

University of California, Berkeley

# **Small Boat Safety Manual**

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V.1

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# SMALL BOAT SAFETY MANUAL

## SECTION 1.00

### OVERVIEW

#### 1.10 PURPOSE

Small boat operations involve certain risks that must be addressed prior to beginning any field work. Knowing what equipment is required to be on the boat, the rules of the road, understanding the weather and its effects on the marine environment, and even the variations in operating one type of boat compared to another are all obstacles that must be overcome in order to minimize the risks to those on board, as well as maximizing efficiency in data collection.

The purpose of this manual is to establish good boating practices under the auspices of the University of California, Berkeley; to ensure that all boating under UCB auspices is conducted in a safe and efficient manner; and to familiarize participants with the basic procedures that affect their own safety and the safety of their fellow user.

Any UCB small boat operator is required to observe the provisions of this guide.

#### 1.20 CONTENTS

The Small Boat Manual contains policies and procedures for all boating operations. The UCB Small Boat Safety Manual includes:

1. Policies and procedures that pertain to all UCB boating operations.
2. Administrative procedures for conducting the UCB small boat program.
3. Equipment and maintenance recommendations.

#### 1.30 APPLICABILITY

The provisions of this manual apply whenever UCB personnel are using a small powerboats under UCB auspices, whether or not the boat is owned by UCB.

Specific examples of boat operations under UCB auspices include but are not limited to: persons engaged in research; employees acting within the scope of their employment; students engaged in any research operation including those receiving or providing boat operation instruction or involved in boat checkouts; and boat operations conducted in educational and recreational programs sponsored by UCB.

For the purposes of this program, a small boat is *any boat less than 26 feet in length* (US Coast Guard Class 1 and smaller). In order to be approved for use by UCB personnel, a small boat must be numbered in accordance with the regulations of the State of California or in accordance with applicable Federal Law or with a federally approved numbering system of another State. Small boats operating in International waters must meet local identification requirements.

Small boats used under UCB auspices fall into four categories:

1. Boats launched from UCB properties.
2. Boats owned by individual UCB programs.
3. Privately owned boats used for UCB research.
4. Boats chartered by UCB personnel for the purpose of conducting research, education, or training.

## **SECTION 2.00 RESPONSIBILITY**

### **2.10 UCB VICE CHANCELLOR- RESEARCH**

The Vice Chancellor-Research has the ultimate authority for the Small Boat Safety Program and its related activities. The Vice Chancellor-Research is responsible for approving changes to the Small Boat Safety Manual.

### **2.20 UCB SCIENTIFIC DIVING AND SMALL BOAT SAFETY BOARD**

The Scientific Diving and Small Boat Safety Board (SDSBSB) at UCB is responsible for recommending changes to this Small Boat Safety Manual and for general oversight of the small boat operations at UCB, including reviews of accidents involving injury, or loss / damage to equipment.

### **2.30 BOATING SAFETY OFFICER**

The administration of the Small Boat Safety Program policy currently resides with the Diving Safety Officer. THE BSO can be contacted at [ucbdiver@berkeley.edu](mailto:ucbdiver@berkeley.edu) or 510.642.1298.

### **2.40 PRINCIPAL INVESTIGATORS**

Principal Investigators will assure that all small boat operations that are part of a program under their direction are conducted in accordance with this manual. It is required that Principal Investigators who operate boats that are either owned by individual UCB programs or privately owned boats used for UCB research meet the same safety standards as UCB boats and to have on board the required safety equipment as outlined in Appendix I.

### **2.50 BOAT OPERATOR**

In all boat operations, one UCB individual shall be designated as the boat operator. Exceptions may be granted for commercially operated charter vessels which comply with U.S. Coast Guard regulations concerning charter vessels. In foreign waters, the responsible UCB operator shall insure the vessel has all required safety and navigational equipment. This may entail the UC operator bringing safety equipment for the vessel. The designated boat operator is responsible for all aspects of boating operations, regardless of the presence of any senior staff or faculty in the boat. These responsibilities include, but are not limited to:

1. The safe navigation of the vessel to and from the site(s) of operation.
2. The safe operation of all equipment, either in the collection of data, or the handling of the vessel.
3. Safe transport of the vessel to and from the launch site.
4. Insuring that all required operational and safety equipment is on board before getting underway and properly stowed upon return.

Non-compliance with this manual is to be reported to the Principle Investigator or Department Chair for review. The Scientific Diving and Small Boat Safety Board is available to assist with any reviews as requested.

Any operator may deviate from the requirements of this manual to the extent necessary to prevent or minimize a situation that is likely to cause death, serious physical harm, or major environmental damage. A written report of such actions must be submitted within 24-hours to the Boating Safety Officer explaining the circumstances and justifications.

## SECTION 3.00

### ADMINISTRATIVE PROCEDURES

#### 3.10 GENERAL

The regulations in this manual must be observed wherever small boat operations are carried out under the auspices of UCB. All operators must follow the provisions of the manual and all equipment used must conform to U.S. Coast Guard requirements.

#### 3.11 Operating Areas

The regulations herein shall be observed at all locations where boating operations are conducted under the auspices of the UCB Small Boat Program. Areas of operation belong to one of three classifications:

1. Inland Waters: Shoreward of the demarcation line that separates International Navigation Rules from U.S. Inland Navigation Rules, for example within the waters of San Francisco Bay. The demarcation line is known as the COLREGS (Convention on the International Regulations for Preventing Collisions at Sea, 1972) Demarcation Line. It is shown on nautical charts.
2. Coastal Waters: Seaward of the COLREGS Demarcation Line, but within sight of land.
3. International Water: operators shall meet all local requirements and regulations for both equipment and operator licensing, as well as US Coast Guard regulations.

The operating area for each boat within the Small Boat Program will be clearly identified by the owner. Boats will be used only in their designated areas or in areas which provide greater protection.

#### 3.20 BOAT OPERATORS

Boat operators are expected to have basic knowledge and competencies for handling the vessel they intend to use, in the expected environment and conditions for their field work. Theoretical knowledge and an understanding of the "Rules of the Road" can be gained through any of several formal boating courses. The California Department of Boating & Waterways, the U.S. Coast Guard Auxiliary, and the U.S. Power Squadron offer courses that are acceptable for this purpose.

Boat operating experience is invaluable, and there is no substitute for time at the wheel on the water. While UC Berkeley does not offer any regular training opportunities, boat time can be arranged on a re-charge basis for those who request it. Contact the Boating Safety Officer for details.

Departments and boat owners may set additional requirements for the use of their vessels.

#### 3.30 BOATS AND EQUIPMENT

All boats and equipment used by authorized UCB operators in US waters, regardless of ownership, will conform to U.S. Coast Guard requirements and to the standards set forth in this manual. UCB owned vessels operating in foreign waters must comply with both local and USCG regulations.

#### 3.31 Stability

All boats used by UCB personnel are required to have an installed data plate that designates the number of people and weight capacity according to the manufacturer's specifications. It is the responsibility of the boat operator to stay within these limits and to have all weight evenly distributed so that the boat will be trimmed properly. If the manufacturer's specifications have been altered or if a platform was designed and constructed for specific research the trim and stability modifications may be comprised. It is the responsibility of the Principal Investigator to verify the stability of any modification with the Boating Safety Officer.

### **3.32 Equipment**

The operator shall be familiar with the operation of the equipment and shall inspect all emergency equipment prior to departure. Special attention should be given to Personal Floatation Devices (PFD's) and communication equipment (radios and cell phones). He / She shall notify the Boating Safety Officer or the boat owner of any malfunctioning equipment used during their operation.

### **3.40 UCB BOAT FLOAT PLAN**

All Operators of boats must leave a float plan with some responsible party on shore. The minimum requirements for a float plan are:

1. The boat being used;
2. The planned date, time and place of departure;
3. The planned date, time and place of return;
4. The site(s) of operation;
5. The Principal Investigator;
6. The names and affiliation of people on board.
7. Communication schedule, i.e., cellular telephone number and/or VHF working frequency.

### **3.50 COMMUNICATIONS**

Scheduled cell phone or radio communications with agreed upon frequency shall be maintained with a responsible person. To initiate any change in an approved schedule, the shore contact or assigned alternate must be notified and changes confirmed. If the boat operator, or their designee, is unable to notify the shore contact or assigned alternate, the filed plan must be adhered to. Failure to maintain scheduled radio communications (within one-half hour) may cause initiation of U.S. Coast Guard Search and Rescue procedures.

The shore contact or the agreed upon alternate shall be notified by phone or in person upon completion of work. Notice of return is required within two hours after the scheduled time of return. If shore-based or radio contact is not made, procedures for U.S. Coast Guard action may be initiated. Vessel operators and shore contacts shall take into account the limited VHF radio and cell phone coverage in coastal waters.

### **3.60 WEATHER**

Use of any boat is always contingent upon weather conditions. Responsibility for monitoring weather conditions prior to departure and during operations resides with the operator. When small craft advisories are issued by the National Weather Service for the waters of a planned operation or experiment, boats that are scheduled for operations within that area should postpone their operations until more favorable conditions prevail.

### **3.70 SCUBA DIVING**

Any persons SCUBA diving from a UCB boat are required to observe the provisions of the University of California, Berkeley Diving Safety Manual. All dive plans must be approved by the UCB Scientific Diving and Small Boat Safety Board (SDSBSB).

Diving by students, staff, and faculty of UCB or with UCB equipment as a necessary part of their employment, research, or training, and by other authorized divers under the supervision of the UCB dive program as a necessary part of research, constitutes diving under UCB auspices.

The designated lead diver will be in charge of all diving operations. A UCB boat operator should remain aboard at all times during diving operations, and is required for dives deeper than 30 meters (99').

### **3.80 SAFETY CHECKS**

**3.81 Prior to Departure** the boat operator shall:

1. Perform a functional inspection of the boat and all equipment.
2. Assess all environmental risks—weather conditions, sea conditions.
3. Inform all passengers of emergency procedures—man-overboard, fire, and abandonment and methods for seeking assistance.
4. Inform all passengers of the location of emergency equipment
5. Inform all passengers of additional hazards and appropriate precautions for the particular environment, weather and objectives of the operation.

### **3.82 After Returning**

1. Upon return the operator will check in with shore contact person.
2. Note any problems with the boat or equipment that occurred and inform the responsible department within 24-hours.

### **3.90 RECORD KEEPING AND ACCIDENT REPORTING**

#### **3.91 Routine Records**

The Boating Safety Officer or a designee (i.e. departments owning boats, individual owners of boats, etc.) shall keep a file of usage for all boats, including a log of scheduled and unscheduled maintenance for each boat, boat trailer and outboard engine.

#### **3.92 Accident Reporting**

*All* accidents and incidents involving boats must be reported to the Boating Safety Officer. The Boating Safety Officer will report the accident to the SDSBSB for review and The Small Boat Safety Board shall investigate and document the accident and related personal injury and/or property damage and prepare a report for the Vice Chancellor-Research.

Definitions:

**Incidents** are defined as events that result in minor injuries (cuts and scrapes) or “cosmetic” damage to vehicles or vessels (dents and scratches that don’t effect the operation of the vehicle or vessel.) Incidents also include near misses, such as when a situation occurred that could have led to an accident, which should be reported as well.

**Accidents** are defined as events in which a serious injury requiring medical attention beyond basic first aid occurred.

Reporting guidelines and resources:

1. Any accident must be reported to the EH & S office, within 24 hours, at 510.642.3073.
2. Any accident resulting in a fatality must be reported as soon as possible to EH & S, or, if after normal business hours, to the UCPD at 510.642.6760.
3. Any accident resulting in damage to a University owned vehicle, vessel, or property must be reported to the Office of Risk Management using the proper report forms. Reports can be located at <http://riskmanagement.vcbf.berkeley.edu/Forms/forms.htm>
4. Any injury to an employee must be reported to Disability Management Services (formerly Workers Compensation) at 510.642.8768.

# APPENDICES

**Appendix I**

**UCB Boat Float Plan**

# UCB FLOAT PLAN

## Instructions for use:

This document is for your benefit. In the event of mechanical difficulties, weather related problems, or other boating hazards, having a plan and the proper equipment to deal with these issues can make a huge difference in the outcome. Fill out this form as completely as possible and leave it with a responsible party (spouse, PI, Harbor Master) on shore. In the event your return is delayed and communications are lost, this shore party should activate the appropriate response as detailed on this form. It is recommended that you bring a copy with you in the boat, but be sure you leave this form on shore.

Name of vessel: \_\_\_\_\_  
Operator Name: \_\_\_\_\_ Telephone #: \_\_\_\_\_  
Local address: \_\_\_\_\_  
UC Berkeley Principle Investigator: \_\_\_\_\_ On board? \_\_\_

## DESCRIPTION OF VESSEL

**Type:** \_\_\_\_\_ **Color:** \_\_\_\_\_  
**Color of Trim:** \_\_\_\_\_ **Registration #** \_\_\_\_\_  
**Length:** \_\_\_\_\_ **Sails:** \_\_\_\_\_ **Make:** \_\_\_\_\_

### Engines:

**Number:** \_\_\_\_\_ **Make:** \_\_\_\_\_ **Horsepower:** \_\_\_\_\_ **In / Outboard:** \_\_\_\_\_  
**Fuel capacity:** \_\_\_\_\_ **Canvas Top?** \_\_\_\_\_ **Color of Top:** \_\_\_\_\_

## SURVIVAL and SAFETY EQUIPMENT (Check as appropriate)

PFD's: _____ # _____ *	Paddles: _____	Bell/whistle/horn: _____
Working Radio: _____ *	Monitoring Channel: _____	Cell phone: _____
Day Signals: _____	Night Signals: _____	Exposure Protection: _____
Anchor: _____	Amount of line: _____	Sea Anchor: _____
Fire Extinguisher: _____ * <sup>1</sup>	Bailing Device: _____	Tool kit: _____
Compass and Charts or maps: _____		*represents required equipment <sup>1</sup> see USCG regulations for details

## NOTIFICATION

Shore Contact: \_\_\_\_\_ Phone# \_\_\_\_\_

If no contact is made with Shore Contact by: \_\_\_\_\_ (time)

Call the Coast Guard at \_\_\_\_\_ or \_\_\_\_\_ (local authority) at

\_\_\_\_\_.

**Planned Activity:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

