SCIENTIFIC BOATING SAFETY ASSOCIATION

Boating Safety Manual

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SCIENTIFIC BOATING SAFETY ASSOCIATION
BOATING SAFETY MANUAL

SECTION 1.00
OVERVIEW

1.10 PURPOSE

The purpose of these boating standards is to ensure that all boating is conducted in a manner that will maximize safety and to set forth standards for training and certification that will allow a working reciprocity between organizational members.

1.20 CONTENTS

The Scientific Boating Safety Association (SBSA) Boating Manual establishes minimum guidelines for the operation of all non-UNOLS boats by Organization Members (OM).

The Organizational Members' SBSA Boat Manual shall include:

1 Policy that pertains to all vessels operating under the auspices of the OM.

2 Guidelines for obtaining and maintaining boat operator authorization.

3 Administrative procedures.

4 Equipment standards.

1.30 APPLICABILITY

The provisions of this manual apply whenever OM personnel are using a boat under OM auspices, regardless of ownership of the boat.

Specific examples of boat operations under OM auspices include: persons engaged in research, earning academic credit, 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.

Boats used under OM auspices include:

1 Boats owned, supported, or administered by the OM, regardless of ownership.

2 Privately owned boats used by the OM for scientific or educational purposes.

3 Any other vessels used by the OM for scientific or educational purposes.

4 In case of joint operations, the lead institution will ensure that all applicable safety standards are being met.

SECTION 2.00
RESPONSIBILITY

2.10 BOATING SAFETY COMMITTEE MEMBERSHIP

Boat Safety Committee membership should consist of:

1. Chief Administrative Officer
   The CAO has the ultimate responsibility for the boat program and its related activities

2. Other Members
   Should consist of a majority of persons who are knowledgeable about boating operations

3. Boat Safety Officer (BSO), [or OM equivalent]

2.20 BOATING SAFETY COMMITTEE RESPONSIBILITY

1 Has autonomous and absolute authority over the boating program's operation.

2 Shall review and revise the boating safety manual.

3 Shall assure compliance with the boating safety manual.

4 Shall take disciplinary action for unsafe practices, and act as a board of appeal.

5 Shall recommend the issue, reissue, or the revocation of boating authorizations.

6 Shall establish and/or approve training programs through which the applicant can satisfy the requirements of the organizational member's boating safety manual.

7 Shall suspend boating operations that are considered to be unsafe or unwise.

8 Shall periodically review the Boating Safety Officer's performance and program.

9 Shall sit as a board of investigation to inquire into the nature and cause of boating accidents or violations of the organizational member's boating safety manual.

10 May grant exceptions to this manual.

2.30 BOATING SAFETY OFFICER (BSO)

The Boating Safety Officer (BSO) serves as a member of the Boating Safety Committee (BSC). This person should have broad experience in boating.

Duties and Responsibilities

1 Shall be responsible, through the BSC, to the responsible administrative officer or designee, for the conduct of the boating program of the membership organization. The routine operational authority for this program, including the conduct of training and authorization, and ensuring compliance with this standard and all relevant regulations of the membership organization, rests with the Boating Safety Officer.

2 May permit portions of this program to be carried out by a qualified delegate(s), although the Boating Safety Officer may not delegate responsibility for the safe conduct of the OM boating program.

3 Shall suspend boating operations considered to be unsafe or unwise.

SECTION 3.00
ADMINISTRATIVE PROCEDURES AND TRAINING REQUIREMENTS

3.10 AUTHORIZATION OF BOAT OPERATORS

Boat Operator Authorization

To become an authorized boat operator submit the OM's application form and:

1. Complete a boating safety course from a BSC approved provider.
2. Provide documentation of, and/or acquire, practical experience in operating a boat.
3. Demonstrate proficiency in the safe operation of the proposed type of boat in local conditions.
4. Demonstrate proficiency in the operation of any specialty equipment and procedures specific to the boat.

3.20 MAINTAINING AUTHORIZATION

OM's shall set standards for maintaining authorization. At a minimum operators shall be re-authorized every five years.

SECTION 4
ADMINISTRATIVE PROCEDURES AND RECORD KEEPING

4.10 FLOAT PLAN – SEE APPENDIX 2

All boat operators conducting boat operations under the auspices of the OM should file a float plan with a responsible party prior to departure.

4.20 MAINTENANCE OF RECORDS

1 A file of usage for all boats, including a log of scheduled and unscheduled maintenance for each boat and boat trailer shall be maintained.

2 Records shall be maintained for a period deemed appropriate by the OM.

4.30 ACCIDENT AND INCIDENT REPORTING

1 All accidents must be reported to the Boating Safety Officer within 24 hours of the incident.

2 Incidents and near accidents, breakdowns or other unsafe events whether on land or at sea must be reported to the Boating Safety Officer within a time period specified by the OM.

3 Any accident causing loss of the vessel, damage over $2,000, requiring medical treatment beyond first aid, or loss of life must be reported to the U.S. Coast Guard.

4 The Boating Safety Committee shall investigate and document the accident as described in 3 above and related personal injury and/or property damage and prepare a report.

5 Accident reports shall be held for five years.

SECTION 5.00
OPERATIONAL PROCEDURES

All boats and equipment used by OM authorized operators in US waters, regardless of ownership, will, at a minimum, conform to U.S. Coast Guard, state, and local requirements and to the standards set forth in this manual.

All boats operated outside of U.S. Coast Guard jurisdiction shall at a minimum comply with U.S. Coast Guard regulations in addition to any applicable local requirements and to the standards set forth in this manual.

5.10 STABILITY

No person may operate a vessel loaded in a manner that will jeopardize the safety of the operator or crew.

5.20 EQUIPMENT

1 The operator shall be familiar with the operation of the equipment and shall inspect all emergency equipment prior to departure.

2 The operator and/or crewmember shall notify the responsible person of any malfunctioning equipment.

3 The nature of specific operations may require vessels and boating equipment to meet higher standards as determined by the Boating Safety Officer or the Boating Safety Committee.

5.30 COMMUNICATIONS

OM shall set minimum communication guidelines.

5.40 WEATHER

OM shall establish weather guidelines for boating operations.

5.50 SPECIAL OPERATIONS

OM shall establish guidelines for special operations such as; foreign waters, SCUBA diving, trawls, live boating, night operations, equipment deployment, etc.

5.60 SAFETY CHECKS

Prior to Departure Boat Operator Shall:

1. Perform a functional inspection of the boat and equipment, including communications.
2. Assess all environmental conditions – weather, water conditions, etc.
3. Give a briefing to all on board including, at a minimum, emergency procedures, location of PFDs, fire extinguishers, man overboard, and methods of seeking assistance.

After Returning

1 Upon return the operator will close the float plan as agreed upon before departure.

2 Notify within 24 hours, the responsible person, of any problems with the boat or equipment that occurred during the cruise.

APPENDIX 2
Float Plan

All vessels operating under the auspices of the OM must, at the minimum, be in compliance with local, state and USCG regulations

Date: _____ Departure time:_____ Estimated return: _____

Name & description of vessel: _____

_____ # of people on board_____

Names:_____ Contact #_____

_____ _____

_____ _____

_____ _____

_____ _____

Area of operations. (be specific):_____

Type of activity:_____

Point of departure: _____

Description of tow vehicle if applicable _____

If overdue, contact:_____ Contact #_____

Emergency plan, including activation time: _____

_____

_____

Local information & emergency numbers

Emergency	911	
USCG		Monitors VHF 16

APPENDIX 3

Request for Scientific Boating Project Approval or Renewal

1. Name of project: _____

2. Name of Principal Investigator or Administrative Officer: _____

3. Department: _____

4. New or an ongoing project? _____

5. Research project description and goals. Use a separate sheet if necessary: _____

_____

_____

6. Vessel name & description: _____

7. Vessel owner & Operator(s): _____

8. Names & affiliation of those on board: _____

_____

_____

9. Location of project: _____

_____

10. Dates of start and end of operations: _____

APPENDIX 4
BOATING EMERGENCY MANAGEMENT PROCEDURES

Introduction
Most boating incidents take place through the culmination of several factors leading up to a single point when unsafe situations combine and pass a critical point resulting in an emergency situation. Identifying these factors and correcting them immediately is the best course of action.

General Procedures (Personnel Injury)
The nature and severity of personnel injury shall be the determining factor for the mode and method of patient transport.

Make contact with victim, if safe, rescue as required.

1. Establish ABC's. (Airway, Breathing, Circulation) Then apply first aid as required.
2. Determine severity and select the mode of transport. (Self transport, USCG, or EMS
3. As applicable, contact the pre-designated land base, USCG channel 16 VHF, or EMS 911. Or local equivalent
4. Coordinate with EMS for patient transfer site and ETA.
5. Notify the Boating Safety Officer or the designated Assistant.
6. Complete the Accident Forms as required.

General Procedures (Non-urgent Disabled or Damaged Vessel)
For non-emergency related damage or disabling situations it is the responsibility of the operator to suspend the mission and assess all conditions then take appropriate action. The operator must communicate the situation to the designated mother-ship or land-based point of contact. A communication
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APPENDIX 5
BOATING ACCIDENT REPORT FORM

In California see

http://dbw.ca.gov/PDF/AccidentForms/BAR.pdf

APPENDIX 6
INDIVIDUAL UNDERWAY HOURS LOG

Individual Underway Hours Log

Name:_____ **Department:_____**

APPENDIX 7

GLOSSARY

From CA Department of Boating & Waterways Boating Course
http://www.dbw.ca.gov/PDF/DBWBoatCourse.pdf

A

Abaft — Toward the rear of the boat or vessel

Aboard — On, in or into a boat.

Abreast — Side by side; by the side of.

Aft — Describing the after section of a vessel, or things to the rear of amidships and near the stern.

Ahead — In a forward direction.

Aid to Navigation (ATON) - Any device external to a vessel specifically intended to assist navigators in determining their positions or safe courses, or to warn them of dangers or obstructions.

All-Round — A light which shows all the way Light around; 360 degrees.

Amidships — Midway between the bow and the stern on a boat.

Anchor — A forging or casting shaped to grip the sea bottom and, by means of a cable or rope, hold a boat in a desired position.

Anchorage — A suitable place for anchoring in relation to the wind, seas and bottom.

Anchor Line — A line used to hold a vessel fast to the anchor.

Arrhythmia — An irregularity in the rhythm of the heart's beating.

Asphyxiation — To cause a loss of consciousness as a result of too little oxygen and too much carbon dioxide in the blood; suffocation. Astern Behind or towards the rear of a vessel.

Athwart — Across.

Auxiliary Engine — A "stand by" source of power.

B

Bail — To remove water from a boat by pump or bailer.

Bass Boat — A modified skiff or jon boat. Usually has a covered forward deck and a powerful motor to get to fishing places quickly. Used on lakes and rivers.

Bathers — Swimmers.

Beam — Imaginary line amidships at right angles to keel of vessel. Also vessel's width amidships.

Bearing — The direction of an object from an observer.

Berth — A bed or boat slip.

Bight — The part of the rope or line, between the end and the standing part, on which a knot is formed.

Bilge — The lower internal part of a boat's hull.

Bilge Pump — A submersible pump that is used to pump water out of the bilge.

Cuddy Cabin A small shelter cabin.

Current The movement of the water in a horizontal direction.

F

Fairway A navigable part of a river or bay through which vessels enter or depart; a part of a harbor or channel that is kept open and unobstructed.

Federally Navigable Waters The seas and waters which provide a “road” for transportation between two or more states or to the sea.

Fenders Objects placed along the side of the boat to protect the hull from damage.

Ferry When referring to river travel, a method used to navigate across a river current with little or no downstream travel.

Figure Eight Knot A knot in the form of a figure eight placed in the end of a line to prevent the line from passing through a grommet or a block.

Fishtail The side-to-side motion of a trailer when it does not have sufficient weight on its tongue.

Flame Arrestor A safety device on an inboard or stern drive engine which prevents an explosion from an exhaust backfire.

Flare 1. The outward spread of the boat’s sides from the waterline to the rail at the bow. 2. A visual distress signaling device.

Float Plan A document that describes the route(s) and estimated time of arrival of a particular voyage. It usually includes a description of the vessel, its equipment, and its passengers.

Forward Toward the bow.

Fouled Any piece of equipment that is jammed or entangled, or dirtied.

Head-On The situation which exists when two boats approach each other and each sees both the red and green sidelights of the other.

Helm The tiller, wheel or steering gear of a vessel.

Highside In rafting when a team of paddlers puts their weight on the downstream end of the raft to prevent a “wrap.”

Hitch 1. A knot used to secure a rope to another object or to another rope, or to form a loop or a noose in a rope.

2. A trailer hitch which is an attachment on the tow vehicle where the trailer is directly attached.

Holes In river terminology a hole is a place where water flows over a submerged object, creating a reverse current that can hold a buoyant object.

Horsepower The equivalent of a lift of 550 pounds one foot in one second.

Hull The body of a boat.

Hull ID A number that includes the Number manufacturer’s ID code, hull serial number, date of certification, and model year, and is permanently affixed to a vessel’s hull.

Hydrology In river terminology, denotes the science dealing with the properties of flowing water.

Hyperthermia A physical condition where the body gains heat faster than its ability to cool itself.

Hypothermia A physical condition where the body loses heat faster than it can produce it.

Hyperventilation- Extremely rapid or deep breathing that may cause dizziness, fainting, etc.

I

Inboard An engine often mounted amidships; Engine connects to the propeller by a propeller shaft.

Inflatable A vessel which is inflated by air or carbon dioxide; can be collapsed for trans-porting.

J

Jet Drive A special form of a stern drive engine; pumps large amounts of water which is “jetted” out to propel the craft.

Jon Boat A flat-bottomed boat with square ends used on rivers and lakes; often used by people fishing or hunting.

Kayak An Eskimo canoe. A water-tight boat; if it turns over, water does not enter; easily righted.

Keel The permanently positioned, fore-and-aft backbone member of a boat’s hull.

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Sailboard Also known as a windsurfer. A board similar to a surfboard that is propelled by wind and sails.

Sailboat A boat powered by wind and sails. May or may not have an auxiliary engine.

Shallow calm water Is defined as that whose depth is 0-6', flow velocity is <2 ft/s, and where there are no severe winds, waves, and/or currents capable of swamping or overturning a boat. It includes all forms of boatable wetlands, mudflats, shallow embayments, lagoons, lakes, and calm areas of flooded floodplains.

Ship A larger vessel usually thought of as being used for ocean travel. A vessel able to carry a "boat" on board.

Short Blast A one-second sound signal given by a vessel's whistle.

Sidelights The red and green lights marking the port and starboard sides of a vessel.

Small swift water Is defined as subcritical gravity-driven flow with typical velocities of 2-10 ft/s, widespread depths of 0-6', and a water-body width of 0-300'. This definition includes waters under the American Whitewater Association's "Class I (Easy)" category, which is defined as "Fast moving flow with riffles and small waves; Few obstructions, easily avoided; Low risk; Easy self-rescue."

Spar Any pole, as a mast, yard, boom or gaff, supporting or extending a sail of a ship.

Spar Buoy A channel marker that looks like a tall, slender pole.

Special Purpose Buoy A buoy having no lateral significance used to indicate an anchorage area, fish net area, spoil grounds, military exercise zone, etc.

SPF Short for sun protection factor. This is a rating indicator of how effective a sunscreen is in blocking the harmful effects of the sun.

Spring Line Fore and aft lines used in mooring to prevent a boat from moving forward or astern while fast to a pier.

Square Knot A knot used to join two lines of similar size. Also called a reef knot.

Stand-On Vessel The vessel required to first hold course and speed when nearing another vessel; the vessel which has the right-of-way. However, the stand- on vessel is also required to take any action necessary to avoid a collision if the give-way vessel does not take early and significant action.

Starboard The right side of a boat when you are (inside) facing the bow.

Steal Your Wind When any vessel or object blocks a sailboat's wind.

Steering Nozzle A device for directing a stream of water from left or right in a jet-propelled engine, thereby affecting the vessel's heading or course.

Stern The aft end or back of a boat.

Stern Drive A vessel with an engine mounted Engine inside the hull near its stern and with its propelling mechanism attached to the transom.

Stern Line A line leading aft from the stern of a boat to a pier.

Strainer On a river, any obstacle that the current flows through. Willows, fallen trees or brushy plants are common examples.

Stow	To store items neatly and securely.
Swamp	To fill with water, but not sink, a boat or vessel.
Swimmer’s Position	In a river, floating on your b

Weight Carrying Hitch A trailer hitch which fastens to the towing vehicle’s frame and bumper.

Whipping Twine wound around a line to prevent fraying or abrasion.

Whitewater Foaming white-tipped water marked by wh