



Small Boat Safety Plan

Florida Institute of Technology (Florida Tech)

Environmental Health & Safety (EH&S)

150 W University Blvd, Melbourne, FL 32901

Email: ehs@fit.edu

Website: <https://www.fit.edu/office-of-environmental-health-and-safety/>

Revision History

Revision Number	Revision Date	Revised By	Description of Change
00	9/11/2020	Juliette Jones/Tim Fletcher	Initial creation and implementation.

Table of Contents

Introduction	1
Purpose	1
References	1
Definitions	1
Responsibilities	2
Boating Safety Committee (BSC).....	2
Boating Safety Officer (BSO)	2
Principal Investigators and Program Directors	3
Small Boat Operators (SBO)	3
Environmental Health and Safety Administration Officer (EH&S-AO).....	3
Administrative Procedures and Training Requirements.....	3
Authorization of Boat Operators	4
Maintaining Authorization	4
Revocation of Authorization	4
Re-authorization	4
Trailing, Launching and Retrieving	4
Administrative Procedures and Record Keeping	4
Float Plan	4
Maintenance of Records.....	5
Accident Reporting	5
Operational Procedures.....	5
Stability	5
Equipment.....	5
Communications	6
Weather	6
General Operating Procedures	6
Safety Checks and Rules.....	6
Emergency	7
Mechanical Problems.....	7
Insurance.....	7
Inspections	7

Appendices.....	8
Appendix I – Boating Safety Committee	8
Appendix II – Florid Tech Marine Operations Float Plan	9
Appendix III – Risk Assessment Considerations	10

Introduction

Purpose

Florida Tech is committed to providing a safe and healthful environment for all employees, students, and visitors.

The purpose of this plan is to establish requirements for the safe operation and management of Florida Tech's small boats. The Small Boat Safety Plan is designed to provide guidance, enhance safety, and familiarize participants with general operating standards and procedures for all small boats operated under the auspices of Florida Tech.

Specific examples of boat operations under Florida Tech auspices include the following: 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.

All Florida Tech small boat operators, as well as other personnel involved in small boat operations, are required to adhere to the provisions of this plan.

References

The following documents related to small boat operations and safety were consulted in the preparation of this Manual:

485 DM, Chapter 22, Watercraft Safety, Department of Interior.

33 CFR, Navigation and Navigable Waters, Boating Safety, U.S. Coast Guard, Department of Homeland Security.

46 CFR, Shipping, U.S. Coast Guard, Department of Homeland Security.

The NOAA Small Boat Standards and Procedures Manual, 4th Edition.

Scientific Boating Safety Association Boating Safety Manual (rev. December 2016)

Definitions

Motorboat. Any watercraft 65 feet or less in length, defined as a small boat by this Manual, that is not certified under the inspection laws or subject to regular inspections by the U.S. Coast Guard (uninspected vessels).

Motorboat Classifications:

Class A. Motorboat less than 16 feet in length.

Class 1. Motorboat 16 feet to less than 26 feet in length.

Class 2. Motorboat 26 feet to less than 40 feet in length.

Class 3. Motorboat 40 feet to less than 65 feet in length.

Watercraft. All vessels, including airboats, sailboats, and every description of motorized and non-motorized watercraft, except seaplanes, which are used, or capable of being used, as a means of transportation upon the water. For the purposes of this Manual, watercraft, motorboat, vessel, and small boat shall be used interchangeably.

Operator. The individual in physical control of the watercraft.

Oceanographic Research vessels. A vessel which the USCG determines is exclusively employed in instruction in oceanography or in oceanographic research.

Responsibilities

Boating Safety Committee (BSC)

The BSC consists of the EH&S Administrative Officer (EH&S-AO), the Boating Safety Officer (BSO), and a representative of the departments that use the Anchorage Facility for academic and research purposes. The following are the duties and responsibilities of the BSC (see Appendix I for list of current members).

1. Has authority over the Small Boat Safety Program.
2. Shall periodically review and revise the Small Boat Safety Plan.
3. Shall assure compliance with the Small Boat Safety Plan.
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 Florida Tech's Small Boat Safety Plan.
7. Shall suspend boating operations that are 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.

Boating Safety Officer (BSO)

The Boating Safety Officer serves on the Boating Safety Committee and has a broad experience in boating. The following are the duties and responsibilities of the BSO.

1. Reports to BSC and/or EH&S-AO or designee, for the conduct of the boating program at Florida Tech. The BSO is the operational authority for this program and is responsible for the conduct of training and authorization of operators and ensuring compliance with this standard and all relevant regulations of the membership organization.
2. Maintains training and authorization records.
3. 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 Florida Tech boating program.
4. Shall have the ability to suspend boating operations considered to be unsafe or unwise.

Principal Investigators and Program Directors

1. Principal Investigators and Program Directors are personally responsible for assuring that all boat operations, under their direction, are conducted in accordance with the safety plan.
2. Principal Investigators and Program Directors are required to meet the safety standards of this plan and have on-board the safety equipment as outlined in Appendix II, regardless of ownership of the vessel.
3. Principal Investigators and Project Directors must determine that all individuals assigned to small boat operations related to their projects are properly authorized.

Small Boat Operators (SBO)

1. Only persons who have been authorized as Small Boat Operators may operate small boats under Florida Tech auspices, whether the boat is owned by Florida Tech or not.
2. The designated Small Boat Operator is responsible for all aspects of boating operations, regardless of any senior personnel present in the boat. These responsibilities include, but are not limited to:
 - a) Safety of the vessel and all persons on board.
 - b) Operation of the vessel in compliance with federal, state, and local regulations and FLORIDA TECH's manual.
 - c) Safe transport of the vessel to and from the launch site.
 - d) The safe operation of all equipment.
 - e) Ensuring that all required operational and safety equipment is on board and that crew members know the location and how to operate safety/survival equipment.
 - f) Report all accidents, incidents, boarding, citations, safety concerns, and issues to the BSO.
3. Failure to comply with provisions of Florida Tech's Small Boat Safety Plan may be cause for the revocation or restriction of the operator's authorization. However, any operator may deviate from the requirements of the boating safety policy to the extent necessary to prevent or minimize a situation that is likely to cause death, serious physical harm, damage to the vessel, or major environmental damage. A report of such actions must be submitted within 24-hours to the Boating Safety Officer explaining the circumstances and justifications.
4. The operator or person in charge of a vessel is obligated by law to provide emergency assistance that can be safely provided to any individual in danger at sea. The operator or person in charge is subject to a fine and/or imprisonment for failure to do so.

Environmental Health and Safety Administration Officer (EH&S-AO)

1. The EH&S-AO is responsible for safety oversight of the BSO and small boat operations at Florida Tech. This includes regular inspections of the Anchorage site and audits of records kept by the BSO.

Administrative Procedures and Training Requirements

The regulations in this plan must be observed wherever Small Boat Operations are carried out under the auspices of the Florida Tech Boating Safety Program. All SBOs must follow the provisions of the plan, and all equipment used must conform to [U.S. Coast Guard requirements](#).

The small boats are to be used for faculty approved research and teaching in the Indian River Lagoon, Lake Washington, and adjacent waterways. Any graduate student, faculty member, or research technician/engineer anticipating the need for a small boat for teaching or research work must first be certified through the Florida Tech procedures, and they MUST have completed a safe boating course. This is to allow for safe, effective use of vessels and ensure reasonable care of Florida Tech equipment.

Authorization of Boat Operators

To become an authorized boat operator:

1. Complete a boating safety course from a BSC approved provider. Those offered by the Power Squadron or Coast Guard Auxiliary are preferred. Online courses, such as those offered at boat-ed.com, are also acceptable.
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 or task to be undertaken.

Proficiency will be evaluated by the BSO through a practical exam. Based on the proficiency demonstrated, the BSO has the authority to provide or decline authorization. The BSO may give limited authorizations to Florida Tech personnel that restrict SBOs to the use of certain boats and/or in certain waters. The BSO also has the authority to defer to another institution's training program for the authorization of SBOs.

Maintaining Authorization

The Small Boat Safety Program shall set standards for maintaining authorization.

Revocation of Authorization

An SBO's authorization may be revoked for any action deemed unsafe or unlawful or for not meeting the procedural requirements of the Small Boat Safety Program.

Re-authorization

If an SBO's authorization is revoked, the SBO may be re-authorized after compliance with such conditions as the Boating Safety Officer may impose. The SBO shall be given the opportunity to present their case to the Boating Safety Committee before conditions for re-authorization are stipulated.

Trailing, Launching and Retrieving

If the destination is beyond Canaveral or Sebastian inlet, it is more practical to trailer your boat to your site. Procedures for pulling trailers will be covered during your check-out. When the boat is to be trailered, it should not be loaded with gear and speed should not exceed 50 mph.

Administrative Procedures and Record Keeping

Float Plan

To reserve a small boat, contact Tim Fletcher (321-432-5875 / tfletcher@fit.edu), Director-Marine & Outdoor Operations to check on boat availability at least 24 hours in advance. You must fill out a Small Boat Request form, have it approved by your faculty advisor or proper authorized person and present it

to the Marine Operations Office located at the Anchorage facility prior to your trip. All small boats leaving from the Anchorage must file a Float Plan (See Appendix II).

Maintenance of Records

The Boating Safety Officer or designee 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. Records shall be maintained for a period of 5 years.

Accident Reporting

All incidents should be reported to the Boating Safety Officer within 24 hours of the incident. A reportable incident is defined as follows:

- a) Someone is injured and requires more than just first aid for the injury.
- b) A vessel breaks-down while in use in any manner that is not easily remedied, suffers more than minor hull damage, or is involved in a near-accident or other unsafe event whether on land or in the water.

The Boating Safety Officer shall investigate and document the incident and related personal injury and/or property damage or loss and prepare a report that will be presented to the Boating Safety Committee.

Operational Procedures

All boats and equipment used by Florida Tech authorized operators in US waters, regardless of ownership, will, at a minimum, conform to U.S. Coast Guard requirements and to the standards set forth in this manual. All boats operated outside of U.S. Coast Guard jurisdiction (see [Part 2 of 33 CFR, Navigation and Navigable Waters](#)) 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.

Stability

1. All boats used by Florida Tech personnel should have an installed data plate that designates the number of people and weight capacity according to the manufacturer's specifications.
2. It is the responsibility of the boat operator to stay within the designated limits and to have all weight evenly distributed so that the boat will be trimmed properly.
3. 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 BSO

Equipment

You may gain access to the small boat supplies on the day of your trip or on Friday (for weekend trips) by obtaining the key from the Marine & Outdoor Operations Office during work hours (Monday through Friday, 8 a.m. to 5 p.m.).

Should your work involve the handling of nets (otter, trawl, plankton or seine), your boat must display a Florida Tech sign and you will need to have on board an appropriate research permit authorizing your activities. You are also required to have on board a current chart of the area being navigated, a GPS receiver and a cellular telephone.

Users are required to return with the onboard fuel tank full. Most of the 2 stroke models are equipped with Evinrude ETEC 2 stroke engines and require XD-100 2 stroke oil ONLY to be poured into separate, on board oil tanks. Marine Operations will ensure an adequate supply of XD-100 is on board prior to your trip. Failure to use the proper oil with Evinrude ETEC equipped models will result in catastrophic engine failure and costly repairs. For non-ETEC models, any reputable brand of 2 stroke oil with a TCW-3 rating is acceptable

Each boat must be equipped with enough life jackets (one per person) to meet the USCG maximum occupancy rating, fire extinguishers, anchors with rope (line), first aid kits, oars (one required per boat), flares/signal kits, whistles, vessel registration and throwable (type 4) PFDs. Lights are also to be carried and used after dark, or in restricted visibility (rain, fog, etc.). SBO's are responsible for verifying this equipment is onboard before departing.

Life jackets can be stored underneath the seat during your trip. You are required to have one Type-I life preserver for each passenger and one Type-IV life preserver for each boat, it is your responsibility to ensure they are onboard prior to departure. Do not use them as seat cushions. The anchor line can be attached to the forward bow cleat. The fire extinguishers should be stored securely. Vessel registration forms are stored in orange dry boxes / first-aid kits located on each boat.

Communications

All boats will be equipped with a VHF communications device that permits it to communicate ashore from the maximum distance offshore where the boat will operate. Additionally, small boat operators must bring a working cell phone.

Weather

No small boats are to go out when small craft are cautioned to stay in port (i.e. small craft advisories). Small craft advisories are issued by the National Weather Service (NWS).

General Operating Procedures

The gas tank should be placed in the bottom of the boat near the rear seat. Ensure that the fuel line is securely engaged to the fuel connector fitting. All boats in the fleet are equipped with power tilt and trim units. Do not start engines "dry". To avoid damage to water pump impellers, lower the engine to the run position (propeller under water) BEFORE starting the engine. On some trailer vessels, it may be necessary to first raise the engine, lower the trailering stop and then lower the engine into the water.

Before starting the engine, set the shift arm in the vertical-neutral position. While holding primer bulb in a vertical orientation, squeeze the bulb on the gas line until gas will no longer pump freely (do not over-squeeze). Lower the engine into the water and turn the key. Allow the engine to warm up. Be particularly alert in Crane Creek for manatees and observe the no-wake law inside Melbourne Harbor.

Safety Checks and Rules

Prior to Departure the boat operator shall:

1. Perform a pre-departure risk assessment. Risk assessment considerations are outlined in Appendix III.

2. Inform all passengers of emergency procedures – man overboard, fire, and abandonment and methods for seeking assistance.
3. Inform all passengers of the location of emergency equipment.
4. Inform all passengers of additional hazards and appropriate precautions for the environment, weather and objectives of the operation.

After Returning:

1. Upon return the operator will check in with shore contact person. The shore contact person should be indicated on the Float Plan along with their contact information.
2. Note any problems with the small boat or equipment that occurred and inform the Department of Marine & Outdoor Operations within 24-hours.
3. The small boat shall be washed down with fresh water and left in a state in which it could be immediately used if necessary.

It is our intention to support the research and teaching needs of students and faculty to the greatest reasonable degree. Safe, efficient operation will require cooperation, observance of Federal and State Law, and recognition of the potential for disaster involved in marine operations. Failure to follow these guidelines or to exercise prudence may result in the loss of boating privileges.

REMEMBER, ABSOLUTELY NO ALCOHOL OR DRUGS ARE EVER ALLOWED!

Emergency

In the event of an accident or injury, render required first aid on the scene (first-aid kit located onboard), and secure professional medical attention as needed. Any such incident is to be reported immediately to the [Marine & Outdoor Operations Office \(321-432-5875\), or Florida Tech Security Office \(321-674-8111\)](#).

Mechanical Problems

A general troubleshooting guide is located onboard each vessel. Any mechanical or equipment problems are to be reported to the Marine & Outdoor Operations Manager directly or on the Comments/Report section of the Check-out form after returning.

Insurance

Florida Tech's liability insurance covers Florida Tech-certified small boat operations while operating properly equipped boats, in compliance with State and Federal regulations. Negligent or reckless operation may void that coverage and, without question, leave the operator open to personal liability.

Inspections

The marina and the boat shall be inspected at least quarterly (once every three months) by the BSO.

Appendices

Appendix I – Boating Safety Committee

1. Dr. Kevin Johnson, Chairman, Professor, Department of Ocean Engineering and Marine Science
2. Mr. Tim Fletcher, Boating Safety Officer, Director of Marine and Outdoor Operations Research
3. Ms. Juliette Jones, EHS-AO, Department of Environmental Health and Safety
4. Dr. Austin Fox, Assistant Professor, Department of Ocean Engineering and Marine Science
5. Mr. David Beach, Assistant Director of Marine and Outdoor Operations Research
6. Dr. Gary Zarillo, Professor, Department of Ocean Engineering and Marine Science
7. Dr. Spencer Fire, Assistant Professor, Department of Ocean Engineering and Marine Science
8. Dr. Toby Daly-Engel, Assistant Professor, Department of Ocean Engineering and Marine Science

Appendix II – Florid Tech Marine Operations Float Plan

PERSON FILING PLAN

NAME: _____

PHONE NUMBER: _____

DESCRIPTION OF BOAT

TYPE: _____

REGISTRATION NUMBER: _____

PERSONS ON BOARD

NAME	AGE	NAME	AGE
1:		2:	
3:		4:	
5:		6:	
7:		8:	
9:		10:	
11:		12:	

CIRCLE:

PFDs FLARES WHISTLE PADDLE FIRE EXT ANCHOR

RADIO CHANNEL 7A

TRIP DETAILS

LEAVING FROM: _____

GOING TO: _____

LEAVING DATE/TIME: _____

RETURNING DATE/TME: _____

IN NOT RETURNED BY _____ CALL:

COAST GUARD: VHF CHANNEL 16 OR DIAL 911

OTHER: PHONE #

OTHER INFORMATION:

Appendix III – Risk Assessment Considerations

Introduction

1. Accept risk when benefits outweigh costs.
2. Risk is inherent in boat operations.
3. Risk is also related to gain; normally, greater potential gain requires greater risk.
4. The goal of risk management is not to eliminate risk, but to manage it so that missions can be fulfilled with the minimum amount of exposure to potential harm or loss.
5. Only take risks which are necessary to accomplish a mission.
6. Taking unnecessary risks not related to successful mission completion is equivalent to gambling. Gambling is an imprudent activity that does not belong in risk management.
7. Anticipate and manage risk through proper planning. Risks are more easily controlled when they are identified early.

Resources: Boat and Equipment, Supervision, Communications, and Support.

1. Is the boat adequate for the mission?
2. Is it properly equipped with operational and safety equipment? Are the boat and equipment functional and current?
3. Is there adequate oversight and supervision for this kind of boat, mission, and mission equipment?
4. Is there administrative and practical support (like fuel and food) for the mission?
5. Is a communications plan in place?
6. Is back-up or rescue available?

Environment:

1. Is the mission environment inherently hazardous (i.e., a surf zone, ice, rocks, uncharted or shallow water, etc.)?
2. Is it remote or inaccessible to the USCG or EMS?
3. Is it a new environment for this kind of mission, or for the crew?
4. Will boat traffic, debris, or current impact operations?

Team Selection: Experience, Training, and Familiarity.

1. Have the crew and mission personnel performed this kind of operation before with this kind of boat and equipment, and with each other?
2. Have they operated in this environment before?
3. Is the mission or mission equipment new or un-tested?
4. Is everyone properly trained for this mission?

Fitness: Physical and Mental.

1. Is the team well rested and ready to work?
2. Does everyone understand the mission, and are they capable of performing it?
3. Will weather, stress, or living conditions pose mission, safety, or crew exposure/fatigue problems?

Weather:

1. Are current and expected weather conditions acceptable?
2. What are the likely effects of the expected weather on the mission and safety?
3. Does it pose a problem to the gear that will be used?
4. Is there a plan to mitigate hazards or mission failure, or safely cancel, if the weather is worse than expected?

Mission Complexity:

1. Is the mission or mission equipment complicated, difficult, new or experimental?
2. Is it a multi-unit operation or dependent on other agencies?
3. Is it high-profile, stressful, or time sensitive?
4. Will mission equipment restrict the boat's maneuverability, affect stability, or pose a hazard to other traffic?
5. Does the operation carry inherent risks (like towing divers or going into the surf)?