally used in abandoning a ship.

LINE - Rope and cordage used aboard a vessel

LUBBER'S LINE - A mark or permanent line on a compass indicating the direction forward

MAST - A spar set upright to support rigging and sails

MASTHEAD LIGHT - A white light placed over the fore and aft centerline of the vessel showing an unbroken light over an arc of the horizon of 225 degrees and so fixed as to show the light from right ahead to 22.5 degrees abaft the beam on either side of the vessel

MONOHULL - A boat with one hull

MOORING - An arrangement for securing a boat to a mooring buoy or a pier

MOORING BUOY - A buoy secured to a permanent anchor

NAUTICAL MILE - One minute of latitude; approximately 6076 feet (a statute mile = 5280 feet)

NAVIGATION - moving a boat safely from one point to another

OPERATE - The action of controlling the speed and course of a pleasure craft

OPERATOR - the person in effective charge and control of a pleasure craft and who is responsible for the pleasure craft. Also called the skipper or captain of the boat

OUTBOARD - A detachable engine mounted on a boat's stern

OUT DRIVE - A propulsion system for boats with an inboard engine operating an exterior drive, with drive shaft, gears, and propeller; also called stern-drive and inboard/outboard

OVERBOARD - Over the side of the boat or out of the boat

PAY OUT - To ease out a line or let it run in a controlled manner

Personal Flotation Device (P.F.D.) - a buoyant life-saving apparatus other than a lifejacket, that is intended to be worn by a person as per the standards. Generally the vest type

PIER - A loading/landing platform

PILOTING - Navigation by use of visible references

PITCH - The alternate rise and fall of the bow of a vessel proceeding through waves

PITCHPOLING - A small boat being thrown end-over-end

PLANING HULL - A type of hull shaped to glide easily across the water at high speed

PORT - The left side of a boat when looking forward.

PLEASURE CRAFT - A boat, a ship, a vessel, or any other description of water craft that is used exclusively for pleasure, and does not carry passengers or goods for hire, reward, remuneration or any object of profit

POWER-DRIVEN VESSEL - Any vessel propelled by machinery

PROPELLER - A rotating device, that acts as a screw in propelling a vessel

QUARTER - The sides of a boat aft of amidship

REEF - To reduce the sail area. To pull on an object

RESTRICTED VISIBILITY - Every vessel shall precede at a safe speed adapted to the prevailing circumstances and conditions of restricted visibility

RIGGING - The general term for all the lines of a vessel.

RODE - The anchor line and/or chain

ROLL - The alternating motion of a boat, leaning alternately to port and starboard

RUDDER - A board used for steering a boat

RUNNING LIGHTS - Lights required to be shown on boats underway between sundown and sunup

SAILING VESSEL - Any vessel under sail provided that propelling machinery, if fitted, is not being used

SCOPE - The ratio of the length of an anchor line, from a vessel's bow to the anchor, to the depth of the water

SCREW - A boat's propeller

SEA ANCHOR - Any device used to reduce a boat's drift before the wind

SECURE - To make fast

SHACKLE - A "U" shaped connector with a pin or bolt across the open end

SHEAR PIN - A safety device used to fasten a propeller to its shaft; breaking when the propeller hits a solid object.

SHEET BEND - A knot used to join two ropes. Functionally different from a square knot in that it can be used between lines of different diameters

SHIP - A larger vessel usually used for ocean travel. A vessel able to carry a "boat" onboard

SHOAL - A navigational hazard composed of unsecured material

SIDELIGHTS - A green light on the starboard side and a red light on the port side each showing an unbroken light over an arc of the horizon of 112.5 degrees and so fixed as to show the light from right ahead to 22.5 degrees abaft the beam on its respective side. In a vessel of less than 20 metres in length the sidelights may be combined in one lantern carried on the fore and aft centre line of the vessel

SLACK - To loosen

SPECIAL FLASHING LIGHT - a yellow light flashing at regular intervals at a frequency of 50 to 70 flashes per minute, placed as far forward and as nearly as practicable on the fore and aft centreline of a vessel and showing an unbroken light over an arc of the horizon of not less than 180 degrees nor more than 225 degrees and so fixed as to show the light from right ahead to abeam and not more than 22.5 degrees abaft the beam on either side of the vessel

SPRING LINE - A line used to prevent the boat from moving forward or astern while made fast to a dock

SQUARE KNOT - A knot used to join two lines of similar size. Also called a reef knot

STANDING PART - That part of a line which is made fast. The main part of a line as distinguished from the bight and the end

STAND-ON VESSEL - Is the vessel that maintains course and speed unless it is apparent that the give way vessel is not altering course, then the stand on vessel must take early and substantial action to avoid collision.

What does this mean? If you have right of way and you know you have right of way you must give right away if the other boat does not appear to be giving right of way

STANDARD LIFEJACKET - A lifejacket that meets the standards set out in section 1.1 of Schedule III of the small vessel regulations, must be of the Inherently Buoyant Type

STARBOARD - The right side of a boat when looking forward

STERN - The after part of a pleasure craft, the back end of the boat

STERN LIGHT - A white light placed as nearly as practicable at the stern showing an unbroken light over an arc of the horizon of 135 degrees and so fixed as to show the light 67.5 degrees from right aft on each side of the vessel

STERN LINE - A docking line leading away from the stern

STOW - To pack or store away; especially, to pack in an orderly, compact manner

STRONG WIND WARNING - Winds with speeds in the range of 20 - 33 knots (37 - 61 km/h), generally not suitable for boating

SWAMP - To fill with water, but not sink

TACKLE - A combination of blocks and line to increase mechanical advantage

TIDE - The rise and fall of water.

TILLER - A bar or handle for turning a boat's rudder or an outboard motor

TOPSIDES - The sides of a vessel between the waterline and the deck; sometimes referring to "onto" or "above" the deck

TOWING LIGHT - Yellow light having the same characteristics as the "stern light"

TRANSOM - The stern cross-section of a square-sterned boat

TRIM - Fore and aft balance of a boat

TRIMARAN - A boat with three hulls

TRIPLINE - A line fast to the crown of an anchor by means of which it can be hauled out when dug too deeply or fouled; a similar line used on a sea anchor to bring it aboard

TRUE NORTH POLE - The north end of the earth's axis. Also called North Geographic Pole. The direction indicated by 000° (or 360°) on the true compass rose

TRUE WIND - The actual direction from which the wind is blowing

TURNBUCKLE - A threaded, adjustable rigging fitting, used for stays, lifelines and sometimes other rigging

UNDERWAY - that a pleasure craft is not at anchor or made fast to the shore

V BOTTOM - A hull with the bottom section in the shape of a "V"

VARIATION - The angular difference between the magnetic meridian and the geographic meridian at a particular location

VESSEL - Includes every description of water craft, including non-displacement craft, seaplanes; used or capable of being used as a means of transportation on water

VHF RADIO - A very high frequency, electronic communications and direction finding system

WAKE - The disturbed column of water around and behind a moving pleasure craft, which is set into motion by the passage of a pleasure craft. The big wave created by a passing boat

WASH - The loose or broken water left behind a pleasure craft as it moves along and includes the water thrown aft by the propeller

WATERLINE DESIGN - the waterline at the recommended maximum gross load capacity. It is the point where the boat floats safely when properly loaded

WINCH - A device used to raise sails or pull a boat onto a trailer

WINDWARD - The opposite side of the main sail

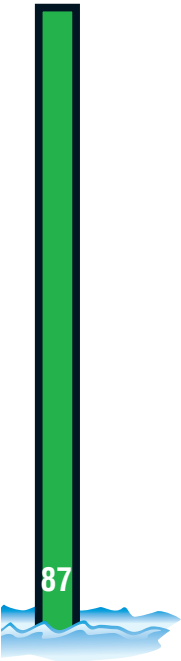
YAW - To swing off course

Let's see if
you're ready to
pilot a boat!









Resources:

Offices of Boating Safety
1 800 267 6687

Search and Rescue:

Pacific Coast
Joint Rescue Coordination Centre Victoria
1-800-567-5111 or 1-250-363-2333

Great Lakes and Arctic
Joint Rescue Coordination Centre Trenton
1-800-267-7270 or 1-613-965-3870

St. Lawrence River
Maritime Rescue Sub-Centre Quebec
1-800-463-4393 or 1-418-648-3599

Newfoundland and Labrador Coast
Maritime Rescue Sub-Centre St. John's
1-800-563-2444 or 1-709-772-5151

Maritimes Coast
Joint Rescue Coordination Centre Halifax
1-800-565-1582 or 1-902-427-8200

Other Organizations:

Canada Border Services Agency
Border Information Service: 1-800-461-9999
Outside Canada: 1-204-983-3500 or 1-506-636-5064

Service Canada
Tel.: 1 800 O-Canada (1-800-622-6232)

Environment Canada
Tel.: 1-877-789-7733
E-mail: weather.info.meteo@ec.gc.ca

Canadian Hydrographic Service
Tel.: 1-613-998-4931
E-mail: chsinfo@dfo-mpo.gc.ca

Industry Canada
Tel.: 1-800-328-6189

Canadian Beacon Registry
Tel.: 1-800-727-9414

Government of Canada Publications
Marine publications and regulations
Website: www.publications.gc.ca
Tel.: 1-800-635-7943

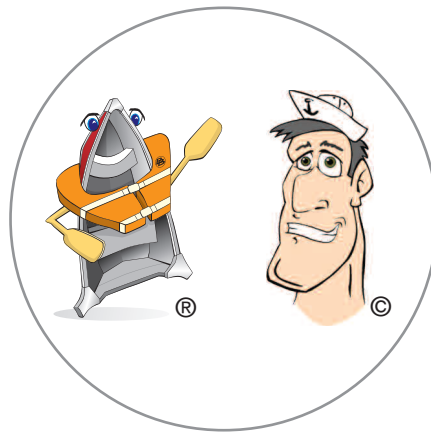
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Boating Safety Course and Test Syllabus
Safe boating guide

*Courtesy of US Coast Guard

The Canadian Coast Guard
The Canadian Life Saving Society
The Canadian Red Cross
The Canadian and US Power and Sail Squadrons
Capt Robert Shannon
Tony Urik (Fire Fighter)
Chapmans Piloting
Officer Bennett Peel Marine Unit

This course is in memory of George Powis



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