

# **INSTITUTE OF MARINE SCIENCES**

**THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL**

## **MANUAL FOR SMALL BOATS**

### **OPERATIONS AND SAFETY**

**Fall 2012**

This booklet brings together information on policies and procedures that govern use of all water craft at the Institute of Marine Sciences. The twin principles guiding these policies are that IMS facility use should be both safe and efficient. Marine Sciences is an interesting and exciting field. IMS exists to expedite teaching, research and service in the marine environment. Unfortunately travel into marine habitats involves some risk. The boats and motors used in marine field work are especially dangerous if misused, and variable ocean weather can put even careful field workers at risk. Efficiency, although clearly a secondary priority to safety, is also important. Inefficient use of limited facilities is wasteful and causes unnecessary stress on others. You can help the Institute remain a safe, pleasant and productive place to work by following the procedures described in this manual and by using courtesy and common sense in all your IMS activities. Suggestions for improvements of these policies and procedures are always welcome.

This manual supersedes boating information in IMS POLICY/PROCEDURES MANUAL dated 2007.

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## INTRODUCTION

The Institute of Marine Sciences (IMS) owns and maintains a fleet of small boats for use in coastal waters. These include non-motorized kayaks and canoes and motor boats that range in length from 17 ft to 25 ft. The latter are paired with outboard motors that range in size from 40 hp to 250 hp. In general, these vessels are available for use in research and teaching by faculty, staff, and students who have been certified and who have satisfactorily completed the required check-out procedures. IMS also owns larger research vessels (RV/ Capricorn, R/V Caroline) that are available for use by UNC and non UNC groups, although these may only be operated by a US Coast Guard licensed and IMS approved Captain.

The Institute of Marine Sciences boat policy, as described in this manual, is designed to ensure safe and efficient use of all water craft operated under IMS auspices. The procedures are designed to provide a safe environment for boat operations through a training program for boat operators and a maintenance program for boats, motors and associated equipment. The procedures are also designed to acquaint boat operators with the inherent dangers of boating and to set forth in writing the requirements and responsibilities of all persons who use IMS water craft.

The following rules, regulations, and requirements apply to all persons operating water craft under the auspices of the Institute of Marine Sciences of the University of North Carolina at Chapel Hill. They apply to such persons who may operate, for any purpose, vessels owned by or in the custody of the University (IMS), and to those who operate vessels regardless of ownership, on tasks or projects of the University (IMS).

## ELIGIBILITY TO OPERATE IMS SMALL BOATS

**The operation of IMS small boats must be performed by an IMS Certified Boat Captain.** Only faculty, staff, and students of UNC-CH may serve as Boat Captains, unless permission has been granted by the IMS Director.

## RULES AND RESTRICTIONS FOR THE USE OF IMS SMALL BOATS

The ultimate responsibility for safe operation rests with the Boat Captain. It is his/her duty to refuse to operate the vessel if, in his/her judgment, conditions are unsafe or if he/she would be violating the precepts of his/her training or the regulations of this guide. The following outline specific responsibilities of IMS Boat Captains.

1. Boat Captains are responsible for understanding and abiding by Federal, State, local, and IMS regulations concerning SAFETY, RULES OF THE ROAD, VESSEL USAGE, CERTIFICATION AND REQUIRED EQUIPMENT ON BOARD. A Boat Captain's certification may be revoked by the IMS Small Boat Safety Officer or the IMS Director for violations.

2. In emergencies or in other cases where it is prudent to deviate from accepted procedures, Boat Captains may use their own discretion but shall justify their actions in a written report to the IMS Small Boat Safety Officer and the IMS Director.
3. Boat Captains shall complete a trip summary and maintenance report after each use of University water craft. Report sheets shall be filled out completely, including comments on accidents, potential hazards and mechanical problems. Forms are available in the sign out area at the south end of the CPEH building, first floor.

Boats used but not owned by UNC-CH require a trip summary and maintenance report be filed with the IMS Small Boats Safety Officer. Vessel log books shall be kept by the boat owner and be available for inspection on request.

4. Boats used on UNC operations must meet or exceed all Federal, State, local and UNC-CH requirements for safety, be in good repair, be well maintained and seaworthy beyond doubt. The final word on allowing a boat for UNC operations rests with the IMS Director.
5. Accidents must be reported to the IMS Small Boat Safety Officer and the IMS Director as soon as possible after occurrence. An accident form must be filed with the IMS Small Boat Safety Officer or the IMS Director within 24 hours of the accident.

Anyone involved in a boating accident is required to stop and give assistance as long as it will not personally endanger the operator, passengers or vessel. Operators involved in an accident should remain at the scene to the extent it is safe and practical, and exchange personal and boat information with authorities and other involved parties.

When a boating accident results in death or disappearance of a person, you must notify the North Carolina Wildlife Resources Commission, phone 1-800-662-7137, by the quickest means possible. Be prepared to give time, date, location and other important information about the boat/s and person/s involved.

You must also complete and submit an accident report form (Wildlife Resources Commission, 1-800-662-7137) within 48 hours when the accident results in a loss of life or disappearance of someone involved, a person is injured and requires medical treatment beyond first aid, or if property damage totals more than \$2000. Reports of other cases must be submitted within 10 days of the accident.

6. **Boat Captains are required to file a written float plan prior to boating operations** (available in the sign out area at the south end of the CPEH building, first floor). The plan shall include location of operations with possible deviations, names and phone numbers of people participating, time of departure and

expected return, vessel make, vessel description and registration number. FLOAT PLANS MUST BE CLOSED IMMEDIATELY UPON RETURN TO IMS. All operations require that an Accident Procedures Plan addressing local evacuation and medical facilities are on board the vessel during operations and that each participant be aware of its presence.

7. Boat Captains are required to check the NOAA weather forecast before beginning operations. During periods of small craft warnings or advisory, UNC-CH vessels should not operate except in protected waters. No vessel operations shall take place during periods of obscured visibility. In cases where conditions change while underway or while on station, Coast Guard, State, and Local Rules and common sense for safety apply.
8. Anyone operating an IMS small boat in the open ocean (outside the barrier islands, more than 2 miles from shore) must hold both an IMS Boat Captain's Certification and a US Coast Guard Captain's License. Ocean operations within 2 miles of shore require a functional VHF radio or cell phone and a compass. Operations beyond 2 miles require GPS in addition to VHF radio and compass. Any vessel operated more than 2 miles offshore shall have an EPIRB.
9. Boat Captains are responsible for seeing that each non-swimming passenger wears a personal flotation device (PFD) and has an EPIRB during periods of foul weather. During emergencies all passengers must wear PFDs.
10. Boat Captains must hold a passenger briefing/information meeting prior to leaving the dock. The briefing is to include: location of safety equipment, use of safety equipment, wearing of safety equipment, safety underway, fire, abandoning ship and any other information relative to operational safety. In addition, the Boat Captain must determine if there are any passengers on board who are non-swimmers or who require special medical consideration.
11. Boat Captains are responsible for seeing that the kill switch lanyard is in use at all times a boat is underway.
12. Alcoholic beverages ARE NOT allowed on IMS vessels at any time.
13. Smoking IS NOT allowed on IMS vessels at any time.
14. All passengers must be securely positioned while the vessel is underway. In most cases this means seated, but Boat Captains can suggest standing when wave and speed conditions make that a less dangerous option.
15. The IMS Small Boat Safety Officer and the IMS Director have the authority to suspend or disapprove of vessel activities that in their opinion are unsafe.
16. Operations conducted between November 15 and May 1 or when water

temperatures are below 60 degrees Fahrenheit require that an approved survival (Exposure) suit be available for each passenger on board. In addition, the following special cold weather precautions must be followed:

- 1) All persons on board must wear personal flotation devices (PFD);
  - 2) Boat users must wear wet suits or rain suits to protect themselves from salt spray in boats;
  - 3) Chest waders must NOT be worn while operating or riding in IMS Boats, unless explicit permission is given by the Boat Captain.
17. Solo operations require that the Boat Captain wear a type I, II or III Coast Guard approved PFD. As a reminder, kill switch lanyards shall be worn by operators at all times when underway.
  18. Vessels shall be operated at a safe speed at all times. A safe speed shall be maintained to avoid collision, property damage, and passenger safety. In determining safe speed, all factors of weather, vessel maneuverability, visibility, traffic, sea state, current, navigational hazards, draft, depth of water, and the possibility of floating objects are to be considered.
  19. It is the responsibility of the Boat Captain to use every reasonable means possible to become familiar with their intended areas of operation prior to an operation. This should include review of charts, Coast Guard NOTAMS, Coast Guard radio advisories, word of mouth from local inhabitants and any other means available.
  20. Programs requiring operations outside the parameters of this guide require the written permission of the IMS Director.
  21. As taxpayers, the public is keenly aware of abuse and waste in Federal and State agencies. All faculty, staff and students have a responsibility to use boats and trucks safely, wisely and only for pursuit of scientific research and teaching. Violations should be reported to the IMS Small Boat Safety Officer who will then report, as deemed necessary, to the Director of IMS.

## **REQUIREMENTS FOR BOAT CAPTAIN CERTIFICATION**

Boat Captain Certification is issued by the IMS Small Boat Safety Officer acting on behalf of the Director of the Institute of Marine Sciences. The certification program is intended to insure the safety of persons involved in vessel activities.

For certification, the following requirements must be met:

1. The mental and physical condition of a prospective Boat Captain must be compatible with efficient and safe operation of IMS small boats. If doubt exists, a medical examination by a qualified physician will be required.
2. A Minimum age of 18 years or permission of parents.
3. Approved course on boat handling, e.g., Power Squadron Auxiliary Boat Handling and Navigation, and documented experience.
4. Practical examination.
5. Training course (with certification) in First Aid and CPR.

## **CERTIFICATION LEVELS**

Boat Captain Certification is awarded based on the vessel class and the skill level.

### VESSEL CLASSE

Class A - vessels under 16 feet

Class I - vessels 16 feet to under 26 feet

### SKILL LEVEL

Trainee - May operate vessel only in the presence of an instructor.

Inland Operator - May operate on estuaries, sounds, lakes and rivers.

Ocean Operator - May operate on oceans (operator must also hold a USCG Captains License)

## OUTLINE FOR USING MOTORIZED BOATS

### I. Sign Out/In Procedure

- A. Prior to departure, file a Float Plan (See pg. 19).
- B. Prior to departure, sign out the vehicle being used to tow the boat. Vehicle sign out sheets and float plans are located at the sign out area at the CPEH Building south end, first floor.
- C. If any passenger is not a state employee or UNC student, prior to departure he must fill out a Waiver Form (see pg. 21).
- D. Upon return file a Summary and Maintenance report. In addition, if there is a problem with the boat or trailer, email Eamon Kromka with a copy to Stacy Davis; if there is a problem with the motor, email Eamon Kromka with a copy to Stacy Davis (See pg. 20).  
Important email addresses:  
Eamon Kromka ([ekromka@email.unc.edu](mailto:ekromka@email.unc.edu)) ;  
Joe Purifoy([jpurifoy@email.unc.edu](mailto:jpurifoy@email.unc.edu))  
Stacy Davis ([smdavis@email.unc.edu](mailto:smdavis@email.unc.edu)).
- E. If an accident occurs, upon return file an accident report (see p. 22). This must be done within 24 hours of return.

### II. Gas and Oil

- A. Gas is kept in the gas shed.
- B. In some motors the outboard motor oil must be mixed with gas.
- C. Some larger boats use cans that say NO OIL IN GAS.
- D. Smaller boats (outboards) use 1 pt of outboard motor oil to 6 gals of gas.
- E. On larger boats put oil directly into onboard reservoir if needed.

### III. Startup Check List/Procedures

- A. Check fuel level.
- B. Check oil level.
- C. Put ALL plugs in; when returning take plugs out at the ramp or lab
- D. Check boating equipment:
  - 1. Life jackets
  - 2. Oars
  - 3. Anchor
  - 4. Flare kit
  - 5. Whistle
  - 6. First aid kit
  - 7. Tool box
  - 8. Ring buoy
  - 9. Fire extinguisher
  - 10. Radio/Cell phone
  - 11. Water (if needed)



12. Survival suit (if needed)
13. GPS (for greater than 2 miles offshore)

E. Test motor:

1. Connect water to motor.
2. Put throttle in start position.
3. Place clutch in neutral.
4. Squeeze gas bulb.
5. Choke engine.
6. Insert key, check lanyard, start.
7. Check tilt.
8. Check for flat/partially flat tires on the trailer.
9. Check for safety strap.
10. Make sure the motor is tilted into the correct position and locked for trailering.
11. Store gear where it will not be blown out on the highway.

IV. Vehicle and Boat Attachment

- A. Make sure vehicle has gas card.
- B. Check that the trailer ball is the appropriate size for the hitch (color coded).
- C. Attach wiring harness from trailer to truck, check lights for correct operation.
- D. Make sure trailer is securely attached to ball on truck.
  1. Movable lip on bottom of tongue must be underneath ball.
  2. Latch should be down.
- E. Cross safety chains underneath trailer tongue and hook to truck.
- F. Some larger boat trailers are equipped with electric release brakes. To insure proper operation, back the trailer to insure brakes release.
- G. MAKE SURE YOU HAVE BOAT KEY**

V. Trailering

- A. Forward
  1. Trailers need room to make wide turns; you must plan for this before making turns towing trailers.
  2. Make sure weight is distributed with the tongue weight slightly more.
- B. Backing up
  1. A ground guide must always direct backing.
  2. Slow backing and careful observation of the trailer prevents accidents.
  3. The back end of a trailer moves laterally in an opposite direction from the back end of the towing vehicle.
  4. Continued backing when a trailer is turned away from the vehicle's path can cause it to "jackknife," (a position at right angles to the vehicle), this is a dangerous situation and should be avoided.
  5. If the trailer gets off line, pull forward to straighten and begin backing again.

## VI. Boat Operations

### A. Launching a boat

1. Check ALL plugs before launching.
2. Remove safety strap.
3. Check to make sure engine is tilted up.
4. Have bow line ready to launch boat.
5. Back trailer to where wheels are in water, then release trailer cable from boat.
6. Make sure bow line is secure, either by person holding bow line or by tying the line to the dock.
7. Launch boat, then park trailer.

### B. Operating a boat

#### 1. Large boats

- a. Make sure gear is secure and weight is properly distributed.
- b. Short briefing on safety procedure and location of safety equipment.
- c. Tilt engine up to release tilt lock.
- d. Tilt lock should be placed in down position.
- e. Tilt motor all the way down.
- f. Squeeze bulb on fuel line until firm.
- g. Throttle shifter should be placed in neutral (control box).
- h. Warm-up lever in up position (if present).
- i. Choke engaged by pushing in key.
- j. Start engine, let it warm up for 2 minutes.
- k. Push warm-up lever down (if present).
- l. Push throttle forward in a quick deliberate motion for forward gear.
- m. Push throttle backward in a quick deliberate motion for reverse.
- n. Check boat traffic and proceed with caution and care.
- o. Boat operator must wear kill switch lanyard at all times.

#### 2. Small Boat Operation

- a. Properly distribute weight in boat and make sure gear is secure.
- b. Short briefing on safety procedure and location of safety equipment
- c. Put motor in down position.
- d. Make sure fuel line is connected to motor, squeeze bulb until firm.
- e. Place throttle in start position.
- f. Pull choke lever out.
- g. Place gear shift selector in neutral.
- h. Pull starter rope several times until motor starts.
- i. After engine is running push choke in.
- j. Turn throttle to slow position and engage selector to forward or reverse. Shifting gears should be a quick deliberate motion.
- k. Check boat traffic and proceed with caution and care.
- l. Boat operator must wear kill switch lanyard at all times if present

- C. Anchoring  
All boats should be equipped with an anchor and line of suitable size and length for the boat and for the waters in which it is being operated. The scope of the anchor line should be 7 feet long for every foot of water.

## VII. Rules of the Road

- A. Do not take short cuts. Follow channel markers, watch for and observe No Wake Zones.
- B. Channel marker section
  1. Easy way to remember proper channel selection is "Red Right Returning" from ocean. Green is on right when going to sea
  2. In the Intracoastal Waterway, green is on the right when headed north; Green is on the left when headed south.
  3. Slow down and turn into that wake from other vessels passing by.
  4. Proceed with caution and care.

## VIII. Troubleshooting

- A. Small boats
  1. Engine will not start
    - A. Make sure gas line is connected.
    - b. Make sure gear shift selector is in neutral.
    - c. Make sure throttle is in start position.
    - d. Check kill switch and wear lanyard.
    - e. On Mariner make sure motor switch is in on position.
    - f. Make sure choke is engaged (out).
    - g. If you smell gas, engine is probably flooded.
      - i. Push choke in.
      - ii. Let engine set for 3 minutes then try again.
    - h. Choke is not needed if engine has been running earlier.
    - i. If engine still will not start, call lab for further instructions.
- B. Large Boats
  1. Engine will not turn over
    - a. Check kill switch for proper position and wear lanyard.
    - b. Check battery terminals to see if they have good connection.
    - c. Check to make sure warm-up lever is in down position.
    - d. Make sure throttle is in neutral position.
  2. Engine will turn over, but not start
    - a. Make sure fuel line is connected to motor.
    - b. Check bulb on fuel line to see if firm.
    - c. Check to see if choke is engaged.
    - d. If you smell gas, engine is probably flooded.
      1. Disengage choke.
      2. Let engine set for 3 minutes then try again.
    - e. If engine will not start call lab for further instructions.

3. Alarm in Control Panel goes off (alarm is for low oil or reduced water for Cooling)
  - a. Slow engine down and cut off if possible at the time.
  - b. If possible anchor boat.
  - c. Check oil reservoir level, if low add oil.
  - d. Remove motor cover and see if engine is smoking or hot to touch. When engine is started small stream of water should come out back of motor.
  - e. If engine is overheating
    - i. Raise motor with tilt to make sure plastic bag or sea grass is not clogging intake on motor.
    - ii. If intake is not clogged, lower engine.
    - iii. Let it cool.
    - iv. Then start, run engine at slow speed.
    - v. If alarm goes off again stop motor.
    - vi. Call lab for assistance.
4. Motor is cavitating (engine is revving up and prop is in an air pocket)
  - a. Make sure tilt switch is completely in down position.
  - b. Cut motor off and tilt engine to make sure it does not have plastic bag or sea grass wrapped around it.
  - c. Tilt engine down, start, and proceed.
  - d. If motor continues to cavitate, slow engine down and proceed.

## IX. Emergency Procedures

- A. If motor will not run, anchor boat and put on life jackets.
- B. Call for assistance with VHF Radio (See p. 15, also p. 16).
  1. Make sure volume control on radio is in off position.
  2. Hook leads from radio to battery terminal (red to positive, black to negative).
  3. Connect antenna to radio and place in upright position.
  4. Turn dial to On position or push buttons to:
    - a. IF EMERGENCY, CONTACT COAST GUARD on CHANNEL 16.
    - b. If using VHF and the situation is not life threatening, then ask Coast Guard to make a call to UNC Lab 726-6841 Ext. 0, give location and problem, lab will send help.
- C. Cell phones are a good alternative to VHF radios for emergency calls or for official lab business, as long as you are not operating too far offshore or in a dead zone. Call numbers are given below:
 

IMS	726-6841
Stacy Davis	725-1835
Eamon Kromka	725-1836
Fluellen, Wayne	241-3551

X. DIVING FROM IMS BOATS

- A. Dive Equipment: DAV Underwater Diving Accident Manual, Dive Tables, Emergency Procedures Plan, Emergency O<sub>2</sub> kit, First Aid kit, Trail Line with float at least 75', dive ladder (optional), dive flag (standard and international), radio and antenna.
  
- B. Personnel Requirements: All offshore diving requires a minimum of three people, one person serving as attendant of vessel during diving operations. Person serving as attendant must be a certified Captain with a USCG Captains license.

## OUTLINE FOR USING KAYAKS OR CANOES

- Prior to departure, must sign a waiver (page 21).
- Prior to departure, must fill out a Float Plan (See pg. 19). Must include cell phone number)
- Must wear Coast Guard approved life vest type I, II, or III PFD at all times.
- Must demonstrate to the IMS Boat Safety Officer they have proper knowledge and skills to safely operate a canoe or kayak.
- Must demonstrate to the IMS Boat Safety Officer they have basic knowledge of weather patterns, tides, currents and hazards in area of operation.
- Always watch for adverse weather; observe wind and current before entering water. Only operate under appropriate environmental conditions.
- No winter operations whatsoever if water temperatures are 60 degrees Fahrenheit or below.
- Cannot be in the water earlier than sunup or later than sundown.
- Canoes must be operated by two canoeists. Weight must be distributed evenly in the canoe.
- When kayaking always travel in pairs or greater numbers.
- Maximum capacity: manufacturer's recommendation.
- Carry dry bag with cell phone, whistle and signal mirror.
- No chest waders are to be worn during operation of kayaks/canoes.
- Must obey all applicable boating laws and regulations.
- Optional: gloves, sunscreen, sunglasses, water, hat.

## EMERGENCY INSHORE AND OFFSHORE RADIO PROCEDURE

If the boat is disabled, but there is no danger and no injured person, the Coast Guard should be called on Channel 16; give the location and the situation and name of boat.

EXAMPLE: Fort Macon Coast Guard, this is the R/V Parker WXE4469. I am two miles west of Buoy R4 in Lookout Bight and need some assistance. My boat will not start. Could you please place a call for me to IMS - Morehead City that I need some help? The phone number is 726-6841. "OVER"

Note: When you have finished talking and you expect a reply, use the word "OVER." To end a transmission, use the word "OUT."

If there is a serious injury the Coast Guard should be called on Channel 16. Give the location and the situation and description of the boat.

EXAMPLE: Fort Macon Coast Guard, this is R/V Fish WXE4469. I am two miles west of Buoy R4 in Lookout Bight. I have an injured person on board and need assistance. My boat is a white, 19 foot, fiberglass, open hull with one 110 hp Johnson outboard motor. I will be standing by on 16. "OVER"

Offshore Radio Procedure: Same except in addition you would give your G.P.S. Coordinates.

When and How to give a "MAYDAY" on Channel 16 VHF.

Make sure everyone is wearing a PFD, and follow USCG orders. Don't give a MAYDAY unless the situation is life threatening: the boat is likely to sink by taking on water, there is a fire that is out of control, or your life is in serious danger.

EXAMPLE: Mayday - Mayday - Mayday. This is R/V Parker, R/V Parker WAO5568. Mayday RV Parker, WAO5568. 270 degrees two miles from Buoy R4 in Lookout Bight, taking on water fast, motor disabled, estimate cannot stay afloat longer than one hour. Four persons on board. My boat is a white 21 foot fiberglass open hull with one 175 hp Yamaha outboard motor. I will be standing by on VHF Channel 16. This is R/V Parker WAO5568. "OVER". Then wait 30-60 seconds for reply. If no answer, then repeat call. If there is still no answer, switch to another channel, try 68. Begin again. Most of all, stay calm and speak clearly. Help is on the way. Stand by to deploy EPIRB. If no reply, activate EPIRB and keep it with you.

## Calling NC Marine Fisheries, VHF Radio Channel "16"

ANY vessel operated more than 3 miles offshore can file a float plan with the Division of Marine Fisheries in addition to the IMS float plan. If you do this, call the Marine Dispatcher from the dock before you get underway. Call when you get on your site. Call with ETA when you are getting underway to return. Before calling the Division of Marine Fisheries, be sure they have a copy of your IMS Float Plan.

When you return, let DMF know IMMEDIATELY, either in person or by telephone (252-726-7021). They will then close your Float Plan.

You must also call DMF if your trip UNEXPECTEDLY takes you more than 3 miles offshore.

How to Call: Marine Fisheries, this is R/V \_\_\_\_\_ WXE4469 "OVER." Note: When having a conversation, at the end of it say "OVER." After your conversation is completed, say "This is R/V \_\_\_\_\_ WXE4469 "OUT."

If there is an EMERGENCY, call anytime. If there is a mechanical problem, call Marine Fisheries and ask them to call IMS.

If no reply in 30-60 seconds, repeat call.

Still no answer, go to EMERGENCY INSHORE AND OFFSHORE RADIO PROCEDURE.

A copy of these instructions should be available on each boat.



## HYPOTHERMIA COLD WATER SURVIVAL TIPS

Safe boating is the first step to avoiding accidental immersion. If you have not fallen overboard, but you are going to get in the water, try getting in the water slowly. Getting into cold water too fast is dangerous and can induce rapid, uncontrolled breathing, cardiac arrest, and other life-threatening conditions. Button up your clothing and cover your head, keeping it out of the water. This is very important as 50% of body heat is lost from the head. Overall body temperature cools 82% faster when the body is immersed in cold water. In addition, body temperature decreases at a 35% faster rate when you are active, e.g., swimming or treading water. The average-sized person who remains still in a fetal position, covers their head, and wears a PFD may survive up to 3 hours in 50° water. Survival time increases when your body is as far out of the water as possible.

If your boat capsizes, stay with the boat at all cost. The boat will likely stay afloat or float just below the surface. Try to get as much of your body as possible out of the water and onto the boat, and remain still. Only swim to shore if you're absolutely certain you're going to make it. In cold water you can lose consciousness and drown in a matter of minutes. So if the shore is 100 yards away don't try it even if you are an excellent swimmer.

## FIRST AID FOR HYPOTHERMIA

The victim must be handled gently and not allowed to walk. The Coast Guard rules of treatment are:

- 1) Move the victim to warmth and shelter as soon as possible.
- 2) Carefully remove all wet clothing.
- 3) Place the victim on a hard, flat surface in the event CPR is needed. Apply heat to the central core of the body by keeping warm, not hot, moist towels wrapped around the head, neck, sides and groin. Hot water bottles and heated blankets can also be used.
- 4) Without a warm water supply, rescuers can immediately begin reviving a victim by removing their clothing and using their bodies to warm the victim's naked body.
- 5) Do not give the victim anything to drink. Do not rub frozen body areas or wrap a hypothermic in a blanket and leave him. When the body is covered, it loses the ability to produce its own warmth and the blanket only serves to further insulate the body from the surrounding warmth.
- 6) If the victim appears dead, heart massage and CPR should be administered.
- 7) Even in mild cases, it is recommended that all hypothermia victims be seen by a doctor.

SMALL BOAT OPERATION

Date \_\_\_\_\_

FLOAT PLAN

Float Plan No. \_\_\_\_\_

*PROJECT TO BE BILLED FOR BOAT USE.* \_\_\_\_\_

1. BOAT OPERATOR: Name \_\_\_\_\_

Local Address \_\_\_\_\_

2. Boat Number \_\_\_\_\_

3. Persons ON Board: (in addition to the operator)

Name

Telephone #

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. Equipment on Board: (check all that apply to this boat)

PFD'S \_\_\_\_\_ FLARE KIT \_\_\_\_\_ MANUAL BILGE PUMP \_\_\_\_\_ BUCKET \_\_\_\_\_

PADDLES \_\_\_\_\_ VHF RADIO \_\_\_\_\_ CELL PHONE \_\_\_\_\_ GPS \_\_\_\_\_ WATER \_\_\_\_\_

ANCHOR \_\_\_\_\_ SURVIVAL SUITS \_\_\_\_\_ TOOL KIT \_\_\_\_\_ FLASHLIGHT \_\_\_\_\_ BOAT

PLUGS \_\_\_\_\_ FIRE EXTINGUISHER \_\_\_\_\_ TYPE 4 "THROWABLE" PFD OR

RING \_\_\_\_\_ WHISTLE OR SOUND DEVICE \_\_\_\_\_ COMPASS \_\_\_\_\_ WET SUIT \_\_\_\_\_

**BOAT KEY** \_\_\_\_\_

5. Trip Expectations: Departing at \_\_\_\_\_ am/pm from \_\_\_\_\_

\_\_\_\_\_

Destination \_\_\_\_\_

Expect to return by \_\_\_\_\_ am/pm and in any case not later than \_\_\_\_\_ am/pm.

6. Description of vehicle towing boat: Vehicle number \_\_\_\_\_

To be parked at \_\_\_\_\_

Vehicle deficiencies \_\_\_\_\_

\_\_\_\_\_

7. Diving Yes \_\_\_\_\_ No \_\_\_\_\_

Account number \_\_\_\_\_ Dept. Head/ Budget official.

Small Boat Operations  
Trip Summary and Maintenance Report

THIS FORM IS TO BE COMPLETED BY THE BOAT CAPTAIN AND LEFT IN THE BOAT BOX.

This report is related to Float Plan Number \_\_\_\_\_

Email maintenance deficiencies to Stacy Davis [smdavis@email.unc.edu](mailto:smdavis@email.unc.edu) **and** Eamon Kromka [ekromka@email.unc.edu](mailto:ekromka@email.unc.edu) for boat/trailers; Eamon Kromka [ekromka@email.unc.edu](mailto:ekromka@email.unc.edu) for outboard motors, and Claude Lewis [dclewis@email.unc.edu](mailto:dclewis@email.unc.edu) for vehicles

1. Trip Summary (and brief statement relative to any unusual events encountered during the trip, e.g., accidents / injury, new sandbars, new or missing channel markers, etc.
  
2. Mechanical Summary (briefly describe and mechanical difficulties with the boat, motor, and/or trailer).
  
3. Lost / Damaged Equipment Summary (identify any equipment lost or damaged and briefly explain the circumstances).
  
4. Specimen Collection Summary ( if required by State or Federal Law)

<u>Species Name</u> _____	<u>Common Name</u> _____	<u>No. collected</u> _____
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5. Boat Operator Maintenance Checklist (check each item when completed.)
  - a. Gas Tank (s) refilled \_\_\_\_\_ (do not refill if unable to provide proper oil mixture.
  - b. Oil Reservoir Refilled \_\_\_\_\_ (if applicable).
  - c. All equipment that does not stay on boat is removed and properly stored \_\_\_\_\_.
  - d. Boat, motor, and trailer thoroughly rinsed with fresh water \_\_\_\_\_.
  - e. Motor flushed with fresh water. \_\_\_\_\_
  - f. Motor locked in rinse position. \_\_\_\_\_ (boat left in the water)
  - g. All switches in the OFF or AUTOMATIC position \_\_\_\_\_.
  - h. Boat and vehicle keys are returned to keyboard. \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL  
INSTITUTE OF MARINE SCIENCES  
WAIVER, RELEASE, AND INDEMNITY AGREEMENT

I am fully aware of the risks and hazards associated with participation in marine science activities in laboratories, fieldwork, boats and vessels, wading, diving and the like. I hereby elect voluntarily to participate in said activities and fully acknowledge that they may be hazardous to me and my property. I acknowledge that by signing this document I hereby release, hold harmless, and forever discharge The University of North Carolina at Chapel Hill, its employees and agents, from any and all liability, claims, demands, actions, and causes of actions whatsoever arising out of or related to any loss, property damage, or personal injury, including death, that may be sustained by me or to any property belonging to me while participating in marine science activities.

I voluntarily assume full responsibility for any risk of loss, property damage, or any personal injury, including death, that may be sustained by me or any loss or damage to property owned by me as a result of being engaged in such activities. I further agree to indemnify and hold harmless the University, its employees and agents, from any loss, liability, damage, or cost, including court costs and attorneys' fees they might incur due to my participation in said activities.

This release and hold harmless agreement is binding on myself, my heirs, assigns, and personal representatives.

This the \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_.

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Date

\_\_\_\_\_  
Participant

\_\_\_\_\_  
Date

\_\_\_\_\_  
Legal Guardian if Participant is  
Less than 18 Years Old

\_\_\_\_\_  
Date



**ACCIDENT REPORT FORM**  
(Water Related Accidents)

**DIRECTIONS:** Accidents, whether involving injury or not, must be reported to the Director as soon as possible after the event. A report form is to be filed with the Director within 24 hours.

NAME \_\_\_\_\_ DATE \_\_\_\_\_

LOCATION \_\_\_\_\_

ACTIVITY \_\_\_\_\_

CAUSE OF ACCIDENT \_\_\_\_\_

CORRECTIVE MEASURES \_\_\_\_\_

INJURIES (DETAIL) \_\_\_\_\_

FIRST AID \_\_\_\_\_

DISPOSITION OF VICTIM \_\_\_\_\_

**INFORMATION ON BOATS INVOLVED:**

REGISTRATION # \_\_\_\_\_

OWNER ADDRESS AND PHONE \_\_\_\_\_

TYPE OF DAMAGE \_\_\_\_\_

HULL # \_\_\_\_\_

PERMANENT ADDRESS \_\_\_\_\_

IMS TRUCK AND BOAT COMPATABILITY LIST AS OF SEPTEMBER 2012

TRUCK

4x4	4x4	4x4	4x4	4X4	4x2	4X2	4x2
63	62	732	616	008	880	846	425

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BOAT

	101		101		101	101	101
	102		102		102	102	102
	103		103		103	103	103
	104		104		104	104	104
	105		105		105	105	105
106	106	106	106	106	106	106	106
107	107	107	107	107	107	107	107
108	108	108	108	108	108	108	108
109	109	109	109	109	109	109	109
110	110	110	110	110	110	110	110
111	111	111	111	111	111	111	111
112	112	112	112	112	112	112	112
114	114	114	114	114	114	114	114
115	115	115	115	115	115	115	115
116	116	116	116	116	116	116	116

NOTE

Always check weight restrictions.

Trucks 63, 732,008, should not pull heavy boats

Vans 880,846 should not pull heavy boats when the vans are loaded.

TRUCK 743 IS NOT EQUIPPED TO PULL TRAILERS.



INSHORE BOATS  
(Up to 2 Miles Offshore, Outside Barrier Islands)

ALL IMS BOAT OPERATORS MUST WEAR KILL SWITCH LANYARD WHEN UNDERWAY  
UNC OPERATION LIMITATIONS AND REQUIREMENTS

Boat #'s 107, 111

17 ft. Jones Brothers Bateau: Use flat water, inland only.

Hull type:           Fiberglass    Flotation:            Yes

Boat 107:   Engine: 40 hp Johnson   Fuel capacity: 12 gal   Max capacity: 4 persons, 800 lb

Boat 111:   Engine: 40 hp Yamaha   Fuel capacity: 18 gal   Max capacity: 4 persons, 800 lb

Use of boat #111 requires Dr. John Bruno's permission

Boat # 110

17 ft. Carolina Skiff:    Use flat water, inland only.

Hull type:           Fiberglass    Flotation:            Yes

Engine: 40 hp Yamaha   Fuel capacity: 6 gal.   Max capacity: 5 persons + gear

Boat # 106 Rodriguez

22 ft. Silver Ship: Use moderate to flat water

Hull: Aluminum V    Flotation: No

Engine: (2) 90 Mercury   Fuel capacity: 60 gal.   Maximum capacity: 5 person or 1200 lb

Use of boat #106 requires Dr. Rodriguez' permission

Boat #'s 109, 114, 115, 116

22 ft. Jones Brothers: Use flat water

Hull Type: Fiberglass flat bottom

Boat 109   Engine: 90hp Yamaha   Fuel capacity: 18 gal   Max capacity: 11 person, 1650 lb

Boat 114   Engine: 115hp Yamaha   Fuel capacity: 18 gal   Max capacity: 11 person, 1650 lb

Boat 115   Engine: 100hp Yamaha   Fuel capacity: 20 gal   Max capacity: 11 person, 1650 lb

Use of boat #115 requires Dr. Martens' permission

Boat 116   Engine: 115hp Yamaha   Fuel capacity: 20 gal   Max capacity: 11 person, 1650 lb

Use of boat #116 requires Dr. Noble's permission

Boat # 112

24 ft. Carolina Skiff:    Use moderate to flat water

Hull type:           fiberglass, flat bottomed    Flotation:            Yes

Engine: 115 hp Johnson   Fuel capacity: 18 gal.   Max capacity, 18 persons +gear, 2340 lbs

Inshore Required Equipment: 1 CG approved type I, II or III PFD for each person on board, 1 type IV throwable PFD, 1 CG approved fire extinguisher, 1 CG approved sound device, 1 CG approved signaling kit, and first aid kit. 1 anchor and line and 1 oar. VHF radio or cell phone. Survival suit when water temperature is 60 degrees or below.

INLAND AND OFFSHORE BOAT  
(Offshore use must be operated by USCG licensed captain)

ALL IMS BOAT OPERATORS MUST WEAR KILL SWITCH LANYARD  
WHEN UNDERWAY

UNC OPERATION LIMITATIONS AND REQUIREMENTS

Personnel requirements - minimum of 2

Boat # 108	Peterson
22 ft. Privateer	Use inland and offshore
Hull type:	Fiberglass
Flotation:	Yes
Engine:	225 hp. Mariner
Fuel Capacity:	62 gallons
Maximum Capacity:	2500 lbs

Inshore Required Equipment: 1 CG approved type I, II or III PFD for each person on board, 1 type IV throwable PFD, 1 CG approved fire extinguisher, 1 CG approved sound device, 1 CG approved signaling kit, and first aid kit. 1 anchor and line and 1 oar. VHF radio or cell phone. Survival suit for each person on board when water temperature is 60 degrees or below.

Offshore Required Equipment: Compass, 1 CG-approved Type I PFD for each person on board, 1 Type IV throwable PFD, 1 CG-approved fire extinguisher, 1 CG-approved sound device, 1 CG-approved signaling flare kit, radar reflector, tool kit, first aid kit, whistles, CG-approved navigation lights, VHF radio or cell phone and GPS and EPIRB is required, two anchors and line, food and drinking water, flashlight, mirror, searchlight, binoculars, one oar, and a survival suit for each person on board from November through May when water is below 60

## ANCHORING

The Privateer should be equipped with an anchor and line of suitable size and length for the waters in which it is being operated. Note: Do not anchor by the stern!!

To anchor, bring the boat bow into the wind or current and put the engine in neutral. When the boat comes to a stop, lower, do not throw, the anchor over the bow. The anchor line should be 5 to 7 times the depth of the water.

Additional equipment you may want to take: Extra clothing, sunburn lotion, sunglasses, hat.

\* Use of Privateer restricted - requires Dr. Peterson's permission.

INLAND AND OFFSHORE BOAT  
(Offshore use must be operated by USCG licensed captain)

ALL BOAT OPERATORS MUST WEAR KILL SWITCH LANYARD  
WHEN UNDERWAY

UNC OPERATION LIMITATIONS AND REQUIREMENTS

Personnel Requirement – minimum of 2

Boat # 101	Paerl
25' Parker	Use Inshore and offshore
Hull type	Fiberglass
Flotation	Yes
Engine	(2) 150 hp. Yamaha
Fuel	200 gallons
Maximum capacity	6 persons and gear

Inshore Required Equipment: 1 CG approved type I, II or III PFD for each person on board, 1 type IV throwable PFD, 1 CG approved fire extinguisher, 1 CG approved sound device, 1 CG approved signaling kit, and first aid kit. One anchor and line and one oar. VHF radio or cell phone required. Survival suit for each person on board when water temperature is 60 degrees or below

Offshore Required Equipment: Compass, 1 CG-approved Type I PFD for each person on board, 1 Type IV throwable PFD, 1 CG-approved fire extinguisher, 1 CG-approved sound device, 1 CG-approved signaling flare kit, radar reflector, tool kit, first aid kit, whistles, CG-approved navigation lights, VHF radio and GPS and EPIRB is required, two anchors and line, food and drinking water, flashlight, mirror, searchlight, binoculars and one oar, and survival suit for each person on board when water temperature is 60 degrees or below.

Use of 25 ft. Parker #101 restricted – requires Dr. Paerl's permission

INLAND AND OFFSHORE BOAT  
(Offshore use must be operated by USCG licensed captain)

ALL IMS BOAT OPERATORS MUST WEAR KILL SWITCH LANYARD  
WHEN UNDERWAY

UNC OPERATION LIMITATIONS AND REQUIREMENTS

Personnel Requirement – minimum of 2

Boat # 103	Luettich
*25 ft Parker:	Use inshore and offshore.
Hull type:	Fiberglass
Flotation:	Yes
Engine:	(2)150 hp. Yamaha
Fuel capacity:	200 gallons
Maximum capacity:	6 persons + gear

Inshore Required Equipment: 1 CG approved type I, II or III PFD for each person on board, 1 type IV throwable PFD, 1 CG approved fire extinguisher, 1 CG approved sound device, 1 CG approved signaling kit, and first aid kit. One anchor and line and one oar. VHF radio or cell phone required. Survival suit for each person on board when water temperature is 60 degrees or below

Offshore Required Equipment: Compass, 1 CG-approved Type I PFD for each person on board, 1 Type IV throwable PFD, 1 CG-approved fire extinguisher, 1 CG-approved sound device, 1 CG-approved signaling flare kit, radar reflector, tool kit, first aid kit, whistles, CG-approved navigation lights, VHF radio and GPS and EPIRB is required, two anchors and line, food and drinking water, flashlight, mirror, searchlight, binoculars and one oar. From November to May, or when water temperature is less than 60 degrees, a survival suit is required for each person on board.

- Use of 25 ft. Parker #103 restricted – requires Dr. Luettich's permission

INLAND AND OFFSHORE BOAT  
(Offshore use must be operated by USCG licensed captain)

ALL BOAT OPERATORS MUST WEAR KILL SWITCH LANYARD  
WHEN UNDERWAY

UNS OPERATION LIMITATIONS AND REQUIREMENTS

Personnel Requirement – minimum of 2

*Boat # 105	Paerl
25' Parker	Use inshore and offshore
Hull type	Fiberglass
Flotation	Yes
Engine	(2) 150 hp. Yamaha
Fuel	100 gal
Maximum capacity	6 persons and gear

Inshore Required Equipment: 1 CG approved type I, II or III PFD for each person on board, 1 type IV throwable PFD, 1 CG approved fire extinguisher, 1 CG approved sound device, 1 CG approved signaling kit, and first aid kit. One anchor and line and one oar. VHF radio or cell phone required. Survival suit for each person on board when water temperature is 60 degrees or below

Offshore Required Equipment: Compass, 1 CG-approved Type I PFD for each person on board, 1 Type IV throwable PFD, 1 CG-approved fire extinguisher, 1 CG-approved sound device, 1 CG-approved signaling flare kit, radar reflector, tool kit, first aid kit, whistles, CG-approved navigation lights, VHF radio and GPS and EPIRB is required, two anchors and line, food and drinking water, flashlight, mirror, searchlight, binoculars and one oar, and survival suit for each person on board when water temperature is below 60 degrees.

\*Use of 25 ft Parker #105 restricted – requires Dr. Paerl's permission

INLAND AND OFFSHORE BOAT  
(Offshore use must be operated by USCG licensed captain)

ALL BOAT OPERATORS MUST WEAR KILL SWITCH LANYARD  
WHEN UNDERWAY

UNC OPERATION LIMITATIONS AND REQUIREMENTS

Personnel Requirement – minimum of 2

Boat # 102	Paerl
25' Parker	Use Inshore and offshore
Hull type	Fiberglass Deep Vee
Flotation	Yes
Engine	(2) 150 hp. Yamaha
Fuel	200 gallons
Maximum capacity	6 persons and gear

Inshore Required Equipment: 1 CG approved type I, II or III PFD for each person on board, 1 type IV throwable PFD, 1 CG approved fire extinguisher, 1 CG approved sound device, 1 CG approved signaling kit, and first aid kit. One anchor and line and one oar. VHF radio or cell phone required. Survival suit for each person on board when water temperature is 60 degrees or below

Offshore Required Equipment: Compass, 1 CG-approved Type I PFD for each person on board, 1 Type IV throwable PFD, 1 CG-approved fire extinguisher, 1 CG-approved sound device, 1 CG-approved signaling flare kit, radar reflector, tool kit, first aid kit, whistles, CG-approved navigation lights, VHF radio and GPS and EPIRB is required, two anchors and line, food and drinking water, flashlight, mirror, searchlight, binoculars and one oar, and survival suit for each person on board when water temperature is 60 degrees or below.

Use of 25 ft. Parker #102 restricted – requires Dr. Paerl's permission