



Marine Biological Laboratory



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**Small Boat Management Program and
Operators Manual**

Release Version: 200303

This document is maintained by the Director of the Department of Marine Research Services in consultation with MBL's licensed boat captains.

Introduction

MBL researchers, students and others working for or on behalf of MBL (“MBL Personnel”) at times self-operate or charter small boats¹ for coastal or other research projects. Operation of a small boat means being in control of the propulsion and navigation of the vessel. A chartered vessel may be operated by a person who is hired along with the vessel or, in the case of a bareboat charter, by the person chartering the vessel. Any MBL Personnel operating a small boat owned by MBL, registered in the US or operated in US territorial waters in the course of their work at MBL (“Operator”) must be certified to do so (See *Operator Certification Process* below). This guide is intended to introduce small boat operators and charterers to the MBL small boat operating procedures. Operators are expected to be trained and familiar with the information presented here and to operate all boats owned by MBL, registered in the US or operated in US territorial waters in accordance with these guidelines.

All boats, whether maintained by MBL or chartered must be in seaworthy condition and, if registered in the US or operated in US territorial waters, meet all federal and state safety and licensing requirements. Operators are required to complete a certification process prior to operating small boats.

MBL policy requires that any person that is not a paid MBL staff person must sign a waiver prior to boarding an MBL vessel for the first time. Waivers cannot accompany the person on the vessel and must be archived by MBL Facilities. Waivers are valid for one calendar year. Current waiver forms can be obtained by MBL Facilities or the Director of the Department/Lab that manages the vessel.

A copy of these “Small Boat Management Program” procedures should be aboard any small boat operated by MBL personnel. An online reference copy will be found on the MBL website and can be located via a search for “Small Boat Management Program.”

Small Boats at MBL

The basic principles and safety procedures in this manual focus on power-driven vessels and the general rules should be observed when operating non-powered vessels (e.g., rowboats, kayaks) as well. For a small boat to be used on any MBL project (grant or contract or for any other reason on behalf of, or in the name of MBL), it must either be in active use and owned by MBL or, if chartered and registered in the US or operated in US territorial waters, from an organization with sufficient licenses, certifications, and insurance. MBL-owned small boats must have liability insurance coverage 12 months of the year and be registered in order to be considered active and usable. MBL-owned small boats without insurance coverage must either be covered by insurance before operation, remain inactive and not launched or sold. Small boats registered in the US or operated in US territorial waters owned by private individuals (not charter companies) cannot be utilized.

MBL Marine Research Services provides oversight for small boat operations and has the

¹ A “Small Boat” for this policy is any personnel-carrying watercraft under 12.2 meters (40 feet) equipped with propulsion machinery. Any other small craft must still otherwise comply with USCG, federal, and state laws, regulations, and practices.

following principal responsibilities:

- Oversee implementation of the small boat management plan
- Facilitate training opportunities
- Ensure operator training records are maintained
- Maintain float plan records
- Assist with sourcing small boats
- Assist with logistics such as shipping arrangements

MBL Facilities has the following principle responsibilities

- Maintain an internal web site listing of MBL-owned small boats and approved charter vessels
- Assist with vessel registration
- Ensure institutional small boats and trailers are scheduled for accounting and insurance purposes.
- Ensure small boat charters are properly reviewed and approved

The points of contact within Marine Research Services and Facilities are their respective Directors.

Management responsibility for small boats acquired by an MBL research laboratory or grant rests with the Lab Director that is operating the vessel. This responsibility includes operation, operational readiness (i.e., safety and reliability of equipment) preventative maintenance schedule, repair, upgrades, scheduling and terms of use by other users. Management responsibility for MBL center-operated small boats falls under the respective center or department. Operational decisions regarding small boat operations and deployment are made by the Lab or Department Director responsible for their respective vessels. The Operator is accountable for reporting to the Lab or Department Director responsible for their respective vessel.

Insurance for small boats shall be paid by Institution overhead as long as:

- The boat(s) is operated in accordance with this and other applicable Institution policies
- The boat(s) is available for shared use

Operator Certification Process

The certification held by the operator of any vessel, whether MBL owned or chartered, must be appropriate to the vessel chartered and/or operated. In any cases where local or state laws apply, they must be adhered to. In any cases where federal licensing standards through the United States Coast Guard apply, they must be adhered to.

To become a small boat Operator, a valid USCG marine credential of *Launch Tender* or higher, or completion of an approved boat safety training course, is required. The minimum standard is USCGA Boating Skills and Seamanship. The US Coast Guard or [National Association of State Boating Laws Administrators](#) (NASBLA) offer safety courses with a certificate. It is the responsibility of the Operator to maintain this certification and get their

course approved by MBL Marine Research Services ahead of time. A higher operator certification can exempt one from this process but they must have their certification on file.

A current First Aid & CPR course must also be maintained in addition to boat operator qualifications. All certification documents, cards and/or certificates must be maintained by the Operator, and copies of those presented at the time of bareboat charter (where the person chartering the vessel will be the operator) or of initial boat operation to the Lab or Department Director responsible for the vessel.

To promote safety and proper use and care of equipment we expect all boat Operators to be knowledgeable in the areas summarized in Appendix 1.

Recertification may be required in instances of long-term inactivity. Operator certification is valid for 5 years.

Small boats may work in remote locations and significant time may pass before an injured person can be returned to port. All certified boat Operators must complete and stay up to date with training classes, including basic first aid, and CPR. This training will be monitored by the respective lab or department director

Approved boating safety courses are:

- [NASBLA-approved Safety Courses in MA](#)
- [Boat US \(MA\)](#)
- [New England Maritime](#)
- [USCG Auxillary](#)
- [Boatwise, LLC \(State Wide\)](#)

Operation and Use of Small Boats

At least two people must be onboard vessels while underway under most circumstances. Solo operations are allowed under the following conditions

- the Operator is an MBL staff member
- the small boat is within inshore waters
- water temperatures are over 55 degrees F (12.7 C).
- the Operator must be tethered to a kill switch that will shut off the engine when detached when underway. Exceptions are acceptable for docking / undocking maneuvers.

The following types of operation are extremely unsafe and are prohibited:

- Operating any vessel under the influence of alcohol or drugs. A blood alcohol concentration of .08 BAC is the current standard of intoxication in Massachusetts.

A Cognizant Person and a float plan (see below) are required for every trip.

Prior to getting underway, the Operator is responsible for ensuring a Safety Briefing is completed in order that all persons/science party personnel are reasonably familiar with the vessel and scope of planned operations. This briefing must include, but is not limited to the location and use of safety equipment such as PFD's, fire extinguishers and life-rings, etc.

Once underway, the Operator is responsible for the safety of the boat occupants and is legally responsible for ensuring that the vessel meets all federal and state or local laws and requirements.

Capacity

All vessels should have a designated maximum weight limit or passenger capacity. The number of seats in the boat is NOT a reliable indicator of how many people the boat can safely carry. To determine the number of people that may be safely accommodated under normal conditions, check the boat manufacturers capacity plate. Boats less than 20 feet and built after November 1, 1972 (except sailboats, canoes, kayaks, and inflatables) will have a maximum capacity plate. The plate is mounted so that it is clearly visible to the operator. The capacity plate states the recommended MAXIMUM number of people or pounds that the boat can safely carry under normal conditions with several assumptions:

1. The engine is no larger than the maximum horsepower listed
2. There is a normal amount of fuel, equipment and supplies on board
3. Wind, water and weather conditions are nearly perfect
4. The approximate weight of people on the boat, additional equipment including live wells or anticipated samples to be collected, is less than the maximum weight allowed.

If there is no capacity plate, an approximate estimation of the number of persons a boat will carry can be calculated by multiplying the length and beam (width) of the boat and dividing by 15: $((L*W)/15)=\text{number of persons}$.

Operations should not exceed the designated capacity or weight limit or limits based on the assumptions above.

Weather

Small boats may not be operated on behalf of MBL during Small Craft Advisory conditions in any season or location no matter who the Operator is. A small craft advisory is issued when winds have reached, or are expected to reach within 12 hours, speeds of 21 to 33 knots expected to produce wave conditions hazardous to small craft or when sea or lake ice exists that could be hazardous to small boats. Exceptions may be possible for planned operations within protected/sheltered waters in consultation with your Lab/Dept Director.

Immediately prior to departure (i.e., the same day) it is the Operator's responsibility to: a) check the local weather forecast (e.g., see the example websites below), b) consider sea conditions at the planned worksite based on that forecast, and c) make a prudent decision whether or not to leave the dock. A small boat should not leave the dock when the local "small craft warning" is posted unless approved by the related Lab or Department

Director.

It is the operator's responsibility to give priority to safety issues, even if it means that essential work will be postponed.

Three useful URLs provide current local weather conditions and forecasts:

MVCO	http://mvcodata.MBL.edu/cgi-bin/mvco/mvco.cgi?Units=Metric
NWS Forecast	http://seaboard.ndbc.noaa.gov/data/Forecasts/FZUS51.KBOX.html
Weather Underground	http://www.wunderground.com/US/MA/Woods_Hole.html

Please bookmark these websites and make a habit of using them regularly. Similar information is available on the web for any locale where you may be operating.

Required Equipment

The law requires certain minimum equipment in the boat. The equipment required depends on the length of the boat. Required gear includes PFDs, fire extinguishers, signaling devices, visual distress signals, and navigation lights.

- A PFD (*Personal Flotation Device*) is critically important safety equipment and it is essential to wear one that fits properly. There must be one USCG-approved PFD for each person aboard the vessel. Research personnel who need to work extensively from small boats purchase and maintain their own PFDs. PFDs should not be placed in plastic bags, locked or closed compartments or have other gear on top of them. All throwable devices must be immediately available for use under state and federal laws.

MBL Policy on PFD use

1. When operating small boats from the Woods Hole MBL campus: All persons must wear an appropriately sized and fitted approved PFD at all times while the vessel is underway. (not anchored, aground, or tied to a dock.)
2. When operating away from the MBL campus exclusively in protected waters such as marshes, ponds and protected embayments. PFDs must be worn under the following conditions:
 1. When operating a vessel alone.
 2. When water temperatures are below 60 degrees Fahrenheit.
 3. By each person who self-declares as a non-swimmer.
 4. When operating in open waters beyond the protected embayment.
 5. When the operator is in doubt as to the safety of personnel aboard.

PFDs are strongly recommended and are at the discretion of the responsible staff member when transiting through deeper waters (greater than standing depth) in protected embayments.

Operation in cold water (below 50 degrees Fahrenheit) requires that all personnel aboard must wear some form of insulated and buoyant anti-exposure, immersion or dry suit.

- A Coast Guard approved hand portable type B-1 or B-II (gasoline, oil, grease fires) *fire extinguisher* should be on each boat. All the extinguishers should be in a readily accessible location. Check that the fire extinguisher has a charge and has been inspected in the last 12 months. Boats over 26 feet require two B1 fire extinguishers.

- *Navigation lights* must be displayed between sunset and sunrise and during periods of restricted visibility. MBL field work is generally limited to daytime activity but there are exceptions and fog can set in at any time. Boats should have functioning navigations lights that comply with state and federal requirements This includes red and green sidelights and an all-round white light (or separate masthead and stern lights). Kayakers or users of any other rowed vessels should never leave shore without a flashlight. Even if you plan to return before dark, unforeseen developments might delay your return past nightfall.

- A *sound-producing device* is required on all state and federally controlled waters. It is essential during periods of reduced visibility or whenever a vessel operator needs to signal their intentions or position.

Length < 26'	Mouth-, hand-, or power-operated whistle or horn, or some other means to make an efficient sound signal audible for at least one-half mile required
Length > 26'	Whistle or horn, and a bell audible for at least one-half mile required

- Coast Guard approved *Visual Distress Signals (VDS)* are required on all vessels operating on coastal waters and connected waterways, and the Great Lakes. VDSs are classified as day signals (visible in bright sunlight), night signals (visible at night), or both day and night signals. VDSs are either pyrotechnic (smoke and flames) or non-pyrotechnic (non-combustible).

The following combinations of signals are examples of VDSs that could be carried on board to satisfy U.S. Coast Guard requirements:

1. Three handheld red flares (day and night)
2. One handheld red flare and two red meteors (day and night)
3. One handheld orange smoke signal (day), two floating orange smoke signals (day), and one electric light (night only)

- All vessels propelled by a motor of any kind must have an anchor and sufficient line (rope) to anchor in the vessel's normal operating area, and a manual bailer.

- All vessels less than 16 feet in length and propelled by a motor of any kind must carry a paddle or oar on board

- MBL requires a VHF radio be aboard during all operations and that the Boat Operator

is familiar with its use. Alternative reliable means of communication, such as a water-protected cell phone, are acceptable in protected waters (See next section).

Float Plan

In order to ensure the safety of boat operators and occupants it is imperative that a responsible "Cognizant Person", an adult 18 years of age or older who is willing and able to take on the responsibilities outlined below, be identified. A written or verbal float plan must be completed by the Operator and conveyed to the Cognizant Person before departure. The Operator is responsible for identifying a local Cognizant Person and for providing a Float Plan and local emergency contact information to that person. If anticipated operations may occur in areas with poor or unknown phone or radio coverage, or operation time may vary, it is advisable to arrange pre-determined check-in times between the Boat Operator and the Cognizant Person to reduce the chance of false alarms.

If the Operator expects delays in returning he/she must make every effort to notify the Cognizant Person by cell phone or VHF radio.

Cognizant Person Responsibilities

The responsible cognizant person will:

- Know the location of the worksite and intended travel routes.
- Know the expected time of return.
- Remain available to receive notification until the boat and occupants have returned safely.
- Have a copy of the float plan for detailed information of the equipment and occupants at departure.
- Know emergency procedures and be prepared to take appropriate action if the boat does not return at the specified time.

Appropriate Action by Cognizant Person

MBL places strong emphasis on adherence to Cognizant Person responsibilities. If the boat and occupants have not returned within 1 hour of the ETR (Estimated Time of Return) and there has been no word from them about the delay, the Cognizant Person should initiate the following response protocol

- Attempt to contact the Boat Operator via VHF or cell phone. Refer to float plan for any details regarding scheduled check-in times or other considerations that may explain delay.
- If reasonable attempts at contact fail, the Cognizant Person should alert the Lab or Department Director and/or the MBL Chief Operating Officer. Continue contact attempts.

- Contact the local U.S. Coast Guard sector, see float plan for details.

Coast Guard Station Woods Hole: (508) 457-3277 or hailed via VHF Channel 16

Diving from a Small Boat

MBL maintains a strict diver training and certification program under the auspices of the American Association of Underwater Sciences (AAUS). All scientific diving must be done under the auspices of this program following the procedures outlined in the Institution's Diving Safety Manual (DSM). Copies of the Manual are available in hard copy and PDF from the Dive Safety Officer. A copy of the latest version of the MBL DSM must be available on board during diving operations, and a MBL-approved dive plan must be filed with the Diving Safety Office prior to any diving activity. An appropriate "diver down" flag must be flown at all times divers are in the water. Operators who take out divers must be certified in Diver First Aid and oxygen administration. When diving is included in the small boat cruise, a diver emergency oxygen kit or local equivalent must be aboard (available from the MBL dive locker).

Personnel safety requires that the boat operator *will not* participate directly in any dive operations. The boat operator must be fully available to maneuver the boat as required by divers in the water. The boat operator has the ultimate responsibility for the boat and crew safety. If the small boat is anchored during a dive, the anchor line must be secured to a bow cleat and the remainder of the line coiled and secured to a float such that the boat can be immediately detached from the anchor if necessary to support diver operations. The anchor can be subsequently retrieved.

A boat operator may participate directly in a dive if the vessel is secured to a dock or a pier.

The boat operator has the authority to modify or cancel dive operations based on his/her assessment and interpretation of weather and sea conditions.

Boat-to-Shore Communications

The boat operator is responsible for maintaining communications with his/her cognizant person and with the US Coast Guard or other emergency services. The Operator

1. Does not work beyond the range of on-board communication tools (i.e., know the range limits).
2. Must be familiar with both cell phone and VHF operation, emergency contacts, and protocols.
3. Must monitor the VHF radio at all times while under way and on station.
4. Should establish a communications plan with the Cognizant Person. This plan should include scheduled check-ins.

VHF Radio Telephone Guidelines

Avoid excessive calling. Make calls as brief as possible. Give name of called vessel first, then "This is (name of your vessel)," your call sign, and the word "over".

(NOTE: transmission protocol: "over" implies a response is expected; "out" states end of transmission.) If the station does not answer, delay your repeat for 2 minutes, then repeat the call.

Channels:

- **16** - Is both a hailing frequency and a distress frequency. All vessels are required to monitor this channel. The USCG also monitors 16. If you attempt to hail another vessel via Channel 13, and get no response, you may then attempt to hail the same vessel on Channel 16. Switch to a working frequency as soon as possible when establishing contact with any vessel or shore station on Ch. 16.
- **13** - the bridge-to-bridge channel used to communicate with other vessels to discuss meeting and passing maneuvers. Also used to contact bridges (Eel Pond bridge). Should not be used as a hailing frequency to contact vessels for other purposes.
- **19, 68, 71** – suggested working frequencies.
- **22a** - Is used to transmit safety information by the local USCG Sector.
- **9**- Boater Calling. Commercial and Non-Commercial. Also used for 'radio check' before getting underway.

Breaking Down

In the unfortunate situation of an engine failure here are some steps to take before calling for help:

- Without power the boat will begin to drift. You will want to throw out the anchor but may want to drift out of the way of traffic first
- Check the kill switch, it may have been knocked out of place
- Check the fuel tank, the breather may be closed or the tank empty
- Check the battery terminals, clean them if appropriate

USCG typically will only respond with USCG assets to a life-threatening emergency. Tows must be arranged with a commercial provider or helpful friend. Sea Tow (800-4-SEATOW) and TowBoatUS (877-976-1084) offer emergency services via an annual subscription fee or on-the-spot assistance.

Accident/Incident Reporting

All accidents must be reported. An accident is an unplanned event or series of events, which results in one of the following:

- Injury to Personnel, or occupational illness requires completed Injury Report form to be submitted MBL Human Resources.
- Damage or loss of MBL, private or public property, not incidental to normal operations, including findings that have the potential to cause damage should be reported to the Director of Marine Research Services.
- Damage to the environments, hazardous material spill, impact on ecosystem, protected species should be reported to the Environmental Health and Safety Manager.
- Near Miss: An event or circumstance that, if allowed to progress without interruption and/or without last minute intervention, would have resulted in an incident. Events or conditions that approach and compromise safety margins. Report to Environmental Health and Safety Manager.

Visual Identification

MBL small boats are institutional assets and must maintain a positive image and should follow a uniform identification scheme through the placement of the MBL logo. The MBL Facilities office is responsible for inventorying and registering MBL small boats. The office provides the official MBL logo. Display of the logo promotes public awareness of the MBL and is displayed in the following manner:

- Small boats without a cabin, deck house or steering console should place the logo approximately mid-way along the port and starboard hull.
- Small boats with a cabin, deck house or steering console should place the logo on both the port and starboard side of these structures at a location that is least obstructed from a clear broadside view.

Appendix 1 – Boat Operators Required Scope of Knowledge

<p><u>Navigation Rules</u></p> <ul style="list-style-type: none"> • Right of way • Responsibilities between vessels • Conduct in Restricted Visibility • Lights and Shapes • Sound and Light Signals <p><u>Elementary Seamanship</u></p> <ul style="list-style-type: none"> • Boat types and terminology • Evaluation of equipment prior to departure • Evaluation of weather conditions • Load distribution • Boating courtesy • Wind, waves and current • Anchoring • Refueling • Emergency situations • First aid <p><u>Federal, State and Local Laws</u></p> <ul style="list-style-type: none"> • Registration • Required equipment • Accident reporting • Diving operations • Life preservers • Responsibility for wake 	<p><u>Charts and Aids to Navigation</u></p> <ul style="list-style-type: none"> • Determining your position • Determining water depth • Chart scales • Aids marking sides of channels • Daymarks <p><u>Basic Navigation</u></p> <ul style="list-style-type: none"> • The mariner's compass • Plotting a course • Steering a course <p><u>Marlinspike Seamanship</u></p> <ul style="list-style-type: none"> • Cleat hitch • Round turn and two half hitches • Bowline • Coiling a line <p><u>Boat-to-Shore Communications</u></p> <ul style="list-style-type: none"> • cell phone • VHF • range limits <p><u>First Aid</u></p> <ul style="list-style-type: none"> • first aid, CPR
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Recommended Reading

- Chapman's *Seamanship and Small Boat Piloting*
- U.S. Coast Guard *Navigation Rules and Regulations Handbook*

Appendix 2 - Float Plan Template

SMALL BOAT FLOAT PLAN

(Leave a copy with the Cognizant Person and take a copy with you)

Boat Name: _____

Boat Operator: _____

Trip Participants & Their Roles:

Cognizant Person: _____ Phone: _____

Departure Time and Date: _____

Estimated Time of Return (ETR) and Date:

Local USCG sector contact info:

Nature of work:

Area of work:

Travel Routes:

Scuba Diving Plans: Yes* ___ No ___ Depth ___ No. Dives ___

*plan **MUST** be authorized by MBL Dive Safety Officer

Equipment Checklist:

___ Fuel level at departure	___ Cell Phone (No. _____)
___ Oil level	___ Radio, GPS
___ PFD's**	___ Navigation Aids (charts, compass)
___ Fire Extinguisher	___ Paddles, Bailer, Anchor, Bilge pump
___ First Aid Kit	___ Navigation lights functional
___ Test engine & steering before leaving dock	

Operator Signature: _____

Operator's signature acknowledges that operator and all participants understand their roles for the cruise

**State and Federal required safety gear, USCG recommends and MBL requires that all persons wear PFD at all times.

When the water temperature is below 50F, use of thermal buoyant worksuits are encouraged

Appendix 3 - Definitions

- **Operator** – the person driving the boat.
- **MBL boat custodian** (PI who is responsible for the boat) - they may not be an operator on a particular trip, but the custodian is responsible for paying the insurance and the maintenance costs. A Science Department can be a boat custodian.
- **Boat user**- anyone using a boat; the user does not need to be the operator or the custodian of the boat.
- **Chartered boat**- a boat hired from a company in the business of chartering. The company should be licensed and insured to charter boats, and be local to operations
- **VHF Radio** – “very high frequency” range between 156.0 and 174 MHz inclusive also known as the VHF maritime mobile band.
- **Cognizant Person** – an adult, 18 years or older, who is willing and able to take on the responsibilities outlined in this Manual.
- **Personal Flotation Device (PFD)** – also known as a life jacket. Required attire for each person on board all small boats.
- **Bareboat Charter** – a boat hired without a hired Operator. All bareboat charters must be reported to MBL Facilities.
- **MBL Project** – Internally (e.g. Independent Study award) or externally (Federal, State, non-government source) funded award or contract.
- **MBL Personnel** - MBL staff, researchers, students and others working for or on behalf of MBL.
- **Small boat**- any personnel-carrying watercraft under 35 feet equipped with propulsion machinery. Any other small craft must still otherwise comply with USCG, federal, and state laws, regulations, and practices.
- **Float plan** – Appendix 2 of this policy. Particulars and departure checklist regarding small boat cruise. A copy is left with a Cognizant Person during every MBL small boat cruise on a boat registered in the US or operated in US territorial waters.

Appendix 4 - Contacts

Director of Marine Research Services	508-289-7477
Director of Facilities	508-289-2366
MBL Chief Operating Officer	508-289-7427
Sea Tow	800-4-SEATOW
Tow Boat US	877-976-1084
United States Coast Guard Woods Hole Station	(508) 457-3277
MBL Security (24-hour coverage)	508-289-7911
Environmental Health and Safety Manager	508-289-7424

Appendix 5 - Trailing

Only drivers experienced in towing boats are allowed to trailer boats. The maximum width that a trailer and boat may be is 8.5 feet. Anything larger requires a special permit. All of Ecosystem's boats are less than 8.5 beam width. The trailer must be properly loaded and balanced in order to be safely towed. Overloading is dangerous and may result in damage to the boat, trailer and/or tow vehicle. Be aware that loading sampling gear in the trailered boat may cause it to become unstable. The hull design and weight of the boat are considerations when a trailer is selected. Each MBL boat has a designated trailer as well as the correctly sized corresponding hitches. When in doubt, ask an experienced staff member.

Before trailing check that the tow hitch ball and coupler are the same size and that the bolts are tightly secured. The coupler must be secured completely over the ball. The safety chains should be attached to the frame of the tow vehicle by crisscrossing under the coupler and attaching with the S-hook pointed up. This ensures that if the ball broke the boat would not become detached from the tow vehicle. The lights on the trailer should be checked that they are in working order. Check the trailer tires for proper inflation.

Extra driving precautions must be taken when towing a boat. It may take longer to slow and stop the tow vehicle with the weight of the boat behind. Be sure to adjust side view mirrors to make the rear corners of the boat visible to the driver. Wider turns are necessary when towing a boat and backing up with a trailer takes practice.

When attaching the trailer to tow vehicle, have a person spotting so as to not slam the coupler into the bumper or license plate.

TRAILERING CHECKLIST

1. Check that the boat is properly seated on the trailer
2. Check that the trailer is loaded evenly
3. Secure all items in the boat
4. Secure tie downs and winch
5. Towing with the appropriate vehicle
6. Tow ball and coupler are the same size
7. Coupler is completely over the ball and latch is fully secured
8. Check that the safety chains are properly attached to tow vehicle
9. Plug the trailer lights to the tow vehicle
10. Check that the trailer lights are all in working condition (brake, parking, running lights)
11. Check for proper trailer and tow vehicle tire inflation pressure (including spare)
12. Check the tow vehicle brakes
13. Adjust tow vehicle mirrors

Appendix 6 - Launch Checklist

1. Make sure boat has all the required safety equipment (see above)
2. Make sure boat plug/s are securely in place
3. Make sure cooling water intake is below the surface of the water before starting engine
4. Check that the boat plug(s) are in place
5. Is there a PFD for each person in the boat?
6. When required (boats > 16 feet), is there a type IV PFD (throwable floatation device) in the boat?
7. Is the required fire extinguisher charged and on the boat?
8. Are fuel tanks secured properly?
9. Check that the sound device works
10. Is the marine VHF radio/cell phone charged and in good working order?
11. Are the lights in working order, or is there a functioning light kit aboard?
12. Check that the visual distress signals are aboard and that the pyrotechnic devices are not expired
13. Is there a first aid kit aboard?
14. Is there an anchor and line on the boat?
15. Is there a paddle on the boat?

If launching from trailer

1. Disconnect trailer lights
2. Remove tie downs
3. Ensure that the launch ramp is safe (no large pits or steep drop-offs)
4. If possible, keep the rear wheels of the tow vehicle out of the water and
5. NEVER immerse the tires up to the wheel rims.
6. Engage the parking brake
7. Have someone on shore holding a line to the boat
8. Wait for boat operator to be ready before releasing boat from winch
9. Rinse trailer and undercarriage of tow vehicle after launch and retrieval
10. When retrieving boat, take note of any changes in ramp conditions (tide, wind, currents)
11. Ensure that the boat is sitting properly on the trailer (rollers and skids line up)