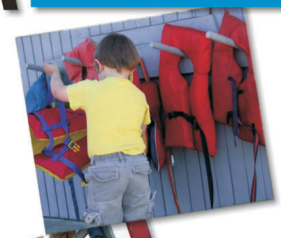
ALASKA BOATER'S HANDBOOK



January 2005

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November 2004

Dear Fellow Boater,

Alaska's 33,000 miles of coastline waterways, 3,000 rivers, and three million lakes provide world-class recreation for thousands of boaters each year. Many of our residents are also "lifestyle boaters" who use boats as an important means of transportation.

Unfortunately, Alaska also has one of the highest boating fatality rates in the nation. The majority of these fatalities are the result of a sudden cold water immersion following a capsize or a fall overboard, and the person was not wearing a life jacket and was unable to self rescue. Most of these boating tragedies could have been prevented if boaters put safety as their first priority.

The Alaska Boating Safety Program cooperates with the U.S. Coast Guard, Coast Guard Auxiliary, and other partners to produce educational programs and publications that promote safe, enjoyable boating, including the *"Alaska Boater's Handbook."* This new edition includes updated information on pre-departure preparation, boating laws, and handling boating emergencies, and practical advice from experienced Alaska boaters.

All boaters should strive to make their boating experiences as safe and enjoyable as possible, and to develop their boating knowledge and skills by taking boating courses relevant to their style of boating. For more information on courses and other resources, please contact Jeff Johnson, Boating Law Administrator, at (907) 269-8705, email: jeffj@dnr.state.ak.us, or write:

State of Alaska
Division of Parks and Outdoor Recreation
Office of Boating Safety
550 West Seventh Avenue, Suite 1380
Anchorage, AK 99501-3561

And please, always "***Boat Smart From The Start***" by wearing a life jacket when in an open boat or on an open deck.

Sincerely,

Frank H. Murkowski
Governor

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PREPARATION

INTRODUCTION

From powerboating and kayaking our coastal waters to air boating, jet boating, rafting, drift boating and canoeing our interior rivers and lakes, Alaska's boating opportunities are superlative. However, Alaska also has one of the highest boating fatality rates in the nation. Statistics show us that most who died while boating in Alaska:

- experienced a sudden capsize or a fall overboard into Alaska's cold water,
- were not wearing a life jacket,
- had never taken a boating course.

Because nearly all boating related mishaps involve operator controllable risk factors, most are both predictable and preventable. It has been said that while a boat in the harbor is safe, that's not why boats are made. All boating entails some risk, and safe and enjoyable boating depends on effective risk management. The best skippers and paddlers know they must be able to anticipate, recognize, and assess risks, avoid or control what they can, and minimize the effects of those they can't. The ability to do this hinges on the four cornerstones of safe, enjoyable boating: proper **attitude**, **knowledge**, **skill**, and sound, unimpaired **judgment**.

Attitude

Safe, enjoyable boating begins with proper attitude. Alaska's waterways are a dynamic, ever changing environment. Complacency, over-confidence, carelessness, or an "amusement park" mentality are serious liabilities on a boat.

Knowledge

Nationwide, eight out of ten boating fatalities involve boat operators who had not taken a single boating course. The Alaska Office of Boating Safety highly recommends that all boaters take boating courses relevant to their type of boating, and then continue to refresh and build on their knowledge over time. In boating, learning about new and better ways of doing things is a large part of the fun.

Power boaters should look for courses approved by the National Association of State Boating Law Administrators (NASBLA). Completing a NASBLA-approved boating safety course fulfills the mandatory boating education requirements of many states, and may qualify boaters for discounts on their boat insurance.

The U.S. Coast Guard Auxiliary, a civilian component of the U.S. Coast Guard, conducts NASBLA-approved boating classes in Alaska. Boaters can call (800) 478-6381 for more information.

The Alaska Boating Safety Program offers the NASBLA-approved *Alaska Water Wise,* a state specific boating course. The Alaska Boating Safety Program also trains, certifies and supports a statewide network of registered boating safety instructors who teach *Alaska Water Wise* courses and other boating education programs in their communities. For more information, please contact the Office of Boating Safety at (907) 269-8704.

Instructor training is also available through the Alaska Marine Safety Education Association (AMSEA). For more information, please contact:

Alaska Marine Safety Education Association
2924 Halibut Point Road
Sitka, Alaska 99835
Phone: (907) 747-3287
Fax: (907) 747-3259
www.amsea.org

Paddlers should look for courses specific to their sports, such as those sponsored by the American Canoe Association, American Whitewater, and Alaska paddling organizations such as Knik Canoers and Kayakers, www.kck.org, Fairbanks Paddlers, www.fairbankspaddlers.org, and the Alaska Sea Kayak Symposium, www.alaskaseakayakingsymposium.org. Look for courses that incorporate hands on instruction.

The Alaska Office of Boating Safety's website, www.alaskaboatingsafety.org, provides information on boating laws, NASBLA-approved boating courses (including *Alaska Water Wise* and several on-line courses), and other helpful boating links.

Skill

All boaters should have the skill to operate their boat under a variety of conditions and deal with problems. Most beginning boaters have enough skill to operate a boat under ideal conditions, but events such as deteriorating weather or mechanical breakdown can suddenly appear requiring a much higher level of skill than the boater possesses. Skills are developed with practice and experience; it's important for boaters to recognize their skill level and avoid operating in conditions that exceed their abilities.

Judgment

Sound judgment, unimpaired by alcohol, drugs, or fatigue, is a boater's most important tool. Trust gut feelings. Boaters often have a choice whether or not to put themselves and their passengers in a situation that could be beyond their skill, or the capability of their boat or equipment. Be flexible in decision-making. Lives may depend on it.

EQUIPMENT REQUIREMENTS

The federal and state laws requiring basic equipment on vessels are designed to save lives and reduce the need for rescue. Equipment required for a specific boat depends on many factors including the size of the boat, its source of propulsion, construction, and where and how the boat is used. Depending on jurisdiction, federal and/or state requirements may apply.

Federal Requirements

Federal requirements apply on all U.S. navigable waters. In Alaska, this includes all saltwater, rivers that empty into saltwater and inland waterways designated as U.S. navigable waters under federal law. The requirements for non-commercial boats are found in the brochure "*Federal Requirements and Safety Tips for Recreational Boats,"* or through the U.S. Coast Guard's web site at: www.uscgboating.org.

Alaska Requirements

State requirements apply to all boats (except lifeboats, seaplanes, inspected passenger vessels, and water toys) on all waters of the state including inland waters and saltwater within the territorial limits of the state. This section provides an overview of state requirements as of this printing. Please note these requirements are the minimum. Every boater should carry additional equipment appropriate for the boat and the operating conditions. Suggestions may be found in the PRE-DEPARTURE CHECKLIST section.

Personal Flotation Devices (PFDs)

Personal flotation devices, also known as "life jackets," were for years thought of simply as a substitute for swimming ability. However, with increased understanding of the factors involved in Alaska's boating fatalities (and the effects of cold water immersion in particular), many boaters are realizing the importance of always wearing life jackets when underway. Alaska's cold water

Alaska Requirements Summary

Requirement	Boats under 16 feet	Boats 16 to less than 26 feet	Boats 26 to less than 40 feet	Boats 40 to less than 65 feet
Personal Flotation Devices	One USCG approved Type I, II, III, or V PFD of the proper size for each person, in serviceable condition, and readily accessible. Persons under 13 must wear their PFD when in an open boat or on the deck of a boat, and when waterskiing.			
Throwable Personal Flotation Device (Type IV)	Recommended but not mandatory.	Except for canoes and kayaks, one USCG approved Type IV (seat cushion or throw ring) device must be carried.		
Sound Producing Device	Whistle, horn, or bell, or some other means to make an efficient sound signal.	Whistle or horn, AND a bell.		
Visual Distress Signals	USCG approved night signals required between sunset and sunrise.	Manually propelled boats, and open sailboats under 26 feet in length (that are not equipped with mechanical propulsion), are not required to carry day signals but must carry USCG approved signals for night time use. All others must carry USCG approved visual distress signals for both day and night time use. ***Note:*** *Pyrotechnic devices, if used to meet this requirement, must be current, serviceable, and readily accessible. At the minimum, a total of three day/night combination devices or three day and three night devices must be carried.*		
Fire Extinguishers	At least one USCG approved B-I required for boats with inboard engines, living spaces, permanent fuel tanks, or enclosed storage areas or hull voids not sealed or filled with flotation material.		At least two B-I or one B-II USCG approved fire extinguishers.	At least three B-I, or one B-I and one B-II USCG approved fire extinguishers.
Navigation Lights	Display required between sunset and sunrise and during periods of restricted visibility. International configuration required (varies with length and mode of operation). See the International Navigation Rules.			
Backfire Flame Arrester	One USCG approved backfire control device on each carburetor of all inboard gasoline engines.			
Ventilation	Boats with permanently installed engines, closed compartments, or permanent fuel tanks, must have efficient natural or mechanical ventilation.			
Registration	Undocumented boats equipped with mechanical propulsion (gas, diesel or steam engines and electric motors) must be registered with the Division of Motor Vehicles. Certificate of Number must be carried on board. Registration numbers and validation decals must be properly displayed.			

kills good swimmers every year. The most important piece of equipment when boating in Alaska is a properly selected and worn personal flotation device (PFD). EVERYONE in Alaska should wear a PFD when in an open boat or on an open deck, particularly when boating alone. PFDs offer protection in several ways. They assist with self-rescue (or rescuing someone else), aid breath control by increasing the distance between breathing passages and the water, and keep a person floating, even if injured, disabled, or unconscious. Some brightly colored models increase the visibility of a person in the water, improving the chances of a successful rescue or recovery. Some are made with materials that help slow body heat loss in cold water.

By law, a USCG approved wearable PFD must be on board for each person on the boat. Persons under 13 years old must wear a PFD when in an open boat, on an open deck, or when water-skiing. All PFDs on board must be properly sized for the intended wearer. Adult sizes do not satisfy the legal requirements for children, or vice versa. PFDs must be used in accordance with the manufacturer's label and owner's manual. Some PFDs must be worn to count as an approved PFD. All PFDs must be in serviceable condition, meaning they must be free of defects such as rips, tears, waterlogged flotation material, or broken zippers, buckles, or straps. Special attention should be given to inflatable devices, which should be carefully maintained per manufacturer's recommendations. All PFDs must be readily accessible for use during an emergency. Of course, the best way to meet this requirement is to wear it!

PFD Selection

PFD designs have come a long way over the years. They now come in a wide array of styles and colors, and many are designed for specific purposes. Although no one PFD is perfectly suited for all persons in all situations, they all provide supplemental buoyancy to persons in the water.

Buoyancy, measured in pounds, is the upward force exerted on anything in the water that is less dense than the water it displaces, thereby causing it to float. If something is denser than the water it displaces, it has negative buoyancy and sinks. In the water, the average adult human has

about 7.5 lbs of negative buoyancy. A PFD provides the supplemental buoyancy necessary to overcome this negative buoyancy, allowing a person to float with little or no effort.

Be Cool, Not Cold!

When choosing a PFD, carefully read the manufacturer's label and the owner's manual to determine if the PFD is approved and recommended for the intended use. Some PFDs are designed with a specific application in mind. For example, devices designed for whitewater padding may provide for maximum arm movement, or have extra buoyancy to compensate for aerated (less dense) water. Other PFDs are inappropriate for certain uses. Inflatable devices are not recommended for PWC use or water-skiing, because an impact may render a person unable to activate the device. Others must be worn to count as a U.S. Coast Guard approved device.

When choosing a child's PFD, it's a good idea to let the child participate in the selection process. For a child, this truly makes a personal flotation device "personal," and the PFD can be sized perfectly right in the store. Otherwise, at least know the child's exact weight and chest size when purchasing, to ensure a proper fit.

All PFDs perform differently in the water and identical PFDs perform differently on different people. If possible, test PFDs in the warm water of a pool or spa to make sure they fit well, don't "ride up," and float the wearer appropriately as designed. In-water testing is especially important for children. Many PFDs are designed to float a person on their back at an angle, a position that may feel unnatural and uncomfortable to young children. Experiencing how the PFD affects the way they float boosts a child's confidence. As kids become more accustomed to their PFDs they will be more willing to wear them.

The U.S. Coast Guard classifies approved devices by "Type." There are five types, each with advantages and disadvantages. The chart on the following page offers a comparison.

PFD Types				
USCG Type	***Minimum Buoyancy*** (adult sizes)	***Recommended Uses***	***Turns Unconscious Wearer Face Up?***	***Other Comments***
I	22 lbs.	Off-shore life jacket. Designed for open, remote, or rough water	Most	Offers most buoyancy, high visibility colors.
II	15.5 lbs.	Near-shore buoyant vest. Intended for calm, inland water.	Some	Less cost and less buoyancy than Type I.
III	15.5 lbs.	Flotation aids. Designed for a wide variety of use. Some inflatable Type IIIs are suitable for open, remote, or rough waters.	Inflatable designs turn most persons. Inherently buoyant (foam) designs do not.	Comfortable, many styles; fishing vests, ski vests, paddling vests, and others. Use according to label.
IV	16.5 - 20 lbs.	Throwable devices. Designed to be thrown to a person in calm waters.	Not applicable	Includes boat cushions, life rings, and horseshoe buoys. Not considered by law to be a wearable life jacket.
V	Varies	Wearable special use devices. Designed for specific purposes or conditions such as for boardsailing, water skiing, or deck workers.	Varies	In -water performance of a Type I, II, or III (see label). Must be used according to label. Some models must be worn to meet requirements.

Other Personal Flotation Devices

There are also several other kinds of PFDs on the market that may be of excellent design and quality but are not U.S. Coast Guard approved and therefore do not meet federal and state requirements. For example, immersion (survival) suits completely cover the wearer, significantly slowing heat loss in the water. These devices have saved many lives in the commercial fishing

industry. However, they are not U.S. Coast Guard approved for use on recreational vessels. If these or other non-approved devices are used, keep in mind that a U.S. Coast Guard approved PFD must also be carried on the boat in order to meet federal and state requirements.

Fire Extinguishers

Fire extinguishers are required on all powerboats with enclosed engine compartments, permanently installed fuel tanks, or enclosed areas that could trap fumes. Extinguishers are classified by the fire type (A, B, C, D) they are designed for and the size of extinguisher (I, II). The following are the fire types:

Class A - Fires in ordinary combustible materials, such as wood, cloth, paper, rubber, and many plastics,
Class B - Fires in flammable liquids, combustible liquids, petroleum, greases, tars, oils, oil-based paints, solvents, lacquers, alcohols, and flammable gases,
Class C - Fires that involve energized electrical equipment,
Class D - Fires in combustible metals, such as magnesium, titanium, zirconium, sodium, lithium, and potassium.

Hand portable extinguishers approved by the U.S. Coast Guard for marine use are of either **B-I or B-II** classification. The size and number of extinguishers that are required to be carried on a powerboat vary with the length of the boat. A U.S. Coast Guard approved extinguisher bears the label of a testing laboratory and will include either a U.S. Coast Guard approval number or specify "Marine Type USCG."

Everyone on the boat should be familiar with the location and correct use of fire extinguishers. Fire drills are highly recommended (also see the FIRE section).

Some Additional Points:

- Do not test a fire extinguisher (this breaks the seals and causes leakage). See labels for additional information.
- Place extinguishers in readily-accessible locations, but NOT where a fire would be most likely to break out. For example, an extinguisher mounted over a galley stove or inside a closed engine compartment may be impossible to reach in the event of a fire.
- Dry chemical extinguishers are less susceptible to packing of the powder charge due to settling if they are mounted horizontally. Occasionally, remove these extinguishers from their brackets and give them a good shake to redistribute the agent.

Visual Distress Signals

Problems can occur for many reasons when boating and even well prepared boaters sometimes need help with situations they can't easily handle themselves. In these situations, boaters must be able to alert others. Signals can help, but only if they are the right type for the conditions and are used properly.

Visual distress signals are classified and approved by the U.S. Coast Guard as day signals, night signals, or combination day and night signals. Boats under 16 feet in length, manually propelled boats, and open sailboats under 26 feet without engines, are not required to carry day signals. However, those boats must carry night signals when operating between sunset and sunrise. Other boats must carry both U.S. Coast Guard approved day and night signals at all times. All types have their advantages and disadvantages. If pyrotechnic devices (such as smoke signals and flares) are used to meet legal requirements, at least three must be carried and they must not be expired. All U.S. Coast Guard approved pyrotechnic devices are marked with an expiration date.

Three flares don't last long in an emergency. For that reason, many experienced boaters carry, in addition to the requirements, other signal devices including expired pyrotechnics, survival mirrors, floating streamers, distress flags and signal kites, whether or not they are U.S. Coast Guard approved. If expired flares are carried as spares, consider using them first. If the expired devices work, then the newer devices are available as a backup.

Examples of U.S. Coast Guard approved visual distress signals are:

Orange flag with distress symbol - day signal
Orange smoke (3) - day signal
Electric, automatic SOS distress light - night signal
Hand held flares (3) - both day and night signal
Red meteor aerial flares (3) - both day and night signal
Parachute flares (3) - both day and night signal

Visual distress signals should be stored in an easily accessible location. Pyrotechnic devices should be packaged in a watertight container, with the expiration date clearly marked on the outside as a reminder.

Carry extra visual and sound signaling devices in clothing or PFD pockets; in the event you somehow get separated from your boat, you will be glad you did! (Also see DISTRESS SIGNALS).

Sound Signals

According to both federal and state law, vessels less than 39 feet, 4 inches (12 meters) are not specifically required to carry a whistle, horn, or bell, but must have some means of making an "efficient sound signal." Fastening a whistle to each PFD is a great way to meet this requirement. Vessels over 39 feet, 4 inches (12 meters) are required to carry both a bell and a powered whistle or horn.

Note:

The Navigation Rules (International) 32-37, in Part D, address the signals used when maneuvering, warning other boaters, and attracting attention. It is the responsibility of the boat operator to learn and use these signals. Additional information, including all recognized signals and the proper use of signals are found in the complete Navigation Rules, which may be obtained from the Superintendent of Documents, U.S. Government Printing Office, P.O. Box 371954, Pittsburgh, PA 15250-7954, (202) 512-1800 or via the internet at: http://www.navcen.uscg.gov/mwv/navrulesrules/navrulesrules.htm.

Ventilation

An enclosed space containing explosive vapors is a bomb waiting to go off. Any boat equipped with a gasoline engine installed inside an enclosed engine or fuel tank space (not open to the atmosphere) must have an efficient ventilation system to disperse explosive gases.

Natural ventilation consists of at least two ventilation ducts fitted with cowls or their equivalent. At least one exhaust duct extending to the lower portion of the bilge and at least one intake (supply) duct extending to a point midway to the bilge (or at least below the level of the carburetor air intake) is required.

Boats built after July 31, 1980, are required to have powered ventilation (exhaust blower) for engine compartments that are not open to the atmosphere. Such boats are also required to display a warning label.

Before starting the engine, operate blower for four minutes and check the engine compartment bilge for gasoline vapors. Remember, the "nose knows!" If you smell vapors, they need to be removed.

Also check the galley. Butane and propane are even more dangerous than gasoline. Heavier than air, they flow rapidly into the lowest parts of the boat and can be difficult to remove. If a liquid petroleum gas such as propane or butane is used, be sure the fuel tank enclosure is properly vented.

Backfire Flame Arrestors

Backfire flame arrestors are screen-like devices installed on inboard gas engine carburetors. They help prevent flames produced by engine backfire from causing a fire and/or explosion. These devices must be kept clean and periodically inspected for damage. They are required on all motorboats with inboard gas engines manufactured after April 25, 1940.

Exceptions:

- A vessel which has an attachment to the carburetor, or has the engine located so that flames caused by engine backfire will be dispersed outside the vessel so neither the vessel nor the persons on board are endangered.
- A vessel whose air and fuel intake system bears a U.S. Coast Guard approval label stating that such a system is safe without a flame arrestor.

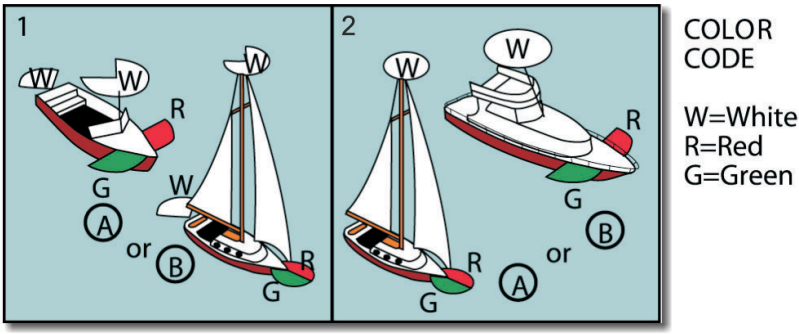
Navigation Lights and Shapes

Between sunset and sunrise and during periods of restricted visibility, boats on the water of the state must display navigation lights of the same number, type and specifications as required by the U.S. Coast Guard under the Navigation Rules (International). Rules 20-31, Part C, address navigation lights and shapes (shapes are the daytime equivalent of navigation lights and may be balls, cones, cylinders, or diamonds, and are always black in color). Different light and shape configurations identify many different kinds of boats under a variety of conditions, and it is the responsibility of the boat operator to be familiar with them. The complete lighting and shape requirements are found in the Navigation Rules which may be obtained from the Superintendent of Documents, U.S. Government Printing Office, P.O. Box 371954, Pittsburgh, PA 15250-7954, (202) 512-1800 or via the internet at: http://www.navcen.uscg.gov/mwv/navrulesrules/navrulesrules.htm.

The following summarizes the lighting requirements for non-commercial boats under 20 meters (65 feet, 7 inches).

Powerboats

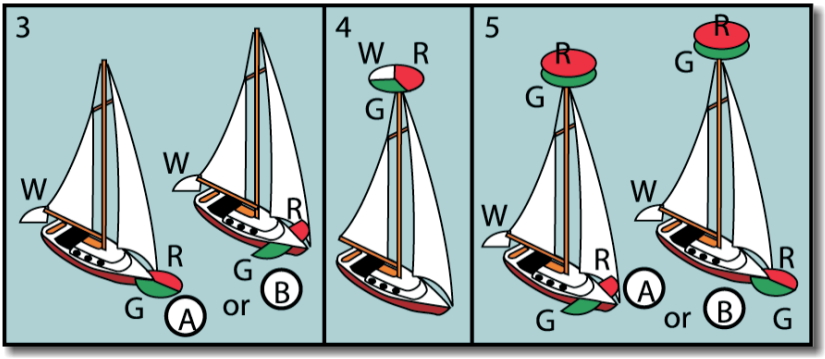
Power-driven boats must exhibit navigation lights as shown in figure 1, except that boats less than 12 meters (39 feet, four inches) may show the lights shown in figures 1 or 2. A power-driven boat of less than seven meters (23 feet) in length whose maximum speed does not exceed seven knots may instead exhibit an all-round white light and, if practicable, side lights. A sailboat



operating under both machinery and sail power is considered a power-driven boat.

Sailboats and Boats Under Oars

Sailboats under sail alone must exhibit navigation lights, as shown in figures 3 or 4, and may also display the lights shown in figure 5. A sailboat of less than 7 meters (23 feet) in length, and boats under oars, must either exhibit navigation lights as shown in figures 3 or 4 or carry an electric torch or lighted lantern showing a white light, which must be exhibited in sufficient time to prevent collision (figure 6).

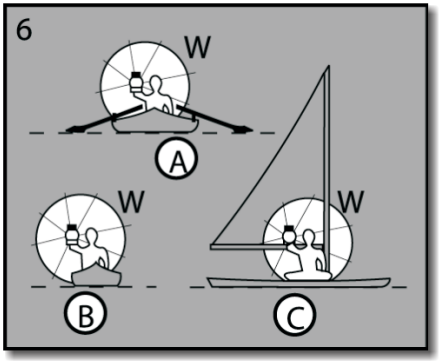


Anchor Lights

Power-driven boats and sailboats at anchor must display anchor lights. An anchor light is an all around white light visible for two miles and exhibited forward where it can best be seen.

Vessels less than seven meters (23 feet) are not required to display anchor lights unless anchored in or near a narrow channel, fairway, anchorage, or where other vessels normally navigate.

Anchor lights are not required on vessels less than 20 meters anchored in a special anchorage designated by the Secretary of Transportation.



REGISTRATION REQUIREMENTS

Boat registration provides critical information such as a detailed boat description, owner contact, and hull identification number, to emergency responders and law enforcement officers during boating emergencies and boat theft investigations, and can substantially reduce the time and cost involved with these efforts.

All 50 states and six U.S. territories and commonwealths register boats. Under federal law, all undocumented boats equipped with propulsion machinery must be registered by the state in which principal use occurs. In Alaska, exceptions to the registration requirement apply to:

- Boats with current registration from another state (though not to exceed 90 days),
- Ship's lifeboats that are used solely for lifesaving purposes,
- Large boats documented by the U.S. Coast Guard's vessel documentation center.

Non-powered boats may be registered, but are not required to be.

When a boat is registered, the owner is issued a Certificate of Number for that boat. The Certificate of Number must always be kept on the boat when the boat is in use.

Once issued by the state, this registration cannot be reassigned or transferred to another boat. Registration is valid for a three-year period.

How to Register

The owner must complete a state application for boat registration, and present the application together with the appropriate fees to the Alaska Division of Motor Vehicles (DMV). An owner of a boat that has not yet been assigned a Certificate of Number in Alaska and is applying for a new Certificate of Number must also provide one of the following ownership documents with their application:

1. Manufacturer's statement of origin (new boats only),
2. Carpenter's certificate,
3. Bill-of-Sale from a dealer or the previous owner,
4. Title or Certificate of Number from another state,
5. Affidavit of ownership.

Registration forms are available at any Alaska DMV office. Forms and additional information are also available on the internet through the Alaska Boating Safety Program's web page at www.alaskaboatingsafety.org or the DMV web page at www.state.ak.us/dmv/reg/boat.htm.

Registration Fees

Boats equipped with mechanical propulsion, including non-powered boats with auxiliary machinery propulsion (for three years):

Original Certificate of Number, transfer of ownership, or renewal: $24.00
Duplicate Certificate of Number or replacement decal: $5.00

Boats NOT equipped with mechanical propulsion (for three years):

Original Certificate of Number, transfer of ownership, or renewal: $10.00
Duplicate Certificate of Number or replacement decal: $5.00

Notification Requirements

The boat owner is required to notify the DMV in writing, **within 15 days** of:

1. Any change in address,
2. The theft (or recovery) of a registered boat,
3. The loss or destruction of a valid Certificate of Number,
4. The transfer of all or part of the owner's interest in the boat,
5. The destruction or abandonment of the boat.

The boat owner is also required to surrender the Certificate of Number to the DMV within 15 days if the Certificate of Number becomes invalid due to any of the following:

1. The U.S. Coast Guard documents the boat,
2. The owner transfers all of their ownership of the boat,
3. The boat is destroyed or abandoned,
4. Fees are not paid,
5. The application contains a fraudulent statement,
6. The boat is no longer principally used in Alaska,
7. The owner involuntarily loses their interest in the boat by legal process.

Display of Number

If a boat is required to be registered, the "AK" number assigned to the boat by the Certificate of Number must be painted on or otherwise permanently attached to each side of the forward half of the boat. Boats not required to be registered are also not required to display the number, but doing so speeds identification in the event of an emergency or theft.

A "backing plate" made of plastic or other suitable material may be used as a surface to place the number if the boat is an inflatable, or if the boat is so configured that the number would not easily be seen if it was affixed to the hull or superstructure.

Boat dealers may use a removable backing plate to display the number, but only if the boat is actually being tested or demonstrated.

Only the registration number officially assigned to a boat may be displayed.

Numbers must be plain, vertical block letters not less than three inches in height. Numbers must contrast with the color of the background. They must be distinctly visible and legible. They must read left to right, and have either a space or hyphen that is the width of a letter or number (except the width of an I or a 1) between each group of letters and numbers (Example: AK 5678 AA).

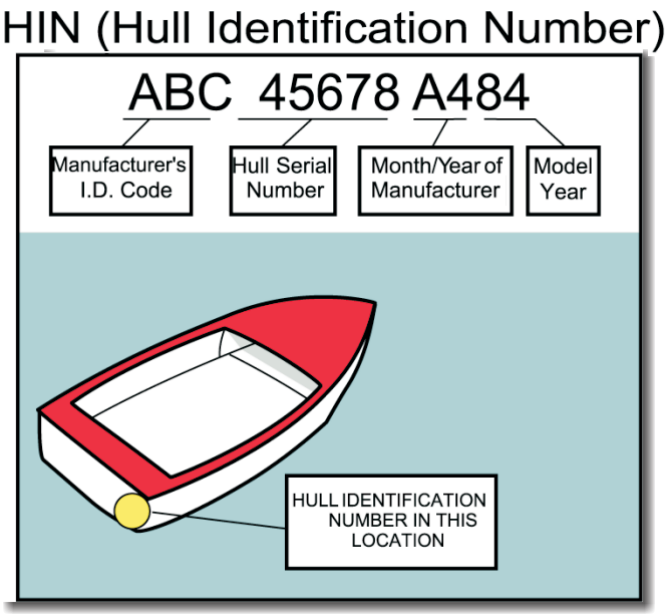
Display of Validation Decals

All boats required to be registered must display the validation decals issued with the Certificate of Number. The decals must be visible when the boat is in operation and displayed within six inches of the Certificate of Number on each side of the boat. Only a current decal may be displayed. Expired decals must be covered or removed.

Decals may be applied to a backing plate if the plate is attached to the boat in the proper location and it is impractical to attach the decal directly to the boat.

Hull Identification Number (HIN)

A Hull Identification Number (HIN) is a unique serial number that identifies a specific boat, much like the vehicle identification number of an automobile. State law requires a permanent HIN on every boat registered in Alaska. Manufacturers are required under federal law to put a HIN on the boat during construction. However, some boats such as those manufactured before 1972 and homemade boats don't have one assigned, so the owner must obtain a HIN from the DMV. HINs must be permanently inscribed into the hull in accordance with 02 AAC 70.080. It is unlawful for a person to remove, alter, deface, destroy, or otherwise make a HIN illegible.



OTHER BOATING LAWS

Reckless Operation

A person may not operate a boat or manipulate a device on the waters of the State in a reckless or negligent manner that endangers the life or property of another person (AS 05.25.060).

Alcohol and Boating

Under both state (AS 28.35.030) and federal law, operating a boat while intoxicated is illegal. Drinking and boating is at least as dangerous as drinking and operating an automobile. According to statistics, 30% of all boating fatalities involve alcohol. Alcohol is the leading cause of nighttime boating mishaps. Alcohol use:

- **Decreases balance** - Most alcohol related boating deaths involve a slip or fall overboard.
- **Affects vision** - Alcohol can seriously affect peripheral vision, night vision, and ability to focus.
- **Affects judgment** - Operators under the influence are more likely to take risks they normally wouldn't take AND are more likely to make the wrong decisions in a life-threatening situation.
- **Slows reaction time** - In an emergency, sharp reflexes and quick, appropriate action can save the day. Even without alcohol, a boater's reaction time is affected by exposure to constant motion, sun, wind, and noise. Add alcohol, and the effects are multiplied.
- **Increases heat loss.**
- **Is just as dangerous for passengers** - Having a designated driver is certainly a good idea on the water, but don't let the passengers be "designated drowners."

The Alaska State Office of Boating Safety strongly encourages boaters and passengers to refrain from consuming alcohol when boating.

Littering and Pollution Laws

It is unlawful to litter on either state or federal waters.

It is a violation of federal law to discharge raw sewage within three miles of the shoreline. Federal law requires an operable U.S. Coast Guard certified marine sanitation device (MSD) be installed on boats with toilets when on U.S. navigable waters.

The Federal Water Pollution Control Act prohibits the discharge of oil, or hazardous or toxic substances in U.S. navigable waters. Under both Alaska and federal law, any release of oil into the water must be reported as soon as the person has knowledge of the discharge. Spills may be reported by contacting the nearest Dept. of Environmental Conservation Area Response Team and the U.S. Coast Guard (see **CONTACTS**).

Federal law also requires that boats 26 feet and longer on U.S. navigable waters post an oil pollution placard in the machinery space or bilge area, and a garbage placard be posted in a conspicuous place.

Boating Accidents

The operator of a boat involved in a collision, accident, or casualty shall render assistance as is practicable and necessary to save other persons from danger or to minimize the danger to other persons to the extent that the operator can do so without serious danger to the operator's boat, crew, and passengers. The operator must also give their name, address, and identification number of the boat in writing to each person injured in the collision, accident, or casualty and to the owner of property damaged in the collision, accident, or casualty (AS 05.25.030).

Report Required

For the purpose of gathering boating accident statistics, the boat operator or owner is required by law (AS 05.25.030) to make a written report if a boating accident occurs and results in; loss of life, disappearance, an injury requiring medical treatment beyond first aid, or property damage over $500. Submit the report either to the Alaska Department of Public Safety, or the Alaska Office of Boating Safety.

Under federal law, if a person disappears, dies, or there are any injuries from the accident requiring more than first aid, the report must be filed within 48 hours. Other accidents must be reported within 10 days.

Accident report forms can be obtained from the Alaska Office of Boating Safety, the Alaska Dept. of Public Safety, or the U.S. Coast Guard, or may be downloaded from www.dnr.state.ak.us/parks/boating/accident.htm.

MARINE LAW ENFORCEMENT

State peace officers, including the Alaska State Troopers and State Park Rangers, enforce state boating laws. U.S. Coast Guard boarding officers enforce federal boating laws.

Whenever approached by these officers boaters must stop, or slow to a speed sufficient for safe steerage only, and permit the officer to come alongside to check for registration and safety equipment. Resume speed only when out of the vicinity of or at the direction of the officer.

While safe boaters will find these officers both helpful and professional, violators can expect to be cited.

PRE-DEPARTURE CHECKLIST

Along with skillful boat handling, thorough preparation is what distinguishes the better skippers from other boaters. This is especially true in Alaska. Boaters are often a long way from help, and must be as self-sufficient as possible. Adequate pre-departure preparation may help resolve or even prevent many common boating problems, and boaters will also be better prepared to assist others. For those who trailer or otherwise transport their boat to the put-in, the best time to do this may be before leaving home. Boaters may find it difficult to obtain forgotten items later on, and boat and equipment problems are better discovered in the driveway than at the launch ramp. Develop a pre-departure checklist that is specific to the boat and the way it is used. Following is an example of a pre-departure checklist for a powerboat that incorporates both federal and Alaska requirements, and some additional equipment and procedures that should be considered for incorporation into a checklist. Keep in mind that while some of these items might only need to be checked before each season or periodically, others should be checked before each trip.

Personal Flotation Devices (PFDs)

- U.S. Coast Guard approved PFD for each person, properly sized and in serviceable condition. Worn, and properly fastened, when in an open boat or on an open deck.
- U.S. Coast Guard approved Type IV throwable PFD (seat cushion or throw ring), readily accessible, with 1/4" (minimum) diameter, floating line. Marked with boat registration number or vessel name.
- Survival (immersion) suits carefully inspected. Zippers waxed, and suits unzipped for quick donning.

Signals/Communication

- Horn or whistle, operational, capable of a four second blast, and audible for 1/2 a mile. If a hand held air horn, a spare can of air. Bell, if vessel is 39 feet or longer.
- Visual distress signals packed in an easily accessible container, and clearly marked. Pyrotechnic devices, such as flares, should be current (see Visual Distress Signals).
- Emergency Position Indicating Radio Beacon (EPIRB), 406 type, working, current battery, readily accessible (off-shore boaters).
- VHF marine radio(s) working properly.
- Cellular phone, fully charged, and spare battery in a waterproof bag.

Fire Extinguishers

- Fire extinguisher(s) with gauge, corrosion free, clear nozzles, and fully charged.
- Securely mounted horizontally, in a readily accessible location, but not where fire is likely to occur.
- Current inspection tags (if required).

Fuel and Oil

- Calculate fuel needs based on the boat's fuel consumption and the trip plan. Follow the "Rule of Thirds" (1/3 out, 1/3 back, and 1/3 spare). The only time powerboaters have too much fuel is during a fire (see **FUELING**).
- Tank valves in proper position. Portable fuel tanks placed in open, well - ventilated areas. Portable tank vents closed for storage and transport, opened for use, and caps vapor tight and leak proof. Fuel lines and all

fuel fittings carefully inspected for leaks, kinks, cracks, or clogs. Fuel filters checked for water/dirt contamination.
- Engine oil checked and/or proper fuel/oil mixture checked.
- Tanks larger than seven gallons are properly grounded and vented.

Hull

- Drain plug(s) installed.
- Hull bottom and drive train inspected for damage before launch. Hull bottom clean.
- Registration numbers/validation decals or documented vessel name/port properly displayed and legible.
- General inspection/walk around.
- Galley and heating systems secure, tanks properly installed, fuel lines secure, and connectors secure. No flammable material near stoves and heaters.
- Marine sanitation devices checked and working properly.
- Generator, stove, engine exhaust ports clear and unobstructed.
- Capacity plate and Hull Identification Number visible and legible.
- Small rope ladder or step, attached to the boat, for self-rescue in the event of a capsize or fall overboard.

Bilges/Engine Compartments

- Ventilation ducts clear and functional, connections secure for all closed compartments with potential for explosive vapors, and potential ignition sources.
- Bilge area clean and reasonably dry.
- Oil or waste cleaned up to prevent an illegal discharge. Dispose of waste properly.
- Bilge pumps start, run, and shut off properly.
- “Sniff test” around the engine and bilge areas for fuel leaks or vapors before ventilating. If detected, stop and search for the source.
- Engine compartment (inboards) ventilated for five minutes. Before starting engines, do sniff test again. If odor detected after ventilating, stop and search for source before starting engine.

Main and Auxiliary Engines

- Propellers and lower units inspected.
- Belts, hoses, and fittings checked.
- Backfire flame arrestor tight, clean, and in good condition (inboard gas engines).
- Seawater strainer clean, in good condition.

- Check all fluid levels.
- Water pump operational when engine running, “telltale” water stream observed (outboard).
- Engine(s), secured on transom - clamps and/or bolts tight, secure, tightened if necessary, transom clamps wired or locked together.
- Inspect exhaust hoses and each of the metallic exhaust components for cracks, leaking, rusting, or other deterioration. Replace if necessary.
- Test run all engines for five minutes. Monitor gauges, test forward and reverse gears, steering, and emergency cut-off switches and check fuel and cooling systems for leaks.

Electrical/Electronics

- Battery switches operational.
- Volt meters working and confirm proper charging voltage.
- Batteries fully charged, with proper electrolyte level.
- Battery terminal connections secure, corrosion free, batteries encased in plastic boxes with terminals covered, and secured with a strap.
- Jumper cables, in good condition.
- Hand held electronic accessories (cell phone, marine radio, flashlight) tested, and spare batteries.
- Installed devices (depth finder, radio, GPS, bilge pump, horn, navigation lights, radar, gauges) tested.

Ground Tackle and Dock Lines

- Main, and lightweight “lunch hook” anchors, each with shackles, chain, and line. At least one anchor system attached to the boat and at the ready. Anchors selected for the size of the boat, bottom type and depth, and weather/water conditions.
- Sea anchor, with 200-feet of line.
- Dock lines and spares inspected for chafing and wear, stowed and secured.
- Two or more docking fenders.

Other Items

- Manual bailing device (even if the boat has an electric bilge pump).
- Knife.
- Sunglasses or goggles.
- Hearing protection.
- Foot pump, and fabric repair materials (inflatables).
- First aid kit and prescription medicines in a waterproof container.
- Personal survival kits carried by each person.

- Watch or small clock.
- Binoculars.
- Means of manual propulsion (oars, paddles).
- Compass with headings list.
- Signal mirror.
- Radar reflector.
- Depth soundings marked on oar, sounding pole, or a line.
- Plenty of water and food, tarp or tent, fire making materials, and spare clothing (in case of an overnight).
- Brimmed hat and sunscreen.
- Portable AM/FM radio.
- Camera and film.
- Survival raft, small inflatable boat or dinghy (for larger boats).
- Fuel additive for water contamination.
- Push pole (river boats).
- Tools, anchor shackle key or rigging knife, fuel cap key, fuel and oil filter wrenches, assorted adjustable wrenches, screw drivers, open-end wrench set, pliers (slip joint, needle nose, locking), wire cutters, spark plug wrench, electrical repair kit, socket set, and prop nut wrench.
- Spare parts - right size propeller, prop nut and thrust washer, propeller shear pin and/or cotter pin, spark plugs, various sized hose clamps, starter rope, fuses, fuel filter cartridge, belts, drain plugs, light bulbs, ignition and lock keys, water pump kit, starter solenoid, duct tape, bailing wire, hull repair materials. Consult a marine dealer or mechanic to determine what other spare parts are recommended for a specific boat.

Documents and Placards

- Boat registration certificate, or original and current certificates of documentation (See **REGISTRATION**).
- Federally required certificate of compliance label (boats under 20 feet with inboard engines, manufactured after October 31, 1972), and pollution and garbage placards (boats over 26 feet).
- Other licenses and permits (moorage, fishing licenses, etc.).

Reference Materials

- Navigation Rules
- Owner's manuals
- Equipment repair manuals
- Charts
- Maps

- Tide book
- Waterway guides
- Vessel log book

Float Plan

Like the flight plans filed by pilots, boaters use float plans to provide critical information to those who will try to assist them in case of trouble. Float planning is a process.

1. Risk assessment. Besides considering the condition of the boat and equipment, gather information about local boating hazards, and the weather. Consult charts, local boaters, tide tables, and check both the weather forecast and existing conditions one last time (see **WEATHER AND TIDES**). The operator's skill and ability should always be considered in relation to the prevailing conditions. Boaters should never start a trip if conditions are at the upper end of their experience, because conditions can degrade even further, requiring a much higher level of skill. Always leave a comfort margin.
2. Go/no go determination made, based on the risk assessment. Safe arrival is mandatory but a departure is always optional. As the old saying goes, it is always better to be on shore wishing you were on the water, than to be on the water and wishing you were on shore. Consider the passenger's comfort levels too.
3. Prepare the float plan if a "go," and provide the information to someone who can be relied upon. The plan should include a description of the boat and equipment, boat registration, the names of everyone on the boat, planned destination and route, expected return, and when and who to call for help. If the float plan can't be left with someone at least place it in the front window of the tow vehicle so others can read it.
4. Notify the same person(s) if plans change, and immediately upon return. Don't wait, or it could result in an unnecessary and costly search.

Passenger Briefing

- Even on a nice day, a moving boat makes it's own weather. All passengers should be checked for appropriate clothing. Synthetic clothing (such as polypropylene and pile), in layers, is usually the best choice. Everyone should also carry a windproof outer layer, some spare articles of clothing, and consider rain gear and waterproof footwear.
- All passengers should know:
    - The float plan, and the alternate plan in case of problems or delays.

ALASKA FLOAT PLAN

I. If Overdue, Contact: _____
Phone: _____
On (date)**:** _____

II. Vessel Information: **Vessel Name:** _____
Boat Registration (or USCG documentation) Number: _____

Vessel type:
- ☐ Kayak
- ☐ Canoe
- ☐ River raft
- ☐ Row boat
- ☐ Personal Water Craft
- ☐ Center console / skiff
- ☐ Runabout / bow rider
- ☐ Cabin Cruiser / overnighter
- ☐ Sailboat

Hull type:
- ☐ Canvas / skin
- ☐ Plastic
- ☐ Fiberglass
- ☐ Wood
- ☐ Aluminum
- ☐ Inflatable
- ☐ Rigid hull inflatable
- ☐ Other_____

Communication/Signals:
- ☐ Installed Marine VHF
- ☐ Handheld Marine VHF
- ☐ Single Side Band
- ☐ EPIRB
- ☐ Flares
- ☐ Mirror
- ☐ Cell # _____
- ☐ Other Signals _____

Survival Equipment:
- ☐ Personal survival kits
- ☐ Tender/Raft/Dinghy
- ☐ Water
- ☐ Spare Food
- ☐ Spare clothing
- ☐ Shelter (tent, tarp)
- ☐ Matches/Lighter
- ☐ Other_____

Length:_____ Engine(s) make _____ hp _____ Hull color: _____ Cabin/top color: _____

III. Vehicle Information:
License #: _____Make: _____Model: _____Year: _____Color: _____

Location vehicle is parked: _____

IV. Boat Trailer Information:
License #: _____Make: _____Model: _____Year: _____Color: _____

Location vehicle is parked: _____

V. All Persons Onboard (POB):

Names / ages:	Phone:	Can Operate Boat? (Y/N)
- Skipper		yes

VI. Trip Plan:

Depart From:	Departure Date/Time:	To:	Arrive Date/Time:

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- How to start, shift gears, steer, and stop the boat.
- Stability rules - remain seated, refrain from sudden movement or reaching overboard for objects.
- The location of and how to use radios, battery switches, fuel valves, PFDs, survival suits, fire extinguishers, signaling devices, EPIRB, rescue devices, survival kit, tool kit, and first aid kit.
- How to don an immersion suit (if carried).

PREVENTIVE MAINTENANCE

Mechanical breakdown is the most common powerboating problem. Insufficient or contaminated fuel, a poorly maintained electrical/ignition system, fouled spark plugs, a damaged propeller, or a bad water pump, are just a few of the culprits. To help prevent these problems, keep the boat clean, organized, and well maintained. Follow the maintenance recommendations in the owner's manual. Keep the boat, engine, and trailer maintenance records up to date and organized.

Fuel contamination due to condensation is an ever present problem in Alaska, especially in coastal areas. Installing even an inexpensive water separator/fuel filter between the fuel tank(s) and engine(s) will go a long way in preventing fuel contamination and engine damage.

The leading causes of fires aboard vessels include wiring problems, engine and transmission overheating, and fuel leaks. Consider these potential problem areas when inspecting and maintaining a boat.

WEATHER AND TIDES

Before deciding whether or not to begin a trip, always check the local weather forecast and current weather and water conditions. NEVER try to outrun a bad weather forecast. It is always better, however inconvenient and disappointing, to wait until conditions improve (as they always do). For detailed weather information, listen to the National Weather Service VHF/FM broadcasts on frequencies of 162.400, 162.425, 162.475 and 162.550 MHz in areas where available. Visit the National Weather Service's web site: www.arh.noaa.gov. Boaters can also call the Alaska Weatherline at 1-800-472-0391 for up to date weather forecasts.

If boating in saltwater, always carry and use a tide book. Tidal currents can be very strong in some areas of Alaska, and can cause dangerous "rips" or

standing waves, especially when the current is in opposition to the wind. In those areas, it is usually better to wait for the "slack" between the changes in the current direction. Remember that current and wind can greatly affect fuel consumption.

FUELING

Most boat fires, explosions and fuel spills happen during or just after fueling. To help prevent this:

- Fuel before dark.
- Secure and cover batteries to prevent terminals from shorting and sparking fuel vapors.
- Do not smoke or strike matches.
- Shut off motors.
- Turn off all battery switches and electrical equipment.
- Close all cabin windows, doors.
- Make sure all tank vents are unobstructed.
- Ensure the boat's stability. Ask passengers to step on shore when fueling.
- Take portable tanks out of the boat to fill them.
- Know how much the fuel tanks can hold, and don't overfill them. Avoid "topping off" tanks.
- Keep the fill nozzle in contact with the tank while filling, to prevent static discharge.
- Fuel slowly.
- Don't rely on automatic nozzle shut-offs.
- Catch drips and wipe up any spilled gasoline with oil absorbent pads. Discard on shore in a safe and environmentally responsible manner.
- Before starting the engine, ventilate engine compartment for at least five minutes, and sniff around to make sure there is no odor of gasoline anywhere in the boat.

BOAT CAPACITY, LOADING AND STABILITY

Attention to capacity and proper loading is critical to safe boat operation. Overloading, or imbalanced and shifting loads seriously affect a boat's stability, which is dangerous even on calm water. Always use great care when loading. Properly position items and passengers evenly, and then adjust as necessary for safety and optimal boat performance. Carefully secure heavy items from shifting. To help prevent overloading, a U.S. Coast Guard boat capacity plate is

required to be installed by the manufacturer on all powerboats built after 1972. The plate lists the maximum number of persons, total weight of passengers, and the maximum total weight of the passengers, gear, and motor. If the boat is designed to be equipped with an outboard engine, the plate will also display the maximum horsepower. Never exceed a boat's recommended capacity. If a capacity plate is not installed, use the following formula to estimate the number of persons the boat will safely carry in calm conditions.

$$\frac{\text{Boat length X boat width}}{15} = \text{\# of people}$$

The result gives the number of persons (150 lb. per person average) that can be put aboard in calm weather conditions.

More than half of all capsizings and falls overboard occur during calm conditions. Respect the stability limits of small boats. Don't stand while operating unless the boat is rigged for it and equipped with an emergency cut off cable. Instruct passengers in small boats to remain seated unless otherwise instructed. Just standing up to net a fish or leaning over the gunwale can cause a fall overboard. Keep shoulders inside gunwales. When retrieving an object outside the boat, either first pull it toward the boat with a paddle or maneuver the boat along side the object, then reach straight down for it without shifting weight or leaning over the side.

BOAT TRAILERING

- Alaska law requires boat trailers be registered.
- Boat trailers are subject to the lighting requirements of Title 13 of the Alaska Administrative Code (AAC).
- The driver of the towing vehicle must be able to safely stop in a reasonable distance. Check the function of the brakes on flat ground. Allow more time and distance for braking while towing. Booster brakes are best with heavy boats.
- Carefully follow the trailer manufacturer's recommendations for maintenance. Inspect and lubricate all moving parts frequently, especially wheel bearings.
- Does the tow vehicle have adequate power? Is the transmission capable of towing? Are adequate cooling systems installed?
- Check capacities before hauling:
  - Gross Vehicle Weight Rating (GVWR).
  - Gross Vehicle Axle Weight Rating (GVAWR).
  - Trailer tongue weight.
  - Trailer capacity.

- Adequate tie-downs are necessary at both the bow and stern. The bow should be secured with the winch cable, winch post safety chain, and the boat's bow line. The stern should be secured with transom tie-downs.
- Hitches should be welded or bolted to the frame of the towing vehicle. Bumper hitches are not recommended.
- The tow ball and ball coupler must be the same size. Secure the ball coupler with a pin or lock after it has been placed onto the ball and closed.
- Two safety chains, crossed under the coupler, help prevent the trailer tongue from dropping to the ground in the event the coupling device fails. The chains must have a tensile strength at least equal to the weight of the trailer, and be long enough to permit the turning of the vehicle. To prevent the chain hooks from bouncing out, it's usually best to face the open end of the hooks toward the boat, rather than toward the vehicle.
- Before departure check overhead, side, and engine drive unit clearances. Place all overhead antennas in the down position. Check tires (both trailer and tow vehicle) and spares for correct pressure and wear. Check and tighten all adjustable trailer components and bolt-on parts. Secure all loose items in the boat, and tie boat covers down securely. Check wheel bolts for proper torque, test brakes, tighten winch cable and transom straps, check that ball and hitch are tight and locked, test lights, and check electrical connections.
- Maintain trailer as per owner's manual. Carry a wheel jack, some flares and reflectors, a spare tire and wheel (with proper inflation), proper size jack and lug nut wrench, a set of wheel bearings, a seal and cup set, and some wheel bearing grease when on the road. With the wide variety of trailer models available, it may be impossible to find the right parts when they are needed the most.
- Stop periodically during each trip to check the tires for proper inflation, and the wheel hubs/bearings for overheating.
- Practice backing the trailer until proficient. A crowded boat launch ramp is <u>not</u> the place to learn!

Launching

Be courteous. Avoid blocking ramps and docks when others are waiting to use the facility. The less time spent on the ramp, the better.

At staging area:

- Check that engine or hull were not damaged during the trip.
- Remove tie downs
- Load and secure gear going into the boat

- Check all engines and systems including blower, lights, bilge pump, electronics, etc.
- Remove cover, raise antennas, and remove transom and side tie down straps that are securing the boat to the trailer.
- Tilt engines/out drives up, disengage travel brackets, remove transom saver.
- Check that the ball hitch and hitch safety chains are secure.
- Unplug trailer lights.
- Check that drain plug(s) are in place and secure!
- Check that winch line and bow safety chain are secure, and winch ratchet engaged.

At the top of the ramp:

- Scan the ramp for hazards or obstructions.
- All passengers out of the vehicle.
- Prepare wheel chocks (keep at the ready).
- Vehicle doors unlocked, driver's window down.
- Unfasten seat belt.
- One person acts as lookout and is ready with chocks.
- Back down ramp until boat floats or can be pushed off of trailer. Don't immerse rear wheels of vehicle.
- Put truck in first gear (or park), shut off vehicle, put on parking brake, and put chocks behind tires.
- Hand the bow line to an assistant, and remove the bow safety chain and winch line hook.
- Use the bow line to guide boat off trailer and secure it, away from the launch area, to the dock or shore.

Retrieving

- Essentially, the opposite of launching.
- Be cautious while winching the boat onto the trailer. Make sure winch ratchet click-stop is properly engaged, to prevent the handle from spinning in reverse. Watch for signs of a worn or damaged winch cable.
- Once the boat is on the trailer, move the boat and trailer away from the launch ramp.
- Rinse trailer with fresh water following saltwater immersion.
- Remove drain plugs and make sure the boat is de-watered before getting on the road.
- Secure all tie-downs.

THEFT PREVENTION

Nationwide, boat theft has become big business. To help prevent theft, consider the following:

- Take keys and valuables out, and lock the boat and all hatches and storage compartments.
- Lock portable outboard motors to the boat.
- Engrave or permanently mark property with a driver's license number (with an AK before number and DL after the number) or boat registration number.
- Record property on an inventory list (include brand names and model numbers) and store in a safe place.
- Photograph or videotape the boat's exterior, interior, and property. Prepare notes to accompany photos.
- Install an audible alarm.
- Make sure the registration certificate is current and on the boat, and keep a copy in a safe place at home.
- Small boats are the most frequent targets for boat theft. Secure them by chaining and locking them to a dock, tree, post, locking roof rack, or other secure object. Store in a locked garage, shed, or in a location where others cannot easily see it. If a powerboat, make sure the engine is disabled. Trailers can be secured by using a hitch lock (even when on the tow vehicle), by immobilizing the trailer with a wheel lock, removing a trailer wheel, and/or blocking up the frame, and by placing a vehicle or other large object in front of it.

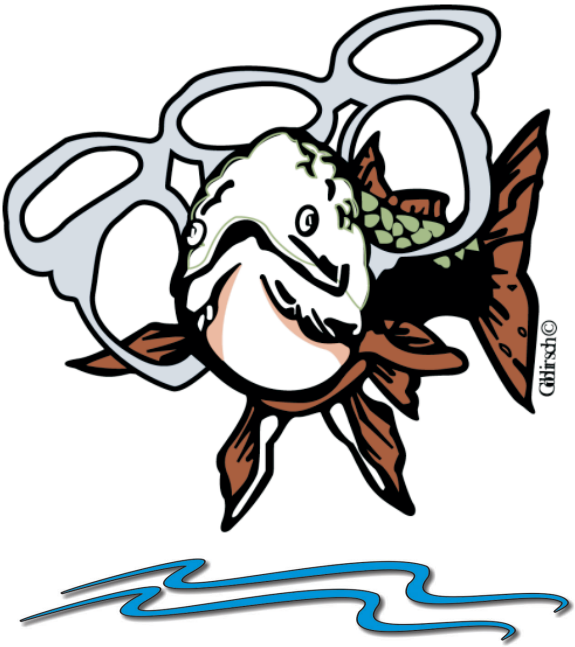
ENVIRONMENTAL ETHICS

- Many forms of litter including polystyrene cups, plastic bags, bait packages, and monofilament line, can kill or injure birds, fish, and marine mammals. Establish a rule that no human generated waste, no matter how small, gets thrown overboard. Reduce the amount of packaging and plastic taken aboard. Keep a sturdy garbage container on board and use it. Pick up any trash that falls overboard.
- Help keep untreated raw sewage out of coastal and inland waters. Use rest rooms on shore before departure. Carry a portable toilet.
- Never discharge fuel, oil, chemicals, or contaminated bilge water into the water. Don't use soap or detergent to get rid of oil that has spilled into the water. Besides being illegal, this practice doesn't actually dissolve the oil, it just breaks it down into smaller particles and forces it deeper into the water column where it can kill zooplankton and larval forms of fish, crab, and shellfish. Those animals that survive the initial oil contamination can accumulate toxic elements of this oil, moving it up the food chain to larger animals such as fish, birds, and mammals, which can result in serious harm including reproductive problems or death.
- Encounters with marine mammals are always an exciting experience. However, federal law protects many marine mammal species. Boaters should stay at least 300 feet away from marine mammals, and more if animals appear to change their behavior. Time spent viewing individuals or a particular group of animals should be kept to less than 30 minutes. Never try to pursue animals, restrict their path, or encircle them. Always leave them a clear escape route. If a marine mammal approaches, put the engine in neutral and let the animal pass. If an animal displays erratic behavior or appears disturbed, cautiously leave the area. Never handle young animals, and refrain from offering animals food.
- Many of our shoreline areas are very sensitive habitats. Please practice "leave no trace" techniques when on land.
- Avoid approaching too close to bird rookeries. Which may be evident by changes in the bird's behavior.
- Alaska has many special protected areas. Whenever boating in a new area, first contact local resource management agencies or landowners to obtain any additional guidelines.
- Keep the boat bottom clean and the engine tuned for optimal performance and reduced emissions.
- Do heavy boat cleaning and maintenance away from the water. Routinely scrub decks with fresh water and a brush to reduce the need for heavy cleaners.
- Recycle used zincs.

- Don't idle engine(s) unnecessarily.
- Don't keep more fish than can used within the next 3-6 months.
- Consider using sinkers made of materials other than lead. Small lead sinkers are ingested by shore birds and sea birds, killing them.
- Aquatic nuisance species (ANS) are non-indigenous species that invade local water bodies and can threaten native species, ecological stability, traditional human activities, our economy, and even human health.

According to the Alaska Dept. of Fish and Game, Alaska is vulnerable to invasive species introduction through many pathways, including contaminated boats and fishing gear brought to our waterways. We can help prevent the spread of aquatic nuisance species (ANS) by following these simple steps:

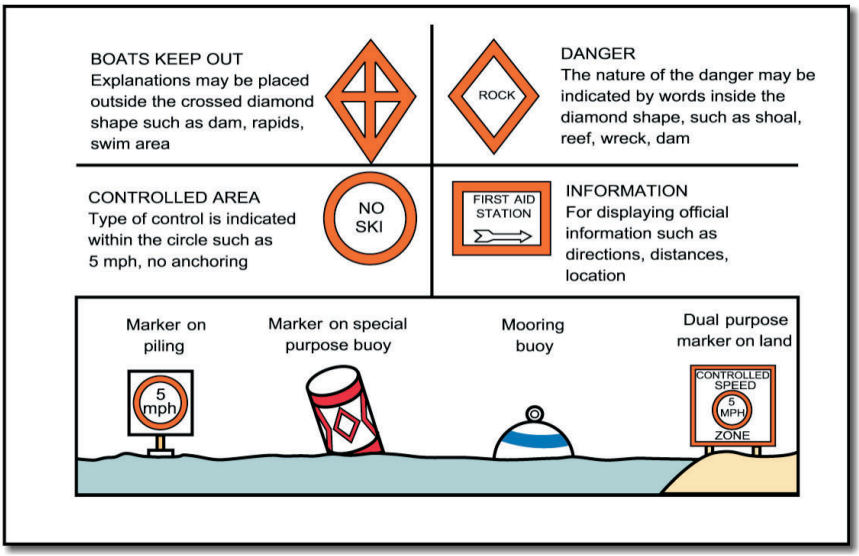
- Clean and dry boats and equipment before transporting a boat to other water bodies. Remove any visible mud, plants, fish or animals from the hull.
- Completely de-water boats and equipment, including bilge areas, before transporting.
- Never release plants, fish or animals into a body of water unless they came out of that body of water.



U.S. AIDS TO NAVIGATION SYSTEM

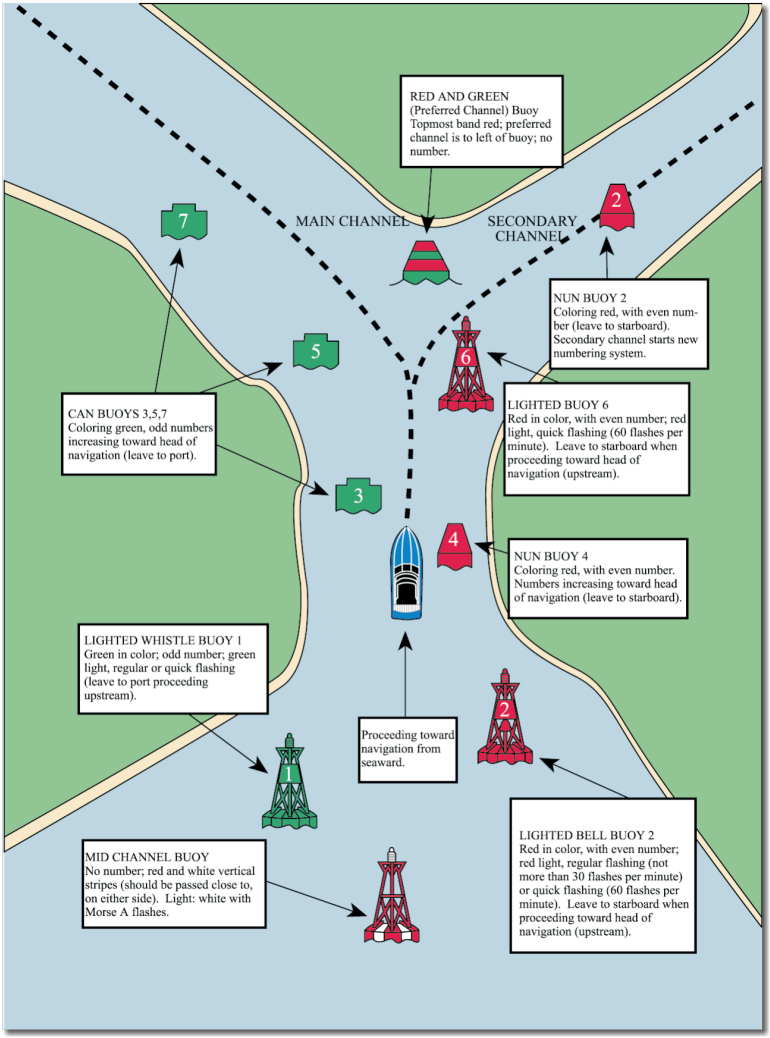
The U.S. Aids to Navigation System (ATONS) is a system of signs, buoys, day beacons, and other structures that incorporate specific shapes, colors, numbers, and lights in order to assist mariners with safe navigation. Some types mark areas with restrictions such as speed limits or no-wake zones, waters closed to boats such as swim beaches, or waters with obstructions or other dangers. Others are placed to help boaters locate their position or safely navigate channels. Although technically not an aid to navigation, mooring buoys are assigned a distinctive marking scheme under the aids to navigation system in order to promote easy identification and to avoid confusing them with other aids to navigation. Other than a mooring buoy, it is a criminal offense to moor to, damage, or interfere with aids to navigation. If you should collide with or damage an aid to navigation, report it immediately to the U.S. Coast Guard or a local law enforcement officer. In Alaska, both the U.S. Coast Guard and the state follow the same marking system. Examples follow:

Information and Regulatory Markers, and Mooring Buoys



Channel Markers

Channel markers assist vessels in navigating safe courses. Because they are numbered and depicted on nautical charts, they can also help boaters determine position. An easy way to remember how to steer the proper course, relative to channel markers, is the phrase "red, right returning." Red channel markers should be on the boat's right (starboard) side and green markers on the left (port) when proceeding north, upstream, or "returning" from open water to a harbor.



NAVIGATION RULES – STEERING AND SAILING

The International Regulations for Avoiding Collisions at Sea 1972 (72 COLREGS) are also known as the International Navigation Rules or simply, the "Rules." Adopted under federal law, the Rules address navigation light requirements, sound signals, day shapes, emergency signals, and contain the International Navigation Rules on Steering and Sailing (Rules 1-19, Part A) that help vessels stay clear of each other. In Alaska, the International Rules apply to all boats on all U.S. navigable waters (as defined or designated under federal law 33 CFR 2.05-25). Federal laws called the Inland Navigation Rules, which are similar but not identical to the International Rules, apply to the inland waters of many of the other states but don't apply in the state of Alaska.

When applying the Rules, please keep in mind that the Rules assign tasks but never confer entitlements. For example, although vessels in certain situations should "keep out of the way" of other vessels, the International Rules never grant any vessel the "right of way." Also keep in mind that the ordinary practice of seamanship requires precaution and prudent action by all boaters, at all times, under all circumstances. Knowing the Rules is important, but boaters must also be constantly vigilant of the circumstances and be prepared to depart from the Rules, if necessary, to avoid a collision. Following is a summary of some of the International Navigation Rules:

Editor's Note: Boaters should obtain and become familiar with the complete Navigation Rules, available from the Superintendent of Documents, U.S. Government Printing Office, P.O. Box 371954, Pittsburgh, PA 15250-7954, (202) 512-1800 or via link on the State Office of Boating Safety website, at: www.alaskaboatingsafety.org.

Responsibility (Rule 2)

(a) None of the Rules shall excuse anyone from the consequences of any neglect to comply with these Rules or of the neglect of any precaution required by the ordinary practice of seamen, or by the special circumstances of the case.

(b) In using these Rules, be aware of all dangers of navigation and collision, and any special circumstances, including the limits of the boats involved, which may require a departure from these Rules, to avoid immediate danger.

General Definitions [Selected] (Rule 3)

Vessel - means every description of watercraft, including non-displacement craft and seaplanes, used or capable of being used as a means of transportation on the water.

Power-driven vessel - means any vessel propelled by machinery.

Sailing vessel - means any vessel under sail except if under mechanical power.

Vessel engaged in fishing - means any vessel fishing with nets, lines, trawls, or other fishing apparatus that restrict maneuverability, but does NOT include a vessel fishing with trolling lines or other fishing apparatus that does not restrict maneuverability.

Vessel not under command - means a vessel, which through some exceptional circumstance, is unable to maneuver as required by the Rules and is therefore unable to keep out of the way of another vessel.

Vessel restricted in ability to maneuver - means a vessel which from the nature of its work is restricted in the ability to maneuver as required by the Rules and is therefore unable to keep out of the way of another vessel.

Vessel constrained in draft - means a power-driven vessel that, because of its draft in relation to the available depth of the water, is severely restricted in the ability to deviate from the course it is on.

Underway - means a vessel is not at anchor, made fast to the shore, or aground.

Restricted visibility - means any condition in which visibility is restricted by fog, mist, falling snow, heavy rain, sand, or other similar causes.

Proper Look Out (Rule 5)

At all times, keep a proper look-out with eyes, ears, and all useful means available, so as to be fully aware of the situation and the risk of collision.

Safe Speed (Rule 6)

At all times, travel at a safe speed so that proper and effective action to avoid collision can be taken and the boat stopped within an appropriate distance.

Risk of Collision (Rule 7)

(a) Use all available means appropriate to the situation to determine if risk of collision exists. If there is any doubt, such risk shall be deemed to exist.
(b) Risk of collision exists if the compass bearing of an approaching boat does not appreciably change.
(c) Don't assume other boaters know or follow the Navigation Rules.
(d) If risk of collision exists, vessels become either the "stand-on" or "give-way" vessel.

Action to Avoid Collision (Rule 8)

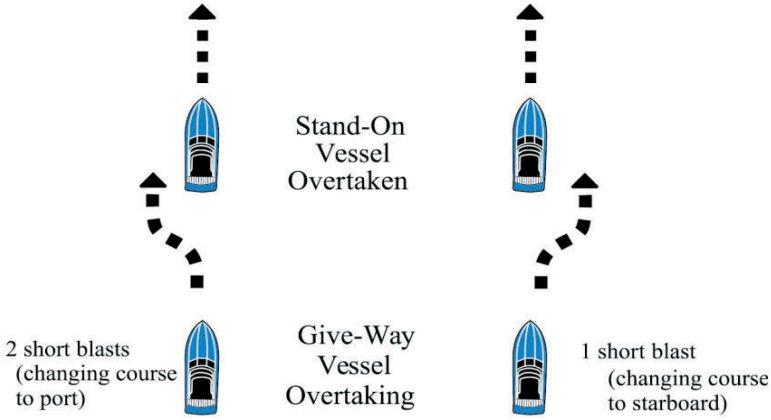
(a) Any action taken to avoid collision shall, if conditions permit, be positive, early, and with due regard to the observance of good seamanship.
(b) Any change of course or speed to avoid collision shall, if conditions permit, be large enough to be obvious to another boat. Avoid a series of small changes in course or speed.
(c) When taking avoiding action, pass the other boat at a safe distance.
(d) If necessary to avoid collision or to allow more time to assess the situation, boaters must slow down or stop.

Narrow Channels (Rule 9)

(a) When traveling along a narrow channel, keep as near to the outer limit of the channel or fairway, which lies to the boat's starboard side, as is safe and practical.
(b) A vessel less than 20 meters long or a sailing vessel shall not impede the passage of a vessel that can safely navigate only within a narrow channel.
(c) Do not cross a narrow channel if doing so would impede the passage of a vessel that must stay in that channel to safely navigate.

Overtaking (Rule 13)

The vessel overtaking shall give way to the vessel being overtaken. Be prepared to use a sound signal to indicate intentions. The following illustrates the proper maneuver, and includes the appropriate **(Rule 34)** sound signals.



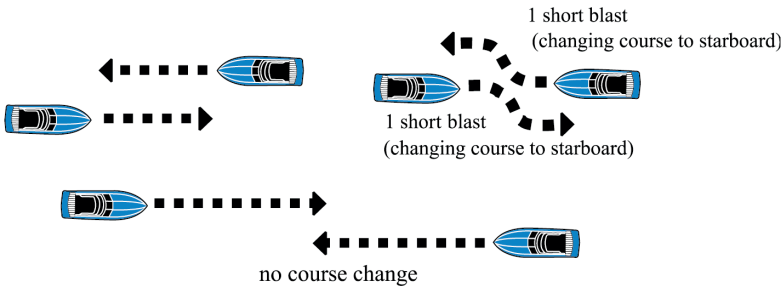
Head-On Situation (Rule 14)

(a) When two power-driven vessels traveling in opposite or nearly opposite directions are in risk of collision, they are in a head-on situation. Each shall turn to starboard, so that they will pass port-to-port (just like cars on a road).

(b) A head-on situation exists when a power-driven vessel sees another power-driven vessel's bow dead ahead or nearly so.

(c) If there is any doubt as to whether a head-on situation exists between two power-driven vessels, assume that it does exist and be prepared to signal intentions.

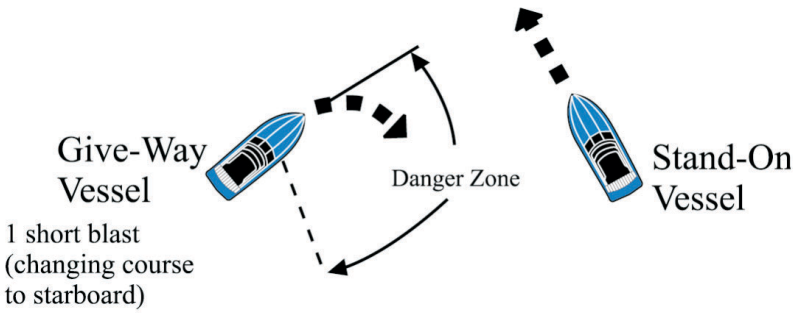
The following illustrates the proper maneuver, and includes the appropriate **(Rule 34)** sound signal.



Crossing Situation (Rule 15)

With two power-driven vessels crossing and in risk of collision, the vessel which has the other to starboard shall give way and shall, if conditions allow, cross astern of the other vessel.

The following illustrates the proper maneuver, and includes the appropriate **(Rule 34)** sound signal.



Action by Give-way Vessel (Rule 16)

Every give-way vessel shall take early and large action to keep well clear of the other vessel.

Action by Stand-on Vessel (Rule 17)

(a) When one vessel must give way, the other shall keep its course and speed, unless it appears that the give-way vessel is not taking required early and large action. At this moment, the stand-on vessel may take action to avoid collision.

(b) If the stand-on vessel approaches so close that collision cannot be avoided by the action of the give-way vessel alone, the stand-on vessel shall do all it can to avoid collision.

Responsibilities Between Vessels (Rule 18)

Except where rules 9, 10 (compliance with official traffic separation schemes), and 13 otherwise require, the higher-listed vessel should give way to the lower ones:

(a) Power-driven vessel

(b) Sailing vessel

(c) Vessel engaged in fishing
(d) Vessel restricted in ability to maneuver
(e) Vessel not under command

Note: The determination that a vessel is "restricted in its ability to maneuver" is made by the vessel's master. If that determination is made, the vessel shall also display the Lights and Shapes prescribed in Rule 27, accordingly.

Conduct of Vessels in Restricted Visibility (Rule 19)

(a) When vessels are not in sight of each other when operating in or near an area with restricted visibility, every vessel shall proceed at a safe speed adapted to the prevailing circumstances and conditions of restricted visibility. A power-driven vessel must have its engines ready for immediate maneuver.

(b) Every vessel shall have due regard to the prevailing circumstances and conditions of restricted visibility when complying with Rules 4 through 10.

(c) A vessel that detects by radar alone the presence of another vessel shall determine if a close-quarters situation is developing and/or risk of collision exists. If so, she shall take avoiding action in ample time, provided that when such action consists of an alteration of course, so far as possible the following shall be avoided:

(i) an alteration of course to port for a vessel forward of the beam, other than for a vessel being overtaken.
(ii) an alteration of course towards a vessel abeam or abaft the beam.

(d) Except where it has been determined that a risk of collision does not exist, every vessel that hears apparently forward of her beam, the fog signal of another vessel, shall reduce her speed to the minimum at which she can be kept on her course. She shall, if necessary, take all her way off and, in any event navigate with extreme caution until danger of collision is over.

Rendering Assistance

Under federal law, the master or person in charge of a vessel is obligated to provide assistance that can be safely provided to any individual in danger at sea. The master or person in charge is subject to a fine and or imprisonment for failure to do so.

COMMUNICATIONS

Marine VHF Radio

Experienced boaters always carry an effective means of communication and, for many, a marine VHF radio is the best choice. Primarily used to access weather reports and to communicate with other boaters (and even airplanes), they can also be a very effective distress signal (see EMERGENCY RADIO PROCEDURES).

On small boats without electrical systems, hand held models are a popular choice. On boats with 12-volt electrical systems, hand held radios can also serve as a backup in case of a main power failure. A boat's electrical system is often "shorted out" when taking on water. Boaters should be proficient with their radio equipment and practice emergency communications so that procedures become second nature. Marine VHF radio operators must follow the rules of the Federal Communications Commission, 1-888 CALL FCC, or, http://wireless.fcc.gov/rules.html

Cellular Telephones

Cellular telephones can be a great tool for boaters, but they do have limitations:

- Coverage is sometimes limited in certain areas.
- In an emergency, the conversation cannot be monitored by other boaters.
- The caller's location cannot be determined using radio direction finders.
- 911 calls from marine locations may be misdirected, delaying rescue response.
- The caller cannot always be contacted directly from rescue boats and aircraft.

Cell phones are an excellent supplement to, but not a replacement for, a marine radio. If a cell phone is carried as the primary means of communication, take the following precautions before leaving the dock:

- Make sure the battery is fully charged (and consider bringing a fully charged spare).
- Keep the cell phone in a waterproof bag that floats.
- Carry the U.S. Coast Guard and other appropriate phone numbers, and make them highly visible. Consider taping the numbers to the phone.

(Also see EMERGENCY CELLULAR PROCEDURES).

HOMELAND SECURITY

Since the events of September 11, 2001, boaters have a new and important role in helping to keep our nation's waterways safe and secure. Please consider the following:

- Keep well clear of all military vessels, cruise-liners, tankers, and other commercial ships.
- Slow to minimum speed when within 500 yards of any U.S. naval vessel, and proceed as directed by the Commanding Officer of the naval or escort vessel. Do not approach within 100-yards of these vessels. If you must enter this zone in order to ensure safe passage in accordance with the navigation rules, you MUST first contact the naval vessel or its escort on marine VHF channel 16 to seek direction. Violators of the Naval Vessel Protection Zone can face up to six years in prison and a $250,000 fine, not to mention a quick and severe response. Approaching certain other commercial vessels may also result in an immediate boarding.
- Observe and avoid all marked or designated security zones and other restricted areas.
- Avoid commercial port operation areas, especially those that involve military, cruise-line, or petroleum facilities. Do not stop or anchor beneath bridges.
- Keep boats secure from theft.
- Keep a look out for anything that appears to be out of the ordinary. Depending on the circumstances, activities that could be considered suspicious include:
  1. Persons renting or attempting to procure or "borrow" watercraft or offering cash on the spot for a vessel.
  2. Persons asking suspicious questions concerning the boat, such as how to start the engines, or how much weight the boat can carry.
  3. Persons loitering around or photographing or creating diagrams of such things as the underside of bridges, established security zones, oil refineries or transfer facilities, military bases, military or government vessels and the waterfront areas near those facilities or vessels.
  4. Vendors attempting to sell/deliver merchandise or drop off packages in waterfront areas.
  5. Persons who are throwing or retrieving unusual objects in or out of the water.

If encountering a situation that feels suspicious, report it immediately to local law enforcement, the U.S. Coast Guard, or port security. Do not approach or challenge suspects.

Show support for the U.S Coast Guard and state officers. Carry all required equipment. Properly display boat registration. Wear a life jacket as a badge of support. By actively demonstrating a commitment to boating safety, we can help reduce the demand on limited law enforcement and rescue resources and support homeland security efforts.

POWERBOATING TIPS

General

- When underway, keep the engine cut-off cable attached to yourself. This is especially important for solo operators. If you somehow get tossed into the water, the boat will stop too.
- Control speed. Don't run at full throttle, but keep just enough speed to keep the hull "on step." This is called "cruising speed." It is easier on the engine, greatly improves fuel economy, and reaction time increases.
- Maintain a clear, unobstructed forward view at all times. Constantly scan the water back and forth for hazards. Avoid tunnel vision. Crab pot lines, deadheads, and rocks just below the surface are often difficult to spot. Keep looking around, because there is always something to miss. Most boating collisions are caused by inattention.
- Operate well within the limits of your skill, and respect the capabilities of the boat.
- Develop proficiency with basic boater's knots (bowline, figure eight, cleat hitch, anchor bend).
- Exercise caution when around commercial traffic (ships, commercial fishing boats, barges under tow, etc.). Give these vessels a wide berth. Don't get caught between a tow boat and a barge. Slow down, and keep a sharp eye for hazards in the water, because tow lines and fishing gear are not always clearly visible.
- Control boat wake when operating near moored boats or structures (docks, floating homes, and launch ramps).
- Be considerate around small or slow moving boats, swimmers, and water skiers. Maintain a distance of at <u>least</u> 100 feet from a boat towing a water skier.

Handling Rough Open Water

- If rough weather is coming and can't be avoided, there are a number of things that can be done to prepare. Place passengers and loads as low as possible and centerline. If everyone is not wearing their PFDs, now's the time to don them. Secure all items to prevent shifting. Consider pulling

drain plugs to promote self-bailing. Prepare bailing devices. Consider donning immersion suits, at least to the waist. Establish radio contact with nearby boaters. Have a spare fuel filter and wrench handy, because rough conditions can stir up tank sediment. Brief passengers, and assign tasks as necessary. Proceed to the nearest protected area.

- It is usually best to run into the wind and waves and "tack" back and forth at about a 45-degree angle to the waves. Slow down to allow the bow to lift with oncoming waves instead of digging in. Travel distance will be doubled, so monitor fuel consumption.
- Following seas can be dangerous. When running in the same direction as the waves, throttle and steering adjustments must be made constantly to avoid a "pitch pole" down the wave face, a "broach" sideways, or taking a breaking wave over the stern. Avoid sudden stops or backing down into following seas. Waves over the stern cause one-third of all boat sinkings.
- Wind and waves are often worse in the middle of an inlet, when rounding a point, and at the mouth of bays where wind, current, and seas collide, so avoid those areas if possible.
- In the event of an engine failure, use oars or paddles to keep the bow into the waves. Or use a "sea anchor" tied to the bow. A plastic bucket with a hole in the bottom can serve as an emergency sea anchor.

Anchoring and Mooring

- To anchor a boat, first select the appropriate type and size of anchor, and the appropriate diameter and length of rode (anchor line and chain). Consider the size of the boat, the bottom type, the water conditions, and the depth of the water (from the bow to the bottom). The length of the rode should be five to 10 times longer than the depth of the water, depending on the weather conditions, the current, and the size of the boat. Don't forget to account for tidal fluctuation!
- Prepare the anchor and rode in advance, and firmly attach the anchor line to a secure point at the bow.

- Bring the bow into the wind or current. When in areas with no current, put the engine in neutral, and wait for the boat to stop moving forward.
- Lower (do not throw) the anchor over the bow.
- Back up slowly to straighten the anchor line and "set" the anchor.
- If an outboard, or inboard with outdrive, raise the drive unit out of the water to prevent fouling the anchor line.
- Avoid anchoring from the stern (or even pulling heavy pots or nets in over the stern) of a small powerboat. This squares the boat's flat transom directly into the wind, waves or current, and can cause the boat to swamp, capsize, or sink.
- Never leave a boat on its own anchor unattended. Tides, current, wind, and wave conditions may change, and can cause an anchor to foul or drag. Maintain an anchor watch.
- If the boat is small, consider taking it up the beach (beyond the high water line) and securing it rather than anchoring. Other options to anchoring include using designated mooring buoys, or setting up a "running line" (with a safety line) from the boat to the shore.
- Take communications and survival gear ashore, in case you get separated from the boat.

River Boating

Whether by jet boat, airboat, inboard or outboard, powerboating on Alaska's interior rivers is both an exhilarating recreational activity and important means of access. River boating puts us in special places that might otherwise be out of reach. However, the power of moving river water is relentless. Exercising good judgment and applying the right mix of skill, ability, and caution are never more important than when powerboating on rivers. Following are some important points to consider:

- Match the boat design to the intended use. There are a lot of options out there! Research options, work with the boat dealer and, if possible, test drive boats under similar conditions before purchase.
- River hazards include sweepers, log jams, sand and gravel bars, submerged objects, animals, wind, sunlight and other restricted visibility problems and, of course, other boaters.
- Knowledge of the river is key. Always research and then scout new areas. Learn from the locals!
- If new to river boating, practice skills in safe areas first. River boaters should be skilled in turning with and against current, launching, landing and beaching, anchoring, basic troubleshooting and repairs, and reading the water.

- Reading the water is the key to enjoyable river boating. This is a skill that takes time to develop.
- Generally it is best to keep in the deeper water that is usually close to the outside edge/cut bank, while still keeping as far to the right as possible, to allow room for a boat coming from the other direction.
- Be particularly vigilant in narrow channels. Slow to the minimum speed needed when rounding tight river bends and blind corners.
- Learn the locations of popular bank fishing spots, and be considerate of bank anglers in the water.
- Carry communication devices that are suitable for the area. For example, cell phones are appropriate in some areas, but in remote places a VHF radio for contacting pilots may be a better choice.
- When launching, always warm up your engine before pushing away from the bank. Launch in respect to the current. Never push a boat into current without knowing if the engine will start. Then, make sure you are in-line with the current before running up the engine RPM. When beaching, try to find places where the boat can be placed facing the current. Otherwise, look for a slow channel or calm backwater pool. ALWAYS secure the boat to the shore.
- Slow down when passing other boats on the river, especially paddlecraft. When passing, make sure other boat operators see you and understand your intentions.

Personal Watercraft

If new to operating a personal watercraft (PWC) take both basic boating safety and PWC specific courses, and develop skills (particularly boat handling and re-boarding) in a protected area under the instruction of an experienced operator. Also read the owner's manual carefully. It provides important information specific to the model such as load capacity, and the main and reserve fuel systems.

PWC operators must have the skill and ability to re-board the boat in deep water. Even the best method of deep water boarding, from the rear of the boat, can be difficult in rough water and/or if the operator is tired. The weight of the rider and the stability of the model of PWC can also affect the ease of re-boarding.

Personal watercraft (PWC) are boats, and operators have the same responsibilities as other boaters. However, there are some important differences:

- Personal watercraft handle differently than boats with propellers. The jet drive and short overall length makes the boat extremely responsive to even a small movement of the handlebars. PWC are steered by directing the water jet while powering forward. Therefore, unlike a motorcycle, ATV or snow machine throttle, on some models, releasing the PWC's throttle AFFECTS THE ABILITY TO STEER. Inexperienced operators attempting to avoid a collision by powering down can find themselves steering directly toward the very thing they are trying to avoid!
- PWC operators frequently end up being tossed into the water. The wrist lanyard, connected to a shut off switch, activates if the rider falls off the boat, preventing the boat from continuing on an out-of-control journey. The cut off switch should be checked for function and wrist lanyard should ALWAYS be worn before departure.
- Most PWC fatalities involve traumatic injury as the result of collisions. It is common for operators to develop "tunnel vision," missing potential hazards to the sides. Constantly scanning the water back and forth will help prevent this. **Always look all around and behind you before turning.** Inflatable PFDs are not recommended for PWC, because the person may be unable to activate the inflation mechanism if injured.

Other Operating Guidelines for PWC:

- NEVER loan a PWC to an inexperienced person. Many PWC accidents involve operators who did not own the boat.
- Wear the right gear. Start with synthetic long underwear, neoprene boots, neoprene or water-ski gloves, safety helmet, goggles, a dry suit or a 2-3 millimeter wet suit, and a snug fitting U.S. Coast Guard approved non-inflatable PFD.
- Slow to 10 mph when within 100 feet of another motorboat or a sailboat underway.
- Slow to no-wake speed when within 100 feet of anchored boats or paddle craft, or when within 200 feet of the shoreline, a swimmer, diver's flag, dock, or launch ramp.
- Obey regulatory markers such as "No Wake" zones and speed limit signs.
- Do not use alcohol before or during operation.
- Avoid wake jumping.
- Avoid operating too close to popular areas such as anchorages and camping areas.
- Avoid operating in the same area for extended periods.

- PWC are not equipped with lights and are not intended to be used after dark. Carry and use navigation lights if operating between sunset and sunrise or in conditions of limited visibility.

Note: Personal watercraft operation may be restricted or prohibited on some waterways. Check with local land managers for any regulations.

PADDLE SPORTS

Participation in paddle sports is one of the fastest growing recreational activities in the United States, with kayaking ranking as number one. Alas, as these numbers grow so do the number of accidents. In Alaska, paddling fatalities account for between 25% and 60% of all boating deaths each year. Nationally, statistics show that 75% of the paddlers who died in boating accidents were not wearing a PFD. As many as 20% were alcohol related. Surprisingly, operator inexperience accounts for only one in four paddling fatalities; about 30% of paddling fatalities involve paddlers that had more than 100 hours of experience.

Paddling a kayak, canoe, raft, or drift boat on Alaska's cold water takes specific skills, equipment, and good physical conditioning. All paddlers should take courses and read books and guides specific to their sport. Look for courses that are offered by instructors certified by the American Canoe Association and/or an Alaskan paddling organization. The following are additional tips for safe paddling:

- Paddling is a sport, and like all sports requires a certain level of skill and physical conditioning.
- A paddler without a PFD is a sign of inexperience. Wear properly fitted PFDs designed for paddling. Choose a style that has superior buoyancy, thermal protection, high visibility, and a snug fit, without impeding mobility either in or out of the water.
- The American Canoe Association recommends that all paddlers be proficient in:
    - keeping a boat balanced under a variety of conditions.
    - proper boarding - both entries and exits.
    - maintaining a straight course.
    - turning a boat in any direction quickly.
    - performing self-rescues and assists.
- Never paddle alone! There is safety in numbers.
- Be prepared to get wet. Dress appropriately. Carry a spare set of clothes in a waterproof bag.

- Like other sports, paddling requires the right gear. Purchase quality equipment.
- Standing up or moving about in a canoe or kayak greatly increases the chance of capsize.
- Load the boat properly. Keep the weight centered both from side to side and bow to stern. The lower and the closer the load in the boat is to the boat's centerline, generally the more stable the boat will be, assuming there is adequate freeboard. Stay within the limits of the boat's capacity rating on the capacity plate if one is present.
- When retrieving something from the water, reach with your paddle or guide the boat close to the object so you can grab the item from the water without leaning your shoulders over the gunwale.
- Check weather and water conditions, and conduct thorough pre-departure checks before each trip. Avoid extreme conditions: including weather, distance from shore, water conditions, current including flood water or fast current beyond skill level.
- Always file a float plan, and stick to it.
- Trips should be planned in consideration of the least experienced group member.
- Besides meeting the legal requirements, paddlers should consider additional items such as a means of communication, water, food, personal medications, bailer or sponge, first aid kit, and a variety of signaling devices. Other useful items include a waterproof watch, eyeglasses strap, and insect repellant. Alaska's summer sun is strong, and the reflection from the water magnifies it even on cloudy days, so consider sunscreen, sunglasses, and a brimmed hat.

Canoeing

The majority of paddleboat fatalities are attributable to capsized canoes. All canoeists should be well practiced in boarding, launching, and basic paddle strokes, and be able to right, re-enter, and bail a swamped canoe. Avoid standing up or moving about in the boat. When you must move, keep your body as low as possible, and maintain three points of contact at all times. For example, move one foot at a time, with the other foot firmly planted and both hands gripping the boat's gunwales during each step. A partner can assist by holding the boat steady to the shore or with the proper paddle stroke to add stability. Everyone should keep his or her shoulders inside the gunwales at all times. Use great care when loading. Comply with the manufacturer's load recommendations. Canoes should have at <u>least</u> six inches of freeboard. Canoes are generally not recommended for coastal waters unless they are decked, have extra flotation, and the paddler has extensive experience.

Swift Water Paddling

- Learn the international scale of difficulty for swift water.
- Learn and practice the universal river signals. Make sure other party members know them too.
- Match skill and experience to the difficulty of the river. Before a trip, carefully review maps and determine the current and anticipated water levels, and evacuation routes.
- Always scout swift water from the shore first. Alaska's rivers each have unique personalities, and these personalities can change quickly with even small changes in water levels. Other swift water hazards include waterfalls, rocks, strainers (sweepers), hydraulics or "holes," and challenging rapids. If in doubt about hazards, walk around them. Sturdy, non-slip footwear such as old tennis shoes and a PFD should always be worn while scouting.
- Learn and be proficient in first aid, and basic swift water rescue techniques. Carry throw-bags and other appropriate rescue gear.
- If the boat is not designed with closed decks and bulkheads to displace water, install devices such as float bags. This is especially important for open canoes.
- Special clothing such as a helmet, paddling jacket, wet suit, or dry suit is highly recommended when paddling in cold, or swift water.
- Be alert on rivers used by powerboaters. LISTEN carefully, keep to the right side (especially around river bends), and be prepared to handle boat wakes.

- If in a group, assign the most experienced paddlers to the lead and sweep (last) boats. All other boaters should stay in between. If you lose sight of the boat behind you, pull over and wait.
- Keep the boat under control at all times. You should be able to stop or reach shore at will.
- The best way to approach shore on moving water is to point the bow up stream, and either position the boat parallel to the shore or ground the boat at a slight angle.

Coastal Kayaking

- Begin with proper instruction and practice. Both dry land and on the water instruction (in protected areas) are highly recommended. Besides learning efficient paddling techniques, obtain and maintain essential skills in re-boarding a capsized boat in open water, such as the paddle float self rescue and the two boat "T" rescue techniques. A capsized boat is very serious business for coastal kayakers.
- Carefully choose clothing in consideration of the air and water temperatures. Summer temperatures in coastal areas average 40-70 degrees. Wear clothing in layers and choose synthetic fabrics such as fleece and polypropylene. Cotton clothing is inappropriate for paddling. Be prepared to get wet. Wear wet suits, dry suits, or paddling jackets as appropriate.
- Sea kayaks are sometimes difficult to see and don't appear on radar. Avoid powerboat traffic lanes. Strive for high visibility when around powerboats. Especially under conditions of limited visibility, rough water, or strong backlighting from the sun, groups of boats are far more easily seen than are single boats. It helps to stay in a "pod" instead of in a string of boats, and wave paddles if necessary to attract the attention of approaching boats. Wear bright clothing that can be seen easily by other boaters at a distance.
- Avoid paddling alone. In the event of a capsize self-rescue can be very difficult.
- When on the beach, move the boat well above the high tide line and tie it securely. Many a paddler has returned to their boat only to discover it floated away on a high tide or was swamped by a boat wake breaking on the beach.
- Never try to outrun a bad weather forecast.
- Keep a lookout for large boat wakes, and wave rebound off the shoreline, rocks and coastal cliff faces.
- Keep close to the shore and cross open water where the distance is the shortest. The fastest sea kayakers are capable of speeds of only six mph.

If bad weather suddenly appears, paddlers can become dangerously exposed in open water, with no way out.

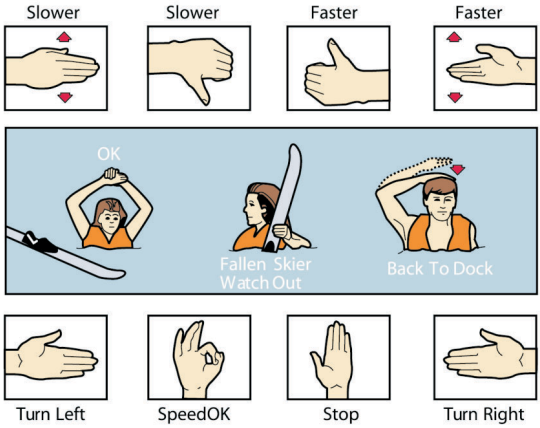
- Avoid paddling in strong winds or heavy chop. Even a light 15 knot wind will significantly increase the work load and decrease speed.
- Avoid overloading decks.
- EVEN ON DAY TRIPS all coastal kayakers should carry (in addition to legal requirements) a pump, paddle float, paddle leash, stirrup, spare paddle, compass, charts, first aid kit, water bottle, sleeping bag and change of clothes in a waterproof bag, some spare food, towing strap(s), and plenty of spare visual distress signals. Coastal paddlers should also always carry an efficient means of communication such as a hand-held marine VHF-FM radio with spare batteries. Besides use in emergencies, the radio can be used day-to-day to update float plans or to check on the weather. Also consider rain gear and rain hat, sunglasses and sunscreen, camera, and sandals, sneakers or rubber boots for the beach. Check on the weather.

BOATING RELATED ACTIVITIES

Water-Skiing

To make water-skiing safer and more enjoyable, boat operators and skiers should observe the following:

- Ski only between sunrise and sunset.
- Boaters must either have another person (12 years of age or older) aboard as a lookout, or have a rear view mirror installed on the boat.
- The boat operator should keep at <u>least</u> 100 feet from other boats.
- The driver and skier must not operate:
  - in a manner endangering the safety of persons or property.
  - under the influence of intoxicating liquor or drugs.
- Skiers should wear a U.S. Coast Guard approved PFD, labeled "Ski Vest" on the manufacturer's label. Inflatable PFDs are <u>not</u> appropriate for water skiing. <u>Alaska law requires either a Type I, II, or III PFD be worn by skiers under 13 years old.</u>
- Always keep a close eye on the water ahead for hazards.
- When landing, come in parallel to the shore at low speed.
- To stop, simply let go of the rope, slow, and sit down into the water
- When falling, try to curl up into a ball before hitting the water. Always throw the tow bar well clear to avoid becoming entangled in the tow rope. Then, signal OK.
- Do not ski in shallow water or near swimmers.
- Do not wrap the rope around any body part.
- Yell "hit it" only if the rope is taut and you're ready.
- Use the recognized water-ski hand signals:



Diving

Alaska law recognizes that a red flag with a white diagonal stripe (commonly called the "diver's flag") indicates a person is engaged in diving in the immediate area. Displaying the "diver's flag" is not required by law and does not in itself restrict the use of the water. However, when operating in an area where this flag is displayed, boaters must stay at least 100 feet away from the flag unless they are operating at no-wake speed. International Navigation Rules also require a blue and white "Alpha" flag be displayed on boats engaged in diving operations. The flag and equivalent lights and shapes are further described in the Federal Navigation Rules.

Hunting and Fishing

Nationwide, hunters and anglers account for one in every three boating fatalities. According to the National Rifle Association, many more hunters die from drowning than by gunshot. Records show the average sportsman who dies on the water is a 30-50 year old male, in a small open motorboat, on relatively calm water, and on a clear sunny day. Most who died were not wearing a PFD, and died by drowning. In particular, consider the following:

- Over the last 10 years, 45% of all boating fatalities were the result of a capsize. Never exceed the boat's capacity plate. Carefully balance passengers and loads for best boat performance. Secure items to keep them from shifting. Unless a boat is designed for it, avoid hauling heavy pots and nets in over the stern. In rough water keep all weight as low as possible, and balanced along the centerline.
- During the same 10-year period, falls overboard accounted for 27% of all boating fatalities. These always happen when least expected, and most often occur while standing or reaching overboard. Avoid standing up or moving about when casting or shooting (especially in a canoe). Shoot or cast from a well balanced or seated position. When retrieving objects from the water (such as fish, decoys, or dogs) either move the boat to the object or draw it toward the boat with a paddle. Don't lean overboard. Instead, reach straight down keeping shoulders inside the gunwales.
- Many new styles of life jackets are available that are comfortable and don't restrict movement. Sportsmen should always wear PFDs when in a boat, and when hunting and fishing waterways on foot. Tidal changes, sudden slips, and unexpected deep holes have dumped many a hunter or angler in the water. Keep a PFD on when near the water.
- Put visual distress signals and other survival items in pockets.
- Consider yourself a boater; take a boating course.

- Conduct a thorough pre-departure check (see PRE-DEPARTURE CHECK-LIST).
- Know the boat, its handling characteristics, and limitations.
- Keep watch for changes in weather/water conditions.
- Take knowledge and skill level into consideration during decision making.
- Avoid alcohol when boating. Sensible sportsmen already know alcohol and guns don't mix!
- File a float plan and stick to it!

SURVIVING COLD WATER

(Caution: The procedures described in this section may not apply in all situations.)

The Effects of Cold Water Immersion

Most of Alaska's boating fatalities involve cold water immersion that, according to research, kills in several ways:

1. Initial immersion - cold water "shock." At initial immersion a range of physiological effects, including gasping, hyperventilation, and muscle spasm, can result in water inhalation and drowning. Significant changes in heart rate or rhythm and blood pressure can also result in cardiac problems. These effects last for the first two to three minutes.

2. Short term immersion - impaired function. Between three and 30 minutes following immersion, localized cooling causes muscle strength and dexterity to drop. Hands lose grip strength and sensation. Victims have trouble grasping or holding on to a PFD, a rescue device, or even an overturned boat. Even good swimmers may be unable to swim for more than a few minutes in very cold water. Death is caused by drowning.

3. Longer term immersion - immersion hypothermia. After 30 minutes or more, hypothermia - the cooling of the body's core temperature develops. Water has a thermal conductivity of about 25 times that of air. A body immersed in water cooler than body temperature will eventually cool to the temperature of the water at a rate dependent on:
    - Temperature differential between the body and the water,
    - Clothing/insulation,
    - Amount of agitation of the water,
    - Body heat produced by shivering and exercise,
    - Ratio of body mass to surface area (children lose heat faster than adults),
    - Subcutaneous body fat,
    - State of physical fitness,
    - Diet prior to immersion,
    - Physical behavior and body posture in the water.

    Hypothermia symptoms range from mild to severe. As the body core temperature falls, humans eventually lapse into unconsciousness. Death occurs by drowning or cardiac arrest.

4. Post rescue collapse. A drop in arterial blood pressure leading to cardiac arrest may kill at the point of rescue or up to several hours afterward.

Prevention

In Alaska, swamping and/or capsizing, and falls overboard are the first and second leading causes of cold water immersion. Swamping and/or capsizing are most often caused by overloading, poorly secured or shifting loads, improper boat handling in rough water, loss of power or steerage, anchoring from the stern, wrapping a line around a drive unit, or taking a wave over the transom after a sudden stop. Falls overboard are usually due to slipping or loss of balance when standing or moving around the boat, or reaching for objects in the water. Most of these events happen quickly, often when you least expect it.

Another common cause of cold water drowning in Alaska is leaving a place of safety to swim for a boat. Watching a loose boat drift away from shore produces an almost irresistible impulse in (otherwise rational) people to swim for it. Don't!

Be Prepared

Always wear a PFD when in an open boat or on an open deck. Boaters who suddenly find themselves in the water never appreciate their PFD more than at that moment. Trying to put your PFD on in the water is difficult (if not impossible) and costs precious time and energy.

Equip PFDs in advance. Reflective tape and a light secured high on the PFD make you more visible. A whistle helps draw the attention of passing boats or rescue personnel. If the PFD has pockets, carry some visual distress signals and survival items. Some boaters even carry a small hand held VHF radio. In one case, a victim was able to use his radio to guide a rescue helicopter directly to him.

Make sure the boat is either equipped with a re-boarding ladder, rope ladder, foot sling, or swim platform, or designed so that a person in the water can easily get into the boat.

All Alaskan boaters should obtain and maintain current CPR and first aid certification. In addition, practice emergency procedures such as re-boarding from the water and cold-water survival techniques to build skill and confidence.

Cold Water Survival Basics

Factors such as wearing a PFD, the ability to swim, and a controlled water entry can greatly improve the odds of surviving a cold-water immersion. Age, body size and type, clothing, water temperature and surface conditions, time in

the water, associated injuries or medical conditions, type of flotation, and alcohol use, can also influence the outcome. Surviving cold-water immersion depends on adequate flotation for breath control, heat retention, and timely rescue either by self or by others. If you suddenly find yourself in the water, taking the following steps may save your life:

- Initial reaction usually passes within 1-3 minutes. The focus during that time is to get control of breathing and to keep from drowning.
- Once breathing is under control, people have between 10 and 15 minutes for self-rescue before motor function is impaired or lost. Quickly check behind and under the boat for others. Don't waste time removing shoes or clothing. Even small amounts of air trapped in clothing will provide some buoyancy and thermal protection.
- If the boat isn't capsized, use the boat's re-boarding devices and appropriate and practiced techniques to get back in. If it is capsized but small enough, you might be able to turn it back over, then get back in and bail. If not, try to at least get on top of it. If separated from the boat, locate and use other floating objects to get as much of your body out of the water as you can.
- If you can't get back into or on top of the boat, a person must make the difficult decision whether to stay with the boat or to swim. Staying with or near the boat is usually the best thing to do in open water, particularly if the event was witnessed, because even if capsized or swamped a boat can offer supplemental flotation and is far easier for potential rescuers to see than a person in the water. In other cases, it may be best to swim to safety (see survival swimming next page).
- After 15 minutes in the water, limbs will grow increasingly stiff and unresponsive, and a person will eventually be unable to self-rescue. At this point, the priority is extending consciousness and survival time. Slow heat loss by protecting high heat loss areas (especially the head and neck) and by minimizing movement. Using the "HELP" or "HUDDLE" positions may also help. Be prepared to signal potential rescuers.

"HELP" and "Huddle"

The "Heat Escape Lessening Position" (HELP) is only possible when wearing a personal flotation device. Hold the inner side of your arms tightly against the sides of your chest, press your thighs together, cross your feet and raise your knees to your chest and keep as still as you can. PFDs with flotation high on the body are best for this tech-

nique. PFDs with evenly distributed flotation may cause some instability. If that happens, lower your legs a little but keep them together.

Small groups can form a tight "huddle" so bodies work together to protect high heat loss areas. Small children and injured or unconscious persons can be placed in the center of the huddle, to be supported by the group.

Survival Swimming

Swimming may be the better option if you are in the water and there is little chance of rescue or a place of safety is very close. However, swimming in cold water can reduce in-water survival time. Consider:

- In cold water, the average person will lose 30% more heat by swimming than by remaining still.
- Even excellent swimmers can be quickly overcome when swimming in cold water.
- Distances are very deceiving and safety often looks closer than it is.
- Current, wind, and wave action can slow or stop a swimmer's progress.

However, if you must swim, try to conserve energy and minimize heat loss. Wearing a PFD in this situation can make the difference between life and death:

- Keep as much of your head and neck up and out of the water as possible.
- Swim on your back.
- Keep your upper arms and elbows close to the sides of your chest, using just your forearms.
- Keep upper legs close together and knees bent, and use lower legs to flipper kick.
- Move slowly and conserve your energy.
- Use floating objects to help you.
- If in moving water, position yourself upstream of the boat. Point feet downstream and get into a semi "sitting" position. Keep knees bent, feet up, with heels slightly lower than buttocks (to avoid foot entrapment). Your body position should be at a 45-degree angle to the current, with your head pointing toward the side of the river that you want to go to. Use a modified backstroke. The force of the current on the upstream side of your body will help to "ferry" you toward the bank of choice. Use your arms and legs to fend off rocks and other objects. Be prepared to

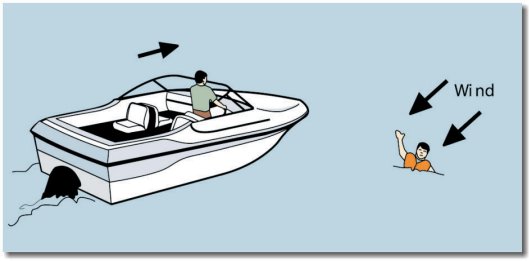
quickly flip onto your stomach and travel head first downstream. This position enables you to scramble over "strainers" or other obstacles, keeping you from becoming pinned against them by the current.

Person Overboard

If someone falls overboard:

1. Powerboats should swing the stern of the boat away from the person to reduce propeller danger.
2. Throw a lifesaving device or other floating object to the victim immediately, even if the person is a good swimmer. Be careful not to hit the person. A Type IV life ring is designed for this purpose, but don't wait to get a life ring if another item is closer at hand.
3. Keep the person in view. If possible, have another person act as a lookout. Do not lose sight of the victim. At night, direct the best possible light on the victim.

4. If possible approach the person from downwind or downstream. The maneuver to use in approaching a person depends upon the existing conditions (water temperature, water conditions, victim's physical capabilities, whether you are alone, availability of other ready assistance, and boat maneuvering room).



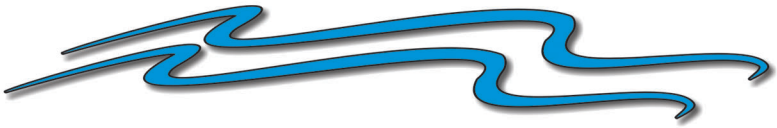
5. Reach for the person with an oar or paddle. If the person is too far away, throw them a Type IV life ring with a floating line, and tow the person to you. Do not go in the water unless it is a last resort and you are wearing a PFD.
6. Assist the person in re-boarding the boat. It is often difficult to climb into a boat from the water, and the individual who is hurt or cold may not be capable of getting on board without help. In small boats, the weight of a person suspended from the side can be enough to tip the boat and cause it to take in water. The best procedure for getting back in a small boat is over the stern or bow, depending on the boat's construction. Common sense dictates that the propeller be stopped when pulling a victim in over the stern.
7. Treat the victim to your level of medical training.

Treating Hypothermia

The general goals in treating immersion hypothermia patients are; gentle handling, preventing further heat loss, providing basic life support if necessary, and obtaining medical help. Severely hypothermic patients must be treated gently because cold heart muscle is "irritable," and cardiac problems can result from physical exertion, jarring the patient, or moving them from a horizontal to vertical position quickly during rescue.

Cold Water Near Drowning

A person found unconscious in cold water (even with bluish skin color, no detectable breathing, no detectable pulse, and dilated pupils) may not yet be dead and may have a chance for survival. If the victim was submerged for an hour or less, or the time of submersion is unknown, providing basic life support to your level of training and obtaining medical help quickly could possibly save a life.



CARBON MONOXIDE POISONING

Carbon monoxide (CO) poisoning, the leading cause of accidental poisoning death in America, has been identified recently as a serious problem on our nation's waters. Carbon monoxide is an odorless, colorless, tasteless gas, formed by the incomplete combustion of hydrocarbon fuel, which can cause seizures, unconsciousness and death. It is often called "The Silent Killer" because the body has no sensitivity to its absorption or suffocating effects. Carbon monoxide binds to red blood cells 240 times more aggressively than oxygen, displacing oxygen and causing metabolic asphyxiation. Depending on concentration, CO poisoning can happen very quickly, sometimes with even just a few breaths.

Improperly vented or malfunctioning cabin heating systems, grills and propane appliances, and exhaust gasses produced by generators and engines, are the culprits. Exhaust fumes and carbon monoxide can accumulate in areas such as enclosed cabin spaces and under swim platforms. Use care in running the engine or generator continuously when the boat is closed up in cold or bad weather, particularly when the boat is not in motion. Be alert to any indication that exhaust fumes are present, and ventilate accordingly. CO detectors should be installed and maintained in enclosed areas. Everyone on board should keep well clear of engine and generator exhaust ports that are running. CO concentrations can be especially high around and under swim platforms. Swimmers at or near the stern, or those launching or retrieving a dingy over the stern platform, are particularly vulnerable. If there is a need to be around swim platforms or exhaust ports for any reason, first shut the engines down, then allow sufficient time for fumes to dissipate. One of the best protections against carbon monoxide is regular professional inspection of the engine and generator exhaust systems. If you notice a change in the sound or appearance of the exhaust system, shut the unit down and have it inspected and repaired by a competent mechanic.

Because CO is difficult to detect by sight or smell and poisoning can happen so quickly, there is often little warning. Carbon monoxide poisoning is difficult to diagnose because of a wide range of vague and multiple symptoms. Fatigue and headache are most common, but others include the "flu like" symptoms of dizziness, vomiting, muscular twitching, weakness, and sleepiness. Victims often have a gray or ashen appearance. If someone feels dizzy or loses consciousness while onboard, consider the possibility of CO poisoning. If you suspect someone could be suffering from CO poisoning, remove them from the suspected source and into fresh air immediately. Be prepared to provide basic life support to your level of training, and call for medical assistance.

FIRE

The key to putting out a fire on a powerboat is eliminating any of the fire's ingredients: fuel, oxygen, and heat. Often the easiest to remove is oxygen, by using a fire extinguisher. If a fire breaks out:

1. Alert passengers. Direct them to gather survival gear and prepare to go into the water if necessary.
2. Keep a shipboard fire downwind; turn the boat so the flames and smoke blow away from the craft rather than over it.
3. Cut off oxygen to the area of the fire.
4. Use the **P.A.S.S.** system to extinguish the fire. **PULL** the pin. **AIM** the extinguisher nozzle at the source of the fire (beneath the flames). **SQUEEZE** the handle and **SWEEP** back and forth. Remember that a Type B-I extinguisher empties in less than 10 seconds.
5. Save some of the charge for a re-flash or, better yet, carry a spare extinguisher.
6. Transmit MAYDAY if necessary.
7. As a last resort, abandon ship. Stay together and use cold water survival techniques.

TAKING ON WATER

1. Direct passengers to don PFDs and gather survival gear.
2. Re-distribute weight to balance the boat.
3. Secure doors and hatches.
4. Pump and bail. Start bilge pumps, and get manual dewatering devices in use.
5. Locate leak source and take measures to stop or reduce leak. If unsuccessful and near shore, consider beaching the boat.
6. Only shut off engines if the leak is from a cooling system.
7. If hull is breached, an inboard engine can act as a bilge pump. Shut off engine, close sea cock, disconnect cooling water intake hose, restart engine, and use the water intake hose to pump out the boat.
8. Transmit "MAYDAY" if necessary.
9. As a last resort abandon ship, but stay with boat if it is floating. Stay together and use cold water survival techniques.

RUNNING AGROUND

Besides causing expensive damage to a boat and engine, striking underwater objects or the bottom can cause passengers to be suddenly thrown forward, often resulting in injury and/or a plunge into the water. Running aground is usually caused by inattention. Carefully study charts of the area before a trip to identify shallow areas, rocks and other hazards. Be aware of the tide cycle or changes in river volume. While underway, maintain a close watch. Scan the water back and forth. In shallow water, proceed SLOWLY and use a depth finder and an observer.

If you do run aground, always ensure the safety of passengers first. Then assess the situation, check for hull damage. If the boat is not firmly grounded, consider lightening the load and, if safe, rocking the boat back and forth to free it. Another method is to use an anchor or sea anchor to pull the boat into deeper water. If it is firmly grounded, stabilize the boat, secure fuel tanks and vents, and call (or prepare to signal) for help.

MECHANICAL BREAKDOWN

Mechanical breakdown is the most common powerboating problem. If you encounter problems on the water, consult owner's manuals and try some of the following before calling for help:

Problem: Engine turns over but won't start.

- Check if safety shut-off cable is disconnected.
- Check if fuel is getting to the engine (fuel line not primed, kinked, bad connection, tank vent closed).
- Check if engine flooded.
- Check spark plugs for spark and other clues.

Problem: Engine doesn't turn over, or the solenoid clicks but starter does not engage.

- Check that the gear shift is in the neutral position.
- Check battery switch is in the "on" position.
- Check battery terminals, cables, connections clean and secure.
- Check ALL ignition system fuses, including under engine cowling (outboards).

- Check starter solenoid.
- Check connections at starter motor.

Problem: Engine runs poorly.

- Check if fuel line priming bulb is full of fuel, and firm.
- Check if fuel tank vent is closed.
- Check fuel lines and connections for kinks, pinches, obstructions, poor connections, and check fuel filters for contamination (water or other agents).
- Check fuel and fluid levels.
- Check for overheating.

Problem: Engine stops suddenly.

- Check if safety shut-off cable became disconnected, or the ignition key was turned off.
- Check fuel and oil levels.
- Check if fuel tank vent is closed.
- Check fuel line connections.
- Check for engine overheating.
- Check for propeller fouling.

Problem: Engine overheats.

- Shut down immediately until problem solved.
- Check oil levels.
- Check water intakes and cooling system for fouling, obstructions, or leaks.
- Check water pump operation.
- Check engine trim to make sure water intake is below the water line.

SHORE SURVIVAL

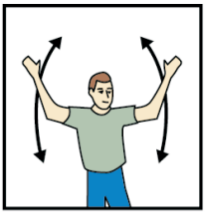
Our boats provide us with access to the beautiful and remote corners of our state. However, bad weather, mechanical breakdown, running out of fuel, running aground, a poorly tied or broken mooring line, or a boat lost to the tide, can all result in an unexpected stay on a beach or gravel bar. Research has shown that under these circumstances, the proper attitude has a profound influence on the outcome. Your primary goal is to be found as quickly as possible, in the best condition possible. In these cases, follow the "seven steps to survival." In order of priority, they are:

1. **Recognition:** Recognize that an emergency exists and unless appropriate action is taken, you could make matters worse or even die.
2. **Inventory:** This includes your physical and emotional condition, the environment, equipment, and the factors working for and against you. All boaters should carry survival items!

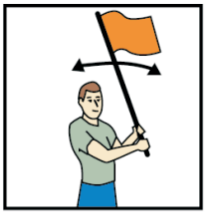
3. **Shelter:** Humans need shelter to survive. The goal in shelter building is to prevent heat loss, so make them small and tight. Remember that clothing is the first shelter layer, so keep clothing as dry as possible.
4. **Signals:** Signals take the "search" out of search and rescue. YOU MUST BE SEEN TO BE RESCUED!
5. **Water:** A person can live only a few days without water. If you don't have water, don't eat.
6. **Food:** Our physical state affects our mental state, and food helps keep both energy level and attitude up. However, a person can live without food for a long time.
7. **Play:** Includes any activity that builds and maintains a positive attitude.

DISTRESS SIGNALS

The International Navigation Rules apply to all boats on U.S. navigable waters, as defined or designated under federal law 33 CFR 2.05-25. **Rules 32-37** (Part D) of the International Rules apply to signals, including distress signals. The internationally recognized signals illustrated indicate that a boat is in distress and requires assistance. If flares or other pyrotechnic devices are used, please keep in mind that it doesn't do any good to use them if there is no one around to see them. Use them judiciously!

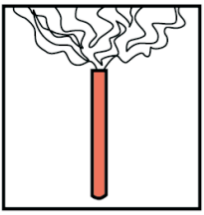


WAVE ARMS SLOWLY UP AND DOWN



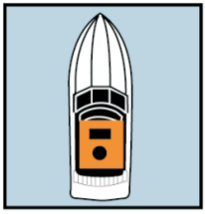
WAVE ORANGE FLAG

SOUND HORN, BELL OR WHISTLE REPEATEDLY



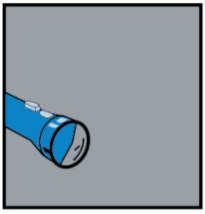
SET OFF ORANGE COLORED SMOKE SIGNAL

USE RED ROCKET OR FLARE



DISPLAY ORANGE AND BLACK CLOTH AS SHOWN

SEND "MAY DAY" ON RADIO



BLINK FLASHLIGHT OR WHITE LIGHT - S.O.S.

Other signal methods may also be used in an emergency, but keep in mind:

- With visual signals, CONTRAST with the background is key. For example, use shades darker or lighter than the natural background.
- Straight lines and geometric shapes are uncommon in nature, making them easier to see.
- Dynamic signals that move may catch the eye better.
- Fires and gunshots are not unusual in rural settings. When used as signals, they should be in groups of three in order to draw sufficient attention.
- Using a sound and a visual signal together in combination may be more effective than a single method.

DIGITAL SELECTIVE CALLING

Manufacturers are required to install Digital Selective Calling (DSC) on marine VHF radio models developed after June 1999 (except hand held models). The distinctive red "DISTRESS" button located on the face of the radio identifies these radios. Although DSC radios provide a variety of advanced features depending on model and price, they all can automatically send a DISTRESS alert to those in the immediate area who are also equipped with a DSC radio, without having to use the usual voice calling/distress channels. In addition, the DSC radio automatically and silently maintains a listening watch on the appropriate DSC channel (VHF 70, or 2187.5 kHz). To be able to use the DISTRESS alert function, boaters must first obtain a Maritime Mobile Service Identity number (MMSI). This nine- digit number electronically identifies a specific boat and must be programmed into the radio. MMSI numbers may be obtained, at no charge, from BOAT U.S. (BoatUS.com) West Marine, and some boating organizations. The benefits of DSC are greatly enhanced when the radio is connected to the boat's global positioning system (GPS) unit.

NOTE: The U.S. Coast Guard's DSC infrastructure and ability to respond to DSC generated DISTRESS alerts is expected to be in place in Alaska sometime around 2006. Until the system is declared operational in Alaska, boaters should continue to use marine VHF channel 16 for DISTRESS alerting purposes (See Emergency Radio procedure).

EMERGENCY RADIO PROCEDURES

There are three types of emergency radio messages:

SECURITY - to notify others of bad weather or other hazards (pronounced se-cure-et-tay).

PAN-PAN - used when calling station has an urgent message for mariners (pronounced pon-pon).

MAYDAY - when a boater is experiencing an immediate threat to life.

In An Emergency:

1. Make sure radio equipment is **on** and **CHANNEL 16 selected.**
2. Decide which of the three messages to use. Then **SAY IT CLEARLY THREE TIMES** (such as MAYDAY, MAYDAY, MAYDAY, then...)
3. **Say**
   "This is the vessel _____" or _____ (your name)
   "My position is _____" (give latitude/longitude if possible)
   "The nature of my emergency is _____"
   "I have _____ persons on board"
4. **Listen!** If there is no response within 10 seconds, repeat your broadcast until you are answered. Try different emergency channels if necessary. Continue until acknowledged.

ACTIVATE YOUR EPIRB IF YOU ARE UNABLE TO MAKE CONTACT.

If you get a response, be prepared to give the following information:
Fill in these items* in advance.

- Vessel description*
  length _____ hull color _____ house color _____
  trim _____ mast(s) _____ registration number _____
  construction type _____
- On-scene weather
  wind speed _____ direction _____
  sea height _____ swell direction _____
  visibility (miles) _____ ceiling (feet) _____
- Emergency and survival equipment onboard* _____
- Radio frequencies available* _____
- Operator's name and phone* _____
- Owner's name and phone *_____
- Home port* _____
- What type/degree of assistance is needed _____

Recreational Vessels Rev. 9/00

EMERGENCY RADIO CALL PROCEDURES

1. MAKE SURE RADIO IS ON
2. SELECT CHANNEL 16
3. PRESS/HOLD THE TRANSMIT BUTTON
4. CLEARLY SAY: *MAYDAY MAYDAY MAYDAY*
5. ALSO GIVE:
   - ☐ VESSEL NAME AND/OR DESCRIPTION
   - ☐ POSITION AND/OR LOCATION
   - ☐ NATURE OF EMERGENCY
   - ☐ NUMBER OF PEOPLE ON BOARD
6. RELEASE TRANSMIT BUTTON
7. WAIT FOR 10 SECONDS – IF NO RESPONSE REPEAT "*MAYDAY*" CALL.

16

VHF-FM

HAVE ALL PERSONS PUT ON LIFE JACKETS

* Intentional hoax calls are an offense and subject to prosecution.
* U.S. Coast Guard will not be equipped to respond to Digital Selective Calling (DSC) distress calls on Channel 70 until 2006.

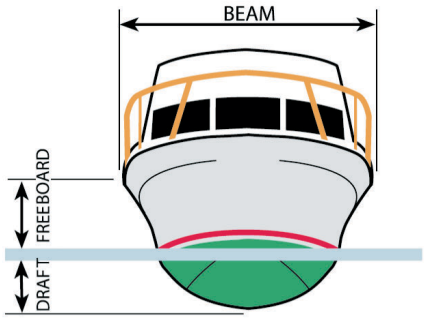
U.S. Coast Guard Infoline (800) 368-5647 www.uscgboating.org

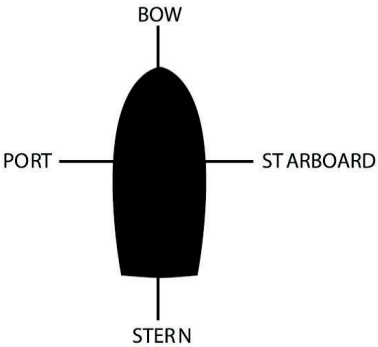
EMERGENCY CELLULAR PROCEDURES

1. First give your phone number in case you are disconnected.
2. Give your name and a boat description.
3. Give your position/location.
4. Explain the nature of your problem.
5. Give the number of people on board.
6. REPEAT your cell phone number before ending your call.
7. Keep as calm as possible, and speak slowly and clearly so you can be understood.

BOATING TERMS

AMIDSHIPS	Center of boat with reference to its length and/or sometimes its width.
AFT	Toward the stern of a boat.
BEAM	The boat's maximum width.
BILGE	Lower internal part of a boat's hull.
BOAT	Every description of watercraft used or capable of being used as a means of transportation on the water.
BOW	Forward part of a boat.
BULKHEAD	A vertical partition separating compartments.
DRAFT	The depth of water a boat draws.
FATHOM	Six feet.
FORE	To or at the front.
FREEBOARD	Height of boat from the waterline to the deck or gunwale.
GUNWALE	Top, outer edge of boat's hull.
HELM	The wheel or tiller controlling the rudder.
HULL	Body of a boat.
MOTORBOAT	Any boat propelled by machinery, including any sail boat under power.
PORT	Side of boat to the left when facing forward.
STARBOARD	Side of boat to the right when facing forward.
STERN	Back end of a boat.
TRANSOM	Flat planking across the stern of a boat.
TRIM	Fore and aft balance of a boat.
UNDERWAY	Boat in motion. Technically, a boat is underway when not moored, at anchor, or aground.





CONTACTS

EMERGENCIES:

Alaska State Troopers	(907) 428-7200
U.S. Coast Guard Search & Rescue	1-800-478-5555 (or *CG)

BOATING EDUCATION:

Alaska Water Wise Courses	(907) 269-8704
Alaska Marine Safety Education Assn.	(907) 747-3287
American Canoe Association	(703) 451-0141
U.S. Coast Guard Auxiliary Courses	1-800-478-6381

REPORT OIL SPILLS:

State of Alaska, Dept. of Environmental Conservation

During office hours	Southeast Area	465-5340
	Northern Area	451-2121
	Central Area	269-3063
After office hours (Alaska State Troopers)		1-800-478-9300
USCG National Response Center (24 hr)		1-800-424-8802

Note: Both state and federal agencies must be contacted

OTHER:

Alaska Weatherline	1-800-472-0391

PORTS & HARBORS (907 Area Code):

Anchorage	343-6200	Seward	224-3138
Bristol Bay	246-6168	Sitka	747-3439
Cordova	424-6400	Skagway	983-2628
Dillingham	842-1069*	Valdez	835-4981
Haines	766-2448	Whittier	472-2330
Homer	235-3160	Wrangell	874-3736
Juneau	586-5255		
Kenai	283-7535		
Ketchikan	228-5632		
Kodiak	486-8080		
Petersburg	772-4688		
Sand Point	383-2331		
Seldovia	234-7886		

* Seasonal number

State of Alaska
Division of Parks and Outdoor Recreation
Office of Boating Safety
550 W. 7th Avenue, Suite 1380
Anchorage, AK 99501-3561