

NOTES & UPDATES

*Squadron Boating Course*SM - 2004 Edition

Supplement Purpose:

The sport of recreational boating is constantly changing. Some of the changes are brought about by the rapidly expanding technology that is associated with boats, canoes, kayaks, PWCs, and the associated equipment. Some are a direct result of new information becoming available on boating equipment and environmental conditions. Others reflect evolving regulations. Also, a growing awareness of some specific risks results in important information to keep your boating safe and enjoyable. This supplement covers all of these topics and is an important part of the course material. The purpose of the supplement is to maximize the safety and enjoyment of boating for your family and friends. The supplement extends the NASBLA *Squadron Boating Course* certification for '07-'09.

The *Squadron Boating Course* student should keep this supplement handy when reading and studying the course material. The supplement material listed below is in page sequence. It is recommended that the student first make a note in the student manual wherever there is a supplement topic. Then, as you read the manual and encounter a spot where there is a supplement topic, refer to the new information. Your instructor can address any questions that you may have.

Errata: corrections and typographical errors

Page 18, paragraph 24: change the title to read “**Safety Signal: Securite**” – thus, **Safety Signal: Securite** (Pronounced *say-cure-it-tay*.) Use this signal for navigation safety messages...

Page 23, problem 6: change answer “a” to read “Securite”.

Page 24, problem 11: change answer “a” to read “Securite”.

Page 70, paragraph 28: change “Appendix I” to “Appendix H”. Thus, You can find a float plan in Appendix H...

Page 128, Figure 108, Navigation Lights of a Sailboat Under Power: in the graphic, change “sternlight, sidelights (combination)” to “bowlight, sidelights (combination)”. Thus, the label on the bowlight will read correctly.

Page 4, paragraph 3: Boat Terms

Add the following additional terms to the end of paragraph 3. These definitions will help clarify the text, homework, and/or exam questions.

The word “*vesse*l” includes every description of water craft, including nondisplacement craft and seaplanes, used or capable of being used as a means of transportation on water.

“*Western Rivers*” means the Mississippi River, its tributaries, South Pass, and Southwest Pass, to the navigational demarcation lines dividing the high seas from harbors, rivers, and other inland waters of the United States, and the Port Allen-Morgan City Alternate Route, and that part of the Atchafalaya River above its junction with the Port Allen-Morgan City Alternate Route including the Old River and the Red River.

“*Great Lakes*” means the Great Lakes and their connecting and tributary waters including the Calumet River as far as the Thomas J. O’Brien Lock and Controlling Works (between mile 326 and 327), the Chicago River as far as the east side of the Ashland Avenue Bridge (between mile 321 and 322), and the Saint Lawrence River as far east as the lower exit of Saint Lambert Lock.

Page 49, paragraph 34: Lateral System

Add the following reference at the end of paragraph 34: *Refer to USCG plate #1 for a detailed display of nautical aids used in the U.S. Aids to Navigation System (except Western Rivers). Refer to USCG color plate #4 for the aids used in the Western River System. Typical information and regulatory marks are shown in the bottom left of Plate 1 and are identified by their white color with orange markings and black lettering. Such marks are essential aids to the recreational boater and indicate many, but not all, nautical hazards.* Thus, the revised paragraph 34 will read – Color plate 1 (page 57) shows the Lateral System of the U.S. Aids to Navigation System. Refer to USCG plate #1 for a detailed display of nautical aids used in the U.S. Aids to Navigation System (except Western Rivers)...

Page 50, paragraph 43: Information and Regulatory Marks

Change the 2nd sentence in paragraph 43 to read: *The Uniform State Waterway Marking System (USWMS) also uses these marks; refer to paragraph 54 on page 52 for a description of the colors and features of these special marks.* Thus, the revised paragraph 43 will read ... Information and regulatory marks alert mariners to various warnings or regulatory matters. The Uniform State Waterway Marking System (USWMS) also uses these marks; refer to paragraph 54 on page 52 for a description of the colors and features of these special marks.

Page 67, paragraph 3: Operator's Responsibilities

Add the following to the end of paragraph 3: *As the skipper, you are expected to know the waters in your area. Check with marina operators and other boaters about any hazards you may encounter. It is also important for boat operators to understand that one of their responsibilities is to keep up-to-date with new developments in boating laws and safety information. State laws vary with regard to licensing, equipment requirements, accident reporting procedures, etc. Boating equipment and safety information available to boat operators is constantly changing and improving. Boat operators who stay abreast of these changes will be ready for new situations, thus improving their own boating enjoyment as well as the safety of all boating participants.*

Page 68, paragraph 15: Fueling

Change the last sentence to read: *This will take a minimum of four minutes.* Thus, paragraph 15 will read – If your boat is equipped with a bilge blower, run it until the bilge is clear of fumes. This will take a minimum of four minutes.

Page 69, paragraph 23: Safe Fueling Practices

Add the following to the end of paragraph 23: *Keep engines, motors, and fans turned off. It is essential that the bilge blower not be run during fueling as it is possible that external fumes from the fuel pump area may be drawn into the bilge. See tables on page 70 for Fueling Checklists.* Thus, beginning with the last sentence, the revised paragraph 23 will read ... Using the fueling checklists, you will greatly reduce the risk of fire and explosion. Keep engines, motors, and fans turned off...

Page 71, paragraph 31: Passenger Communication

Add the following to the end of paragraph 31:

- *Don't sit on the gunwale, bow, seat backs, motor cover, or any other area not designed for seating*
- *Don't stand up in the vessel*
- *Don't move about in the vessel when underway*
- *Don't lean out from small vessels*
- *Wear the proper boat shoes*
- *If someone falls overboard follow the **Man Overboard** procedures in Chapter 14, page 150.*

- *Inform passengers of the dangers of being struck by the propeller. Most propeller strike accidents result from operator error. Victims include swimmers, scuba divers, fallen water-skiers, and boat operators or passengers. Most propeller accidents can be prevented by following basic safe boating practices. Maintain a proper lookout. The primary cause of propeller strike accidents is operator inattention.*
- *Make sure the engine is off so that the propeller is not rotating when passengers are boarding or leaving a boat.*
- *Never start a boat with the engine in gear.*
- *Slow down when approaching congested areas and anchorages. In congested areas, always be alert for swimmers and divers.*
- *Learn to recognize warning buoys that mark swimming and other hazardous areas.*
- *Keep the boat away from marked swimming and diving areas. Become familiar with the red and white or blue and white diver-down flags signaling that divers are below the surface.*
- *Make sure that passengers are properly seated before getting underway.*
- *In both a man overboard recovery situation and when there are people in the water near the boat make sure that the engine is shut off to prevent injury from a rotating propeller. A propeller can still rotate with the engine running and the transmission in neutral.*
- *There are some propeller guards on the market but they tend to impact boat handling and efficiency for high speed boats.*

Page 72, paragraph 37: Start and Warm the Engines

After the 1st sentence add the following: *Run the bilge blower for at least four minutes.* Thus, the revised paragraph 37 will read – Never start your engines until you are sure the engine and fuel compartments are free of fumes. Run the bilge lower for at least four minutes...

Page 72, Table 10: Boat Systems Checklist

In Table 10, add the following new bullet after the first bullet:

- *Bilge clean and free of trash to minimize the risk of fire.*

Page 75, paragraph 63: Rendering Assistance to Others in Distress

Add the following new sentence to the end of paragraph 63: *However, the primary responsibility is to maintain the safety of your own passengers and vessel.* Thus, paragraph 63 will read – **Rendering Assistance to Others in Distress** is required by law, providing it does not endanger your own boat or crew. The rules are intended to protect you from liability if you act reasonably and carefully. However, the primary responsibility is to maintain the safety of your own passengers and vessel.

Page 75, paragraph 67: Docking – Plan in Advance

Add the following after paragraph 67:

If you can, avoid docking with the wind or current coming from behind the boat. In this case, you are totally dependent upon your reverse gear for stopping. An error in planning or a problem with the engine or gear shift could potentially cause damage to property or injury to your passengers. If there is no other option, proceed toward the pier as slowly as possible, frequently shifting to neutral and letting the wind or current move you ahead. Use reverse gear to slow your forward motion if necessary. Once you are close to the pier and have stopped forward motion, place a line running from the stern of the boat to the dock. This line must be placed on the dock in back of the boat, or forward motion will continue and the boat will not be held tight to the pier. The boat can temporarily lie on this line while you secure a bow line and spring lines. Spring lines are extremely important in this situation, as the wind and/or current will continue to work on the boat after it is secured.

There are other factors that will affect docking, such as weather conditions, size of the boat, and local traffic. Rain and night docking can add other factors that must be considered in planning docking or undocking maneuvers; such conditions can obscure the visibility making hazards difficult to see. Maneuvering a large cruiser or sailboat requires team work by the entire crew and skill by the helms person. Each crew member should have clearly assigned tasks. The larger the vessel, the larger the area presented to the wind. In the case of large vessels, a bow-thruster can be a very desirable feature. In heavy traffic areas, you may have to circle and wait your turn to dock, especially at busy fuel or pump-out docks.

Page 76, paragraph 75: Docking Techniques – With Wind or Current Towards the Pier

Add the following details at the end of paragraph 75: *Approach the pier slowly at a narrow angle (10 to 20 degrees). Turn the boat parallel to the pier, letting the wind blow you the last foot or so. When close enough step ashore and secure the bow and stern lines. Finally, secure spring lines to prevent the boat from moving fore or aft and banging other boats.*

Pages 80-81, paragraph 112: Setting an Anchor

Add the following to the end of paragraph 112, on page 81: *Never anchor from the stern or side alone as large waves or wakes may swamp or capsize your vessel. When using only one anchor, always anchor from the bow. Thus, beginning with the last sentence, the revised paragraph 112 will read ... Make sure the line does not wrap around your legs as you pay it out. Never anchor from the stern or side alone as large waves or wakes may swamp or capsize your vessel...*

Page 92, paragraph 14: Life Preservers

Add the following new safety material at the end of paragraph 14: *Especially during dangerous conditions such as high boat traffic, severe weather, dangerous water conditions, dangerous local hazards, distance from shore, operation at night, or when boating alone, **wear your life jacket**. For small boats such as fishing and waterski boats, falling overboard without a PFD accounts for the majority of drownings. Thus, beginning with the last sentence, the revised paragraph 14 will read ... A wearable life preserver can save your life only if you wear it. Especially during dangerous conditions such as high boat traffic, severe weather, dangerous water conditions...*

Page 93, paragraph 21: Types of Life Preservers

Delete paragraph 21 and substitute the following new material: *The type of PFD you purchase will depend on the type of boating and the activity you are involved in. While a Type I is best for offshore conditions it is not suitable for water skiing or PWC operation. You may need to purchase more than one PFD if you are involved in different on-the-water activities.*

Page 97, paragraph 48: Care of Life Preservers

Add the following new material to the end of paragraph 48: *The straps and zipper both must be useable for the PFD to be in serviceable condition. The label must be fully readable; if the label is not readable, or the USCG Approval Number can not be read, then the PFD is not in serviceable condition. Do not alter your PFD. Do not kneel or sit on a PFD, it will lose buoyancy. Clean with mild detergent and fresh water. Drip dry/air dry after use. Do not expose to an artificial heat source. Keep them out of direct sunlight and in a well ventilated area.* Thus, beginning with the last sentence, the revised paragraph 48 will read ... Replace any preservers that are not in first-class condition. The straps and zipper both must be useable for the PFD to be in serviceable condition...

Page 97, paragraph 50: The 20% Who Wore PFDs and Still Drowned

Add the following new safety material at the end of paragraph 50: *Be aware of low head dams as they pose serious dangers above and below the dam. If you ever get separated from your boat in swift current, float with your feet downstream to protect your head and lessen the danger of entrapment. Paddlers – canoeists and kayakers – generally wear a good Personal Floatation Device (PFD) that is specifically designed for their active sport.* Thus, beginning with the last paragraph, the revised paragraph 50 will read ... If the boater is either unable to escape the craft or unable to escape the hydraulic pressures, regardless of what kind of PFD the boater is wearing, the resulting cause of death will be drowning. Be aware of low head dams as they pose serious dangers above and below the dam...

Page 101, paragraph 90: Sound Producing Devices

Add the following sentence to the end of paragraph 90: *For boats less than 39.4 feet and personal watercraft, a plastic whistle is the simplest way to satisfy the requirement.* Thus, beginning with the last sentence, the revised paragraph 90 will read ... Canister-powered horns are ideal for a small boat. For boats less than 39.4 feet and personal watercraft, a plastic whistle is the simplest way to satisfy the requirement.

Page 104, paragraph 118: Boating While Intoxicated

Change the 2nd and 3rd sentences in paragraph 118 to read: *According to federal law, you are intoxicated if your blood alcohol content is 0.08% or higher. In some states the blood alcohol standard is different from 0.08%.* Thus, the revised paragraph 118 will read ... The use of alcohol is a serious problem on the water. According to federal law, you are intoxicated if your blood alcohol content is 0.08% or higher. In some states the blood alcohol standard is different from 0.08%...

Page 105, paragraph 126: Sewage Discharge

Add the following new sentence to the end of the paragraph 126: *Untreated human waste may never be dumped into inland waters.* Thus, beginning with the last sentence, the revised paragraph 126 will read ... Recreational boats with installed toilet facilities must have an operable USCG-certified marine sanitation device. Untreated human waste may never be dumped into inland waters.

Page 106, paragraph 132: Aquatic Nuisance Species

In the 1st sentence, add the phrase “*quagga mussels*”. Change the 1st bullet to read: *Trailer boaters should clean their boat and remove visible mud, plants, fish or animals from boats and trailers prior to leaving the ramp area.* Thus, the revised paragraph 132 will read ... To help prevent the spread of the latest plague of non-native fish, quagga mussels, and Zebra mussels in our waterways, boaters should follow these simple rules:

- Trailer boaters should clean their boat and remove visible mud, plants, fish or animals from boats and trailers prior to leaving the ramp area.
- ...

Page 107, paragraph 137: Accident Reporting

Add the following to the end of paragraph 137: *Include the weather and visibility conditions in your report. Reminder, most boating accidents occur during calm, clear weather with light winds.* Thus, beginning with the last sentence, the revised paragraph 137 will read ... All vessels involved in an accident must file a report. Include the weather and visibility conditions in your report. Reminder, most boating accidents occur during calm, clear weather with light winds.

Page 108, paragraph 147: State and Local Regulations

Add the following, including the ten listed items, to the end of paragraph 147:

If you operate in multiple states, it is your responsibility to know the state rules in those states and follow them. Information on the various state regulations can be obtained by contacting the State Boating Law Administrators listed at the end of this book.

Typically, state and local requirements may include:

1) Requirements Related to the Wearing of PFDs

Federal Law requires children less than 13 years of age to wear a PFD when a boat is underway unless they are in a fully enclosed cabin. State laws may have a different age requirement.

State laws may specify that a PFD **must** be worn for those using Personal Water Craft and while water skiing, tubing, parasailing or using inflatable devices. An impact rated PFD may be required. Inflatable PFDs are not recommended for these activities.

2) Additional Required Equipment

State regulations may include additional required equipment over and above the Federal requirements. This includes such items as a suitable anchor and line, additional visual distress signals and changes to the federal requirements making them more restrictive.

3) Licensing, Minimum Age, Mandatory Education and Proficiency Testing

States regulate the minimum age and educational requirements for operating a recreational vessel or a PWC. Many states have mandatory educational standards for Personal Water Craft based on their accident history.

The minimum age requirements may vary based on the type of vessel, i.e. for boats it may be 10 years of age but for PWCs, 14 years of age. Proficiency testing in many states may include the requirement of a proctored exam, as directed by state regulations.

4) Mufflers and Noise Levels

Noise levels may be specified in the state regulations. These regulations may make it illegal to remove, modify or alter a muffling system which will cause the vessel to operate in violation of the state noise standards. Manufacturers have to meet these standards as well.

5) Waste Discharge and No Discharge Zones

State regulations will specify which areas in a state are no discharge zones. No discharge zones may only require that there be no discharge from a Type 1 or Type 2 Marine Sanitation Device. Other No Discharge Zones regulations may require that all waste water from sinks, showers etc. not be discharged overboard. No discharge zones are continuously being added by the states and some local communities. It is the boater's responsibility to be aware of these changes in the regulations and the regulations in each state in which they boat.

6) Speed and Hours of Operation

States may set maximum speed limits in certain areas and set the allowed hours of operation for activities such as water skiing and PWC operation.

7) Accident Reporting Requirements

The accident reporting criteria of the states vary considerably. Your state's requirements will be reviewed by your course instructor. If you are in doubt as to whether to report an accident or not, do report it to the nearest locally authority. They can advise you of the correct action to follow.

8) Laws on Boating While Under the Influence of Drugs or Alcohol (BWI)

States may have lower or higher blood alcohol level limits than the 0.08% federal limit. In fact, some states enforce a "zero tolerance" policy. There may also be additional penalties if the boater is under the legal drinking age in the state. In some states, refusal to take a breath test will result in immediate suspension of your operating privileges, pending a hearing.

9) Specific PWC Regulations

Additional PWC regulations may consist of:

1) no operation within 500 feet of a swim area.

2) prohibiting reckless operation, including:

- weaving through congested traffic.
- wake jumping too close to other vessels.
- any maneuver which unreasonably or unnecessarily endangers life or property, including carrying more passengers than allowed.

10) Additional Regulations

Some additional regulations may deal with:

- entering and leaving locks.
- diving operations.
- special regulations dealing with waterways totally under the state's jurisdiction.

Page 128, paragraph 67: Powerboats Less Than 39.4 Feet (12 Meters)

Add the phrase "*of all lengths*" to paragraph 67. Thus, the revised 1st sentence of paragraph 67 reads "Powerboats of all lengths and sailing vessels under power (Figures 108 and 109)..."

Page 129-130, paragraph 70: Sailing Vessels Less Than 23 Feet (7 Meters) and Boats Propelled by Oars or Paddles

Add the following new sentence to the end of paragraph 70 on page 130: *For canoes and kayaks, a flashlight should be carried to show a white light in sufficient time to prevent a collision.* Thus, beginning with the last sentence, the revised paragraph 70 will read ... Boats propelled by oars may display the lights of sailing vessels or, if not practicable, a single white light as prescribed above for sailing vessels less than 23 feet (Figure 114). For canoes and kayaks, a flashlight should be carried to show a white light in sufficient time to prevent a collision.

Page 147, paragraph 3: Adverse Conditions and Emergencies

Add the following after paragraph 3: *At times it may be best to set an anchor and wait for assistance, following the material and procedures on Anchoring, page 78, paragraphs 84-116.* Thus, the revised paragraph 3 reads ... Many unusual situations encountered on the water can be avoided – and all can be better handled – with proper knowledge. At times it may be best to set an anchor and wait for assistance, following the material and procedures on *Anchoring*, page 78, paragraphs 84-116.

Page 148, paragraph 12: Responding to a Fuel Shortage

Add the following after paragraph 12: *Reminder: if you run out of fuel, set an anchor to prevent worsening the situation by drifting aground. Make sure you have adequate rode for the waters in which you are boating.* Thus, beginning with the last sentence, the revised paragraph 12 reads ... Be sure everyone on board is wearing a life preserver; with lack of power there is no way to reach a victim who falls overboard. *Reminder: if you run out of fuel, set an anchor to prevent worsening the situation by drifting aground. Make sure you have adequate rode for the waters in which you are boating.*

Page 150, paragraph 29: Prevention

Add the following new safety material after the 1st sentence: *It is illegal in many states to permit people of any age to sit on the bow of a boat while underway unless the boat has permanent and proper seating. Numerous serious injuries and deaths have occurred when boaters fall off the bow, the side, or the back, and are hit by the propeller. Waves and wakes easily unseat even adults causing devastating and life altering accidents.* Thus, the revised paragraph 29 reads ... Do not allow passengers to stand in small boats underway or sit on foredecks, gunwales, engine boxes, seat backs, or transoms. It is illegal in many states to permit people of any age to sit on the bow of a boat while underway unless the boat has permanent and proper seating...

Page 152, paragraph 36: Weather

Delete paragraph 36 and replace it with the following:

Weather is a major concern to all boaters. Next to running out of fuel, bad weather spoils more boating days than anything else. Rain, cold, or heavy seas can turn a beautiful cruise into an unpleasant experience. Plan your trip with the knowledge that the weather at the beginning of the day may not be the same at the end. Be aware that most boating accidents occur during calm, clear weather with light winds. You must be extremely vigilant during periods of bad weather.

There are numerous dangerous weather conditions afloat that can take the unprepared skipper by surprise. Strong winds usually accompany an approaching front. Both cold fronts and warm fronts may have strong winds that change direction upon the passage of the front. Capsizing, swamping, and/or knock-downs can often result if precautions are not taken in advance of the front. Long persistent storms, including hurricanes, don't just spring up all-of-a-sudden. There are well understood precursors to such events including the systematic changing of cloud patterns and wave conditions. A highly visible and frequent indication of an approaching thunderstorm is a buildup of towering black clouds. Sightings of lightning, or distance sounds of thunder, are sure signs that thunderstorms are in the area. An often overlooked hazardous condition is fog. An extremely hot and balmy day is a perfect day for boating, but if the water happens to be extremely cold, the resulting conditions can produce very dense fog. Hot air overlaying cold water is the perfect recipe for a condition referred to as *advection fog*. Learn to read the local conditions to make reasonable judgments about changing and forthcoming weather.

Weather forecasts usually include predictions of wave height and water conditions. Small craft warnings are issued whenever dangerous conditions are forecast. Wave heights are measured peak-to-trough and are indicated in feet or meters (1 meter is approximately 3.3 feet). Heights of 1-2 feet may be comfortable for cruisers or some sailboats but may be extremely dangerous to other smaller craft. Learn which conditions are acceptable for your vessel. But, also consider the comfort of your passengers. Passengers aboard a boat usually begin to be knocked about well before conditions become truly life-threatening.

Page 153, paragraph 43: Swamping and Capsizing

Add the following to paragraph 43: *If you capsize: (1) Take a head count to make sure all crew and passengers are there and provide assistance if needed. (2) Put on your PFD (if not already wearing it). (3) If you have nothing to hold on to and cannot find any floatation material to keep you afloat, improvise by using your clothing. Your pants can serve this purpose – simply remove them, tie the leg ends together, pull the zipper closed and trap air in the legs by blowing or waving in the air, then submerge the pants waist first. As air escapes, blow more air into the waist opening. (4) If signaling devices are available, use them to attract attention. Save at least one until you actually see a potential rescuer. A shiny object can also be used to attract attention. (5) Attempt to maneuver to the nearest shore or shallow water. (6) Remember “**Reach, Throw, Row, Go**”. Do not leave the boat to assist the person unless absolutely necessary. If the victim needs further assistance and someone must go into the water, make sure they have on a PFD and that they are attached to the boat with a line. (7) If there is no other means of support, then you may have to tread water or simply float. In cold water, float rather than tread to reduce hypothermia.*

Page 156, paragraph 66: Fire Prevention

Add the following new safety material after the 1st sentence in paragraph 66: *Testing on a mock-up of a 25-foot pleasure boat’s stern section, complete with an engine compartment, indicates that a Type B-I 2 ½-pound extinguisher may not have enough capacity to put out a fire in an engine compartment. A B-II 10-pound extinguisher is more effective on engine compartment fires. So, reserve the smaller 2 1/2-pound dry chemical extinguishers for the galley and elsewhere. Thus, the revised paragraph 66 reads ... Keep more than the required number and size of approved fire extinguishers readily accessible. Testing on a mock-up of a 25-foot pleasure boat’s stern section, complete with an engine compartment, indicates...*

Page 163, paragraph 77: Hypothermia

Add the following new safety material after paragraph 77 and prior to paragraph 78:

Cold water immersion kills in several ways. The colder the water, the greater the chance of death. By understanding how your body reacts to cold water, you can prepare for and be better able to appropriately respond, increasing your chance of survival. A hypothermia victim should always receive medical treatment. Four stages of cold water immersion are:

- **Stage 1: Initial “cold shock”** occurs in the first 3-5 minutes of immersion in cold water. Sudden immersion into cold water can cause immediate, involuntary gasping, hyperventilation, panic, and vertigo—all of which can result in water inhalation and drowning. Immersion in cold water can also cause sudden changes in blood pressure, heart rate, and heart rhythm, which can also result in death.
- **Stage 2: Short-term “swim failure”** occurs 3-30 minutes following immersion in cold water. The muscles and nerves in the arms and legs cool quickly. Manual dexterity, hand grip strength, and speed of movement can all drop by 60-80%. Even normally strong persons can lose the strength necessary to pull themselves out of the water or even to keep their head above water. Death occurs by drowning.
- **Stage 3: Long-term immersion hypothermia** sets in after 30 minutes, at a rate depending on water temperature, clothing, body type, and your behavior in the water. The danger of hypothermia is greatest for a person immersed in cold water. Cold water robs the body of heat 25 times faster than cold air. Hypothermia occurs when your body loses heat faster than it produces it, cooling the organs in the core of your body. Hypothermia eventually leads to loss of consciousness and death, with or without drowning.
- **Stage 4: Post-immersion collapse** occurs during or after rescue. Once rescued, if you have been immersed in cold water you are still in danger from collapse of arterial blood pressure leading to cardiac arrest.

Hypothermia victims should always receive medical treatment.

Of course the best prevention is to take all measures necessary to avoid capsizing your vessel or falling into cold water in the first place. If you do fall into or must enter cold water:

- Don't panic. Try to get control of your breathing. Hold onto something or stay as still as possible until your breathing settles down. Focus on floating with your head above water until the cold shock response abates.
- When your breathing is under control, *perform the most important functions first* before you lose dexterity (10-15 minutes after immersion).
- If you were not wearing a PFD when entering the water, look to see if one is floating around you and put it on immediately. Don't take your clothes off unless absolutely necessary. A layer of water trapped inside your clothing will help insulate you.
- Focus on locating and getting everyone out of the water quickly before you lose full use of your hands, arms, and legs. Try to reboard your vessel, even if it is swamped or capsized, or anything else that is floating. Get as much of your body out of the water as possible. Even though you may feel colder out of the water, the rate of heat loss will be slower than if immersed in water.
- In as little as 10 minutes, you may be unable to self-rescue. Your focus should now be to slow heat loss. Stay as motionless as possible, protect the high heat loss areas of your body, and *keep your head and neck out of the water*. Safety usually looks closer than it actually is, so staying with the boat is usually a better choice than swimming. Adopt a position to reduce heat loss. If alone, use the HELP (Heat Escape Lessening Posture) position or if there are others in the water with you, huddle together. If you must swim, conserve energy and minimize movement. Swim on your back, with your upper arms against the sides of your chest, your thighs together, and your knees bent. Flutter-kick with your lower legs.

Page 164, paragraph 88: Carbon Monoxide Poisoning - Prevention

Add the following new safety material after paragraph 88 and prior to paragraph 89.

Carbon Monoxide (CO) Poisoning Summary and Checklist

Get anyone with these symptoms into fresh air immediately. Seek medical attention—unless you're sure it's not CO.

- To protect yourself and others against CO poisoning while boating:
 - Keep fresh air flowing throughout the vessel at all times; if fumes are detected, immediately ventilate.
 - Know where your engine and generator exhaust outlets are located and keep everyone away from these areas.
 - Never sit on the back deck, "teak surf," or hang on the swim platform while the engines are running.
 - Never enter areas under swim platforms where exhaust outlets are located—even for a second. One or two breaths in this area could be fatal.
 - Install and maintain CO detectors inside your vessel. Replace detectors as recommended by the manufacturer.
- Before each boating trip, you should:
 - Make sure you know where exhaust outlets are located on your vessel.
 - Educate all passengers about the symptoms of CO poisoning and where CO may accumulate.
 - Confirm that water flows from the exhaust outlet when the engines and generator are started.
 - Listen for any change in exhaust sound, which could indicate an exhaust component failure.
 - Test the operation of each CO detector by pressing the test button.
- At least monthly, you should:
 - Make sure all exhaust clamps are in place and secure. Look for leaks from exhaust system components, including rust or black streaking, water leaks, or corroded or cracked fittings.
 - Inspect rubber exhaust hoses for burns, cracks, or deterioration.
- At least annually, have a qualified marine technician check the engine and exhaust system.

Blocked Exhaust Outlets can cause carbon monoxide to accumulate in the cabin and cockpit area.

Another Vessel's Exhaust that is alongside can emit carbon monoxide into the cabin and cockpit of your vessel. Your vessel should be at least 20 feet from a vessel that is running.

Teak Surfing or dragging or water-skiing within 20 feet of a moving vessel can be fatal. If persons are using a swim platform or are close to the stern, all gasoline-powered generators with transom exhaust ports must be off.

Slow Speed or Idling causes carbon monoxide to accumulate in the cabin, cockpit, and rear deck.

Station Wagon Effect causes carbon monoxide to accumulate inside the cabin and cockpit if you are operating the vessel at a high bow angle or if protective coverings, such as a canvas back-drop, are used when the vessel is underway.

Page 164, paragraph 91: Know the Waters in Your Area

Add the following new safety material after paragraph 91:

Check your chart to see if navigational aids identify known hazards. Charts will indicate where the hazards may exist.

Nautical charts use four colors to describe the makeup of the earth's surface:

- white for deep, safe water;
- blue for shallow water;
- green for tidal areas covered at high water;
- gold for dry land.

Follow your progress on the chart, and watch for buoys or daymarks. Dams present special hazards and may be difficult to see from upstream. There are usually warning signs, buoys or daymarks. However, there may be none. In the case of low head dams there normally is no indication whatsoever of the presence of the dam or the dangers above and below the dam. You must scout the waterway first, prior to venturing forth on the water, to learn the whereabouts of these dangerous, but necessary, dams. Current becomes stronger close to the dam and the water is typically deeper. Anchoring in an emergency may be difficult. The area below a dam should also be avoided. The discharge of water creates turbulence and eddies that could cause you to lose control of your boat. Your boat could capsize. Areas of whitewater create problems similar to those of a dam. It may be difficult to see whitewater areas from upstream until it's too late and you are drawn into the turbulence. Check with your marina and other boaters in your area about any hazards you may encounter.

Page 165, paragraph 96: Waterskiing

After paragraph 96, and prior to paragraph 97, insert the following new material on water skiing and tubing.

Water skiing and tubing are popular sports, but they add another dimension of risk, especially for the skier and the person being towed on an inner tube or a float. An impacted-rated PFD should be used to minimize bodily injuries. Popular waterski-belts are not recommended as they do not provide adequate protection during high-speed falls nor do they have the floatation capabilities of models specifically intended for skiing. Inflatable PFDs should not be used for skiing or tubing under any circumstances.

Hand signals between the skier/tuber and observer are necessary. Emergency signals to immediately cut engine power should be clear and simple, such as a "slashing motion across the neck".

1. Speed up the boat: thumb up.
2. Slow down the boat: thumb down.
3. Cut Motor/Stop (also used by driver or observer): slashing motion over the neck.
4. Turn the boat (also used by driver): circle motion with arms over-head then point in desired direction.
5. Return to dock: pat on the head.
6. Speed and boat path OK or signals understood: OK signal with hand.
7. Skier OK after falling: hands clasped over head or ski held over head.

Once a skier is down, one of the most important signals is to let the driver know immediately that the skier is all right. This is done by the simple gesture of clasping both hands over the head. In the absence of this signal, the driver can only assume the skier is injured and he must come about immediately to help. Another important signal on the part of the skier is to hold up a ski so his position will be more visible to his own driver and operators of other boats in the vicinity. This signal is especially important in areas where other boats and skiers are in action.

The observer must monitor the skier/tuber at all times to receive hand signals and be aware of any fall or distress, or any hazards. There are usually minimum age requirements for an observer; again, check your state and local regulations.

Another often overlooked aspect of water skiing is the skill needed by the boat operator to safely get a skier up on plane and then to pick up a downed skier. High speed starts “out of the hole” only serve to jerk the tow rope from the skier. If just reconnecting with a fallen skier for another tow, slowly circle the downed-skier while the tow rope gradually comes to the skier. If approaching a downed-skier or tuber for reboarding, approach very slowly, down-wind so the boat does not “over run” the person in the water. Always approach a downed skier so he is on the driver’s side of the boat and in full view of the driver. Turn off the engine when taking a skier aboard from the water. There are no exceptions to this rule.

The boat driver is responsible for keeping the skier away from dangerous areas as well as giving him a good ride. Keep the boat a safe distance from the shore, docks and other objects in the water. Be on the look out for other boats about to enter the ski area. If this happens, shut down the boat and wait for the area to clear. The driver must be alert for downed skiers or stopped boats in his path. Before turning the boat, look to each side and behind to make sure there are no overtaking boats and that the turn will not endanger the skier.

Always pull novice skiers slowly, and novice boat drivers should never pull any skier fast. Speed isn’t essential to enjoyable water skiing. Do not perform high-speed turns with the intent of “whipping” the person at the end of the rope; injuries can result from falls sustained due to the excessive speeds at the end of the rope. Remember that the skier at the end of the tow rope is the extension of the boat, and the driver must continually be aware of the skier’s presence and safety.

This size of the area needed for water skiing safely will vary with the configuration of the body of water. However, some guidelines apply under most conditions. According to *The American Water Ski Association*, each boat using a waterway for skiing should operate in a corridor about 200 feet wide, giving a safety area of 100 feet on either side of the boat. A corridor length of $\frac{1}{2}$ to $\frac{3}{4}$ of a mile is desirable. If a waterway is heavily used by skiers, a traffic pattern might be established. Such patterns usually are counter-clockwise. The skier and driver should determine in advance whether a pattern has been established and, if so, strictly adhere to it.

Water skiing should never be attempted (and is usually illegal) in swimming areas, low-speed mooring lanes, or marina channels. Boats towing skiers should give a wide berth to fisherman, either in boats or on shore, and to slow-moving craft such as canoes and sailboats.

Here are some important reminders.

- Know and follow state and local regulations, including the daytime hours of permitted towed activities.
- Have appropriate safety gear on board and know how to use it.
- Prearrange hand signals between the skier/tuber and the observer and use them.
- Boat operators must understand how to tow a person and know the commands. The operator must be cautious since the skier and the tuber will traverse areas wider than the boat, especially in turns.

Page 166, paragraph 115: Paddle Sports

After paragraph 115 insert the following new material on paddle sports – **Canoeing and Kayaking**.

Paddle sports are a great way to get out on the water without a lot of expense or experience. Whether you are planning on canoeing or kayaking on a lake, river, or ocean, you will need to plan your outing based on the environment and know your craft to make it a fun and safe trip.

Both canoes and kayaks come in a variety of shapes and sizes and have many choices of equipment. You will need to decide how and where you will be using your craft, primarily to help you determine the purchases you make.

Before you go out on the water, you need to be aware that anything can happen at any time. When it does you need to be mentally and physically fit. Mentally – you need to relax and be able to perform techniques you have read or were taught in a class. Physically – you need to make sure your body is capable of exerting more energy than it appears is needed. Be smart and don't plan to be out on the water all day paddling when it is your first time in a canoe or kayak. Start small with an hour or so, and a 1 to 2 mile trip, and work up to a longer day.

Proper Loading

There are many types of canoe and kayak designs. The amount of material that can be placed in a canoe will vary with the craft's size and shape. Coast Guard standards call for at least six inches of free board when a canoe is fully loaded, including people. Some kayaks are basically the shell of the craft and have large open cockpits for one or more people. Others allow you to sit completely inside the hull thus protecting your legs from the elements. And still others have an indentation in the top where you can sit-on-top of the craft.

Regardless of your boat's design, you should always place heavier items in the rear. As with other water crafts, you never want the bow of the boat to be lower to the water line than the stern. This allows the boat to move through the water more easily.

All stowed materials should be located as low as possible in the boat and provide comfortable room for the paddler(s). Items that must be kept dry, like food, clothing and sleeping bags, should be placed in double plastic sealed waterproof bags and placed in larger waterproof containers such as dry bags, waterproof stuff sacks or sealed plastic pails. Today you can find a lot of equipment that come with D hooks for fast removal or attaching. Everything placed inside the boat or on its deck should be connected to the vessel as you never know when you may capsize or a wave come over your hull.

Handling

Kayaks are less stable than canoes because of the width and being closer to the water line. The trick to a kayak is keeping it balanced. To safely get in or out of a canoe or kayak, it is important to maintain "three points of contact". When one foot is lifted off the water bottom (stepping into the boat) or is lifted off the boat bottom (stepping out onto the water bottom), the two hands should be braced on the two opposite sides of the boat. When you sit, don't lean to the right or the left. Keep your bottom on your seat, equally distributing your weight. Standing up or moving about in a canoe or kayak greatly increases the chance of capsizing. Keep your shoulders inside the gunwales of the boat. 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.

CANOEING / KAYAKING SAFETY SUMMARY

- Wear properly fitted life jacket and avoid using alcohol. Be prepared to enter the water, know how to swim and self rescue swim in river/current.
- Standing up or moving about in a canoe or kayak greatly increases the chance of capsizing.
- Maintain three points of contact while moving around. (As you move a foot to step forward, you should be holding onto the boat with BOTH hands, then with both feet down, move one hand at a time, etc.)
- Load the boat properly (Keep the weight centered both from side to side and bow to stern. The lower and closer the load in the boat is to the boat's centerline, generally the more stable the boat, assuming there is adequate freeboard. Stay with the limits of the boat's capacity rating on the capacity plate if one is present).
- Keep your shoulders inside the gunwales of the boat. 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.
- Never paddle alone. There is safety in numbers.
- Avoid extreme conditions: including weather, distance from shore, water conditions, current including flood water or fast current beyond skill level.
- Take hands-on training. Paddling instruction will teach you balance, use of stabilizing strokes, safe exit and entry on the water, and rescue and recovery skills.

Page 174, paragraph 49: Hauling-Out Procedures

Add the following after paragraph 49: *To help prevent the spread of the latest plague of non-native fish, quagga mussels, and Zebra mussels in our waterways, remove visible mud, plants, fish or animals from boats and trailers prior to leaving the ramp area.*

Disclaimer - The navigation rules of the road contained in this course summarize basic Federal navigation rules for which a boat operator is responsible. Additional and more in-depth rules apply regarding various types of waterways and operation in relation to commercial vessels and other watercraft. It is the responsibility of a boat operator to know and follow all the navigation rules.

For a complete listing of the Federal navigation rules, refer to the document "*Navigation Rules, International-Inland*" published by the U.S. Coast Guard (COMDTINST 16672.2 Series) and available through the U.S. Government printing office or on the web at: <http://www.uscg.mil/vtm/navrules/navrules.pdf>

For state specific navigation requirements, refer to the state laws where you intend to boat.



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- ***Prep for Coast Guard exams***



1-a. Application **ACTIVE MEMBERSHIP**

Name (First/MI/Last) _____

Mailing Address: _____

City, State, Zip: _____

Telephone Home () _____ Work () _____

E-mail _____ Fax () _____

Sex (M or F) _____ Birth Date _____ Spouse's Name _____

ADDITIONAL ACTIVE MEMBERSHIP
(Add other adults in same household at a reduced membership rate)

Name (First/MI/Last) _____

Telephone Home () _____ Work () _____

Sex (M or F) _____ Birth Date _____ E-mail _____

FAMILY MEMBERSHIP
(Add other adults/children in same household at a reduced membership rate)

1: _____ Birth Date (MM/DD/YY) _____ Sex (M/F) _____

2: _____ Birth Date (MM/DD/YY) _____ Sex (M/F) _____

3: _____ Birth Date (MM/DD/YY) _____ Sex (M/F) _____

1-b. Application *(check one)* **APPRENTICE** / **SEA SCOUT**

Name (First/Last): _____

Mailing Address: _____

City, State, Zip: _____

Home Telephone () _____ Sex (M or F) _____ Birth Date _____

E-mail _____ Fax () _____

- 2. Personal Skills** *(check all that apply)*
- | | | |
|---|--|---|
| <input type="checkbox"/> Accounting/Finance | <input type="checkbox"/> Government/Military | <input type="checkbox"/> Photography |
| <input type="checkbox"/> Advertising/Marketing Skills | <input type="checkbox"/> Hotel/Transportation Industry | <input type="checkbox"/> Printing/Publishing |
| <input type="checkbox"/> Art/Drawing/Drafting | <input type="checkbox"/> Law | <input type="checkbox"/> Public Speaking/Public Relations |
| <input type="checkbox"/> Computers/Audio Visual | <input type="checkbox"/> Management/Personnel/Purchasing | <input type="checkbox"/> Religion |
| <input type="checkbox"/> Education/Instruction/Administration | <input type="checkbox"/> Medicine/Nursing | <input type="checkbox"/> Writing/Editing/Grant Writing |

3. Boating: Being a boat owner is not a USPS membership requirement; however, if you do own a boat we would be interested in knowing if it's a [Power] or [Sail] Boat (circle one), the name of your boat: _____, and the overall length of your boat: _____.

4. Which USPS member most influenced you to join our organization? _____ **Cert #** _____

5. Signature _____ **Date** _____

SQUADRON ENDORSEMENT *(This section to be completed by the local USPS unit to which this application is being submitted)*

Squadron/Provisional Name _____ Acct # _____ District _____

Applicant(s) Endorsed By	Date
Ex Com Approval (signature)	Date
Educational Certificate Type (check one): <input type="checkbox"/> Certificate/Local USPS Boating Course <input type="checkbox"/> Certificate/Approved Equivalent Boating Course	

