



**COLLEGE OF ENVIRONMENTAL SCIENCES & ENGINEERING**  
**SCHOOL OF OCEAN SCIENCES**

**Small Boat**  
**Safe Operating Procedure**

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## 1. PURPOSE

This document details the safe working practices that must be followed to ensure the safety of staff and students carrying out small boat operations within the School of Ocean Sciences.

## 2. SMALL BOATS

The safe operating procedures **only applies to** the following small boats<sup>1</sup>. The use of any other boats must be agreed with the College Health and Safety Manager prior to use.

Boat Name	MCA Registration	Length	Maximum Weight	Maximum Persons	Permitted Area of Operation
MYA	Y17MV0052699	5.54m	300kg	4	Category 4
Macoma	Y16MV0083023	8.2m	450kg	6	Category 4

**NOTE:** Category 4 = up to 20 miles from Safe Haven during daylight hours and in fair weather.

## 3. REGISTRATION: MARITIME AND COASTGUARD AGENCY (MCA)

The Small Boat Safety Advisor will arrange for boats to be formally registered with the Maritime and Coastguard Agency (MCA) as required.

On registration an MCA Compliance Certificate and Compliance Sticker will be issued. The Compliance Sticker will be displayed on the boat and the Compliance Certificate held on board the boat along with other relevant Compliance Documents.

MCA Registration is required annually. The expiration date is set in line with the anniversary of the MCA Compliance Examination which is valid for a maximum period of 5 years.

## 4. GENERAL EQUIPMENT

As a minimum, a radio, flares, life-jackets, throw line, alternative means of propulsion, air horn, bailer, GPS, fire extinguisher, anchor, First Aid Kit and other equipment as required by the MCA coding of the vessel must be carried on any small boat activity.

When not in use these items will be stored securely in the Pier Pavilion. Access can be arranged through the Chief Technician, Senior Field Support Technician and Instrumentation Technician who will also be responsible for ensuring regular, recorded inspections of the equipment and formal maintenance are performed as required.

## 5. FUEL: USE OF PETROL

Petrol for use in boats must be stored in approved, drip proof containers which, when not in use must be stored in the secure store. Purchase of petrol, access to the store and refueling of the boat is restricted to the Chief Technician, Senior Field Support Technician and Instrumentation Technician.

Smoking is **prohibited** on the boats or in the proximity of fuel.

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<sup>1</sup> Use of the Prince Madog is covered by its own specific procedures

## 6. TOWING WITH TRAILER

Due to the specific legislation requirements that apply to the use of trailers, no person may tow using the trailer until authorized by the College Health and Safety Manager with checks undertaken as per the *University's Driver & Vehicle Safety Policy Standard*. In addition, once approved, the Skipper will provide a general briefing on how to safely tow equipment and secure loads.

The Skipper will ensure the trailer and associated equipment used to secure loads, for example straps are maintained as required (see Section 8).

## 7. KEY PERSONNEL & COMPETENCE

### 7a. Small Boat Safety Adviser

The School has appointed a Small Boat Safety Adviser who will advise the Dean of College and Heads of School of their specific responsibilities in relation to small boat operations and to advise person(s) involved in boat work of the potential hazards and the safety precautions for which they are personally responsible and with which they must comply.

As part of their role they will ensure boats are operated in compliance with the MCA Code and will liaise, as necessary, with the College Health and Safety Manager on matters concerning suitable safety precautions for small boats.

### 7b. Skipper

A competent Skipper must be present on each boat trip.

The School has established two Classes of Skipper. Each Class must have knowledge of local waters and be trained for their Class as detailed below. Only 'Class A' Skippers may lone work.

- **Class A:** Basic Sea Survival, Professional Practices and Responsibilities – PPR (RYA), Maritime Radio Operator Certificate of Competence (RYA), First Aid (RYA), Powerboat Commercial Endorsement (RYA), Radar course (where required) (RYA).
- **Class B:** Minimum of Powerboat Level 2 (RYA)

Name	Class	Boats	Restrictions
Ben Powell	A	All boats	<ul style="list-style-type: none"><li>• MCA vessel restrictions</li></ul>
Peter Hughes	A	All boats	<ul style="list-style-type: none"><li>• MCA vessel restrictions</li></ul>
Aled Owen	A	All boats	<ul style="list-style-type: none"><li>• MCA vessel restrictions</li></ul>
Ian Pritchard	B		<ul style="list-style-type: none"><li>• No lone working</li><li>• No night working</li></ul>
Berwyn Roberts	B		<ul style="list-style-type: none"><li>• No lone working</li><li>• No night working</li></ul>

The Skipper is responsible for the health and safety of anyone on board and operating the boat within the MCA Code, MCA endorsements and limits of the boat.

The Skipper must monitor general environmental conditions: tides, weather and daylight hours for the period before, during and in case of delays, for a period after the proposed end of the trip. Before departure the Skipper must check everyone is suitability prepared (eg clothing) and provide appropriate training, instruction and information to all Crew, including details of the Risk Assessment and emergency arrangements.

The Skipper's decisions must be followed at all times this includes having overall responsibility for determining if the trip should proceed, or if a trip should be aborted.

### 7c. Crew (ie Participants, Persons on Board)

All Crew must attend a Small Boat Safety Induction with additional instruction, information and training provided (Pre-Trip Briefing) by the Skipper as necessary.

Lone work may only be allowed in boats between Bangor Pier and the Telford Suspension Bridge. Any person lone working must carry a handheld VHF radio set to VHF CH 72, and inform person(s) on shore with radio set to VHF CH 72 of the work being carried out. At all other times, small boats must have a minimum of two persons on board (one a competent Skipper), both of whom must be capable of piloting the boat to a safe haven and use the radio.

Crew must wear appropriate clothing for the trip, in addition to a life jacket at all times whilst afloat. Crew must comply with the Skipper's instructions at all times.

## 8. MAINTENANCE OF BOATS AND ASSOCIATED EQUIPMENT

To ensure the boats and associated equipment remain in good working order the following Schedule of maintenance and inspections is in place.

The Instrumentation Technician will arrange all 'Formal Maintenance / Inspections' and keep records of this.

The Skipper will perform 'Pre-Trip Inspections'.

Item	Formal Maintenance / Inspections	Pre-Trip Inspections
Boats: MYA, Macoma	<ul style="list-style-type: none"> <li>• Mid Term Examination</li> <li>• 5 Yearly: MCA Compliance Examination</li> </ul>	Visual Inspection
Flares	<ul style="list-style-type: none"> <li>• Comply with manufacturer's requirements regarding maintenance / replacement periods</li> </ul>	Visual Inspection
Life-jackets (must comply with BS 3595)	<ul style="list-style-type: none"> <li>• Annual: Orally inflated - pressure tested</li> <li>• Annual: Gas inflated – Contractor service</li> </ul>	Visual Inspection
Throw Lines		Visual Inspection
Radios		Visual Inspection / Operation Check
Battery		Voltage meter on dash
First Aid Kit		
Fire Extinguisher	<ul style="list-style-type: none"> <li>• Annual: Contractor service</li> </ul>	
Trailer	<ul style="list-style-type: none"> <li>• Annual: Garage service</li> </ul>	Visual Inspection

## 9. GENERAL SAFE OPERATING PROCEDURES

The Skipper must ensure the following for each trip:

### Planning

- i. A suitable and sufficient Risk Assessment is in place. (*See Appendix 1 for Generic Risk Assessments – it is the Skipper's responsibility to review these prior to departure and amend as required*).
- ii. Weather, tide times, daylight hours are established for the duration of the trip (*see Appendix 2 for Checklist*).
- iii. Suitable equipment for both the activity and support equipment is available (appropriate PPE, radio, flares, life-jacket, throw line, alternative means of propulsion, anchor, air horn, bailer, GPS, fire extinguisher, First Aid Kit etc).

### The Trip

- iv. Unless Class A staff working between Bangor Pier and Telford Bridge, two persons required as a minimum to be on board (one a competent Skipper), both of whom must be capable of piloting the boat to a safe haven and use the radio.
- v. Support equipment is on board with final check made of these and the boat ie visual check of life-jackets, leaks of fuel containers and associated pipework (*see Appendix 3 for Boat Checklist*).
- vi. Pre-trip Briefing provided to all Crew which considers conditions to be encountered, activities to be undertaken (eg deploying / retrieving pots) and specific risks arising from these (eg falls risks from ropes, handling marine life).
- vii. Crew confirmed as wearing adequate clothing to protect against all weather conditions likely to be encountered, paying particular attention to waterproofs, heat retention and the effect of solar radiation.
- viii. Life jackets are available for all Crew and worn.
- ix. University Security Office (ext 2795) informed of the trip prior to departure and details of launch and recovery stations, itinerary and expected return times. (NOTE: Coastguard and Health & Safety Manager to be informed also if working at night, or in reduced light).
- x. No person smokes on a boat or in the proximity of fuel.
- xi. Spare fuel is carried in approved containers.

### On Return

- xii. Skipper informs Security Office ext 2795 of return.
- xiii. Ensure any accident and incident is reported as required.
- xiv. Boat, trailer etc washed with fresh water to avoid corrosion.
- xv. Fuel and other equipment stored securely.

## 10. USEFUL INFORMATION AND CONTACTS

College Health & Safety Manager 01248 38 2524

Small Boat Safety Advisor Ben Powell 01248 38 8694

Holyhead Coastguard 01407 762051 / VHF 16 for initial contact [www.holyheadcoastguard.co.uk/weather.htm](http://www.holyheadcoastguard.co.uk/weather.htm)

Tidal Information [easytide.ukho.gov.uk/EASYTIDE/EasyTide/SelectPort.aspx](http://easytide.ukho.gov.uk/EASYTIDE/EasyTide/SelectPort.aspx)

Wind Information <http://www.windguru.cz/int/>

Bangor University Security 01248 38 2795

Emergency Services 999

## APPENDIX 1 – GENERIC SMALL BOATS RISK ASSESSMENT

**NOTE:** This is a generic Risk Assessment which should be reviewed for each trip to ensure pertinent to the specific voyage and activity to be undertaken.

<b>LOCATION:</b>	Various: At Sea on Coastal Waters	<b>ACTIVITY:</b>	Small boat operations (see Section 2) on coastal waters which includes the use of winches and deploying / recovery of pots / anchors / seabed equipment whilst at sea
<b>DATE:</b>	September 2018	<b>ASSESSOR:</b>	John Latchford (H&S Manager, CoESE), Suzanne Barnes (H&S Officer, HSS)

HAZARD / WHAT TO CONSIDER	THOSE AFFECTED	CONTROLS	FURTHER ACTIONS	BY
<p><b>General Risks: Arising from boats and associated equipment being unsuitable for the activity or not maintained in a safe working condition</b></p> <p><i>Boat / Equipment:</i></p> <ul style="list-style-type: none"> <li>- Stability, swamping and capsizing of boat</li> <li>- Drifting, stranding</li> <li>- Defective boat and equipment</li> <li>- Fouled propeller</li> </ul>	All persons on boat: Skipper, Crew, staff & Students	<ul style="list-style-type: none"> <li>• Boats registered with MCA</li> <li>• Boats operated as per MCA Codes of Practice and within load restraints</li> <li>• Suitable alternative means of propulsion to be carried on boats. paddles/oars, spare engine</li> <li>• Boats maintained as per Manufacturer's instructions and MCA requirements</li> <li>• Engine serviced regularly (100 hrs/annually)</li> <li>• Support equipment carried:               <ul style="list-style-type: none"> <li>- Radio</li> <li>- Flares (in waterproof container)</li> <li>- Air horn</li> <li>- Spare fuel (in suitable container)</li> <li>- Bailer</li> <li>- Anchor</li> <li>- Any other equipment required by MCA regulations and for work being undertaken.</li> </ul> </li> <li>• Boat and associated equipment checked pre-use and repaired by Skipper or removed from use until repaired by a suitable contractor</li> <li>• Knife carried by Skipper in case of fouled prop</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure maintenance and inspection records of boat and associated equipment kept</li> </ul>	Instrument. Technician

<p><b>General Risks: Arising from personnel being unfamiliar with the boat operations and / or general lack of awareness / preparedness for boat work</b></p> <ul style="list-style-type: none"> <li>- Lone working</li> <li>- Drowning</li> <li>- Man overboard</li> <li>- Becoming lost</li> <li>- Personal injury</li> <li>- Generally being unprepared eg unsuitable clothing</li> </ul>	<p>All persons on boat: Skipper, Crew, staff &amp; Students</p>	<ul style="list-style-type: none"> <li>• Persons may lone work between Bangor Pier and Telford Suspension Bridge</li> <li>• Any person lone working must take with them a VHF radio and monitor CH 72</li> <li>• Lone worker must have contact on land to monitor VHF CH 72</li> <li>• In all other cases, boats must be crewed by two persons as a minimum, one of whom must be a competent Skipper, with the appropriate Class for the activity</li> <li>• Skippers must have appropriate skills and experience to act in this role (see Section 7)</li> <li>• Waterproof charts and GPS carried for all waters</li> <li>• Boat Safety Induction provided to new boat users which includes conditions to expect, types of clothing to wear etc</li> <li>• Crew instructed in how to wear life jackets, which must be worn by all crew at all times whilst afloat</li> <li>• Life jackets maintained as required (Section 8)</li> <li>• Skipper provides Crew with Pre-Trip Briefing which includes specific activity and emergency arrangements</li> <li>• Man Overboard exercises practiced</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain Induction records</li> <li>• Maintain Pre-trip Briefing records</li> </ul>	<p>Skipper</p>
<p><b>Use of Otter Trawl, Beam Trawl and Winch. Deploying &amp; Recovery of Pots, Anchors and other Seabed Equipment (loads)</b></p> <ul style="list-style-type: none"> <li>- Manual handling risks when deploying / recovering loads</li> <li>- Slips, trips and falls from ropes,</li> </ul>	<p>All persons on boat: Skipper, Crew, staff &amp; Students</p>	<ul style="list-style-type: none"> <li>• Only authorized personnel may use equipment and deploy / recover loads</li> <li>• Knives / cutters available for use by Skipper (or other nominated person) in event of entanglement</li> <li>• Dead man's handle, kick switch on engine, overload trip set for each boat</li> <li>• Skipper provides specific briefing when operating</li> </ul>	<ul style="list-style-type: none"> <li>• Skipper to advise crew of on-board safety equipment and how to operate in an emergency</li> <li>• Check suitable gloves available for handling catches</li> <li>• Refer to NHS Website in event of injuries from marine life</li> </ul>	<p>Skipper</p>



<p><i>other equipment on deck</i></p> <ul style="list-style-type: none"> <li>- Recovery of net</li> <li>- Use of winch</li> <li>- Running ropes</li> <li>- Contact with the load or 'catch' eg sharp objects, Weever fish, jelly fish</li> <li>- Overloading of boat, capsize</li> <li>- Man overboard during operation</li> </ul>		<p>equipment and deploying / recovering loads eg slips and trips from ropes, manual handling, risks from loads such as jelly fish</p> <ul style="list-style-type: none"> <li>• Winch only used in deep water or if heavy load suspected (often boat slows significantly)</li> <li>• Skipper responsible for ensuring boat not loaded beyond capacity</li> <li>• Only persons authorized by the Skipper allowed on deck when deploying and recovering loads</li> <li>• Winch to be used to haul up. Loads to be slid over side not lifted</li> <li>• Suitable gloves to be worn by persons handling equipment and loads</li> <li>• All ropes and equipment used to be tidied after deployment / retrieval operation</li> </ul>	<p><a href="https://www.nhs.uk/conditions/jellyfish-and-other-sea-creature-stings/treatment/">https://www.nhs.uk/conditions/jellyfish-and-other-sea-creature-stings/treatment/</a></p>	
<p><b>Environmental: Impact of changing tide / weather / daylight conditions on boat and personnel safety</b></p>	<p>All persons on boat: Skipper, Crew, staff &amp; Students</p>	<ul style="list-style-type: none"> <li>• Skipper responsible for monitoring weather, daylight hours and tide conditions for the duration of the trip and the immediate period after in case of 'shifts'</li> <li>• Skipper will check crew suitably prepared</li> <li>• Sun cream carried</li> <li>• The Skipper has ultimate responsibility for the trip and will cancel or abort if felt necessary</li> </ul>	<ul style="list-style-type: none"> <li>• Monitor conditions and take action eg abort trip if necessary</li> </ul>	<p>Skipper</p>
<p><b>Emergency Arrangements: Fire, First Aid, boat failure</b></p>	<p>All persons on boat: Skipper, Crew, staff &amp; Students</p>	<ul style="list-style-type: none"> <li>• See <i>General Risks above</i></li> <li>• Skipper informs Security of all trips: departure time, trip details, expected return time</li> <li>• Emergency equipment carried eg throw lines, flares, bailers, first aid kit, spare battery</li> <li>• Life-jackets compulsory whilst afloat</li> <li>• Emergency arrangements covered in Boat Safety Induction and Pre- Trip Briefing</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure Security notified when returned from trip</li> </ul>	<p>Skipper</p>

**NOTE:** This Risk Assessment should be read in conjunction with the generic Small Boats Risk Assessment.

<b>LOCATION:</b>	At Sea at Night: Coastal Waters	<b>ACTIVITY:</b>	The use of small boats as detailed in Section 2 on coastal waters at night
<b>DATE:</b>	September 2018	<b>ASSESSOR:</b>	John Latchford (H&S Manager, CoESE), Suzanne Barnes (H&S Officer, HSS)

HAZARD / WHAT TO CONSIDER	THOSE AFFECTED	CONTROLS	FURTHER ACTIONS	BY
<b>General Risks: Arising from operating and / or working on boats outside of daylight hours in diminished visibility</b>	All persons on boat: Skipper, Crew, staff & Students	<ul style="list-style-type: none"> <li>• Controls as detailed in Small Boats Risk Assessment followed</li> <li>• Only Class A Skippers can work in reduced light</li> <li>• Skipper to maintain a constant weather watch on the weather in the area</li> <li>• Skipper has full discretion to cancel work in event of unfavorable weather of conditions</li> <li>• Coastguard and College H&amp;S Manager informed of all work in restricted light</li> <li>• Skipper instructs crew to work slower and to specific instructions</li> <li>• Red filters fitted to all lamps</li> <li>• Life jackets to be fitted with reflective tape and water activating lights</li> <li>• Skipper keeps to minimum boat speed and stays in channels with watch on depths maintained at all times</li> <li>• Safe Haven identified for each trip prior to departure</li> <li>• Comprehensive charts to be held on board</li> </ul>	<ul style="list-style-type: none"> <li>• Carry additional torches</li> <li>• Check lifejackets have tape and lights</li> </ul>	Skipper

<b>LOCATION:</b>	Various	<b>ACTIVITY:</b>	Use of boat trailer
<b>DATE:</b>	September 2018	<b>ASSESSOR:</b>	John Latchford (H&S Manager, CoESE), Suzanne Barnes (H&S Officer, HSS)

HAZARD / WHAT TO CONSIDER	THOSE AFFECTED	CONTROLS	FURTHER ACTIONS	BY
<p><b>General Risks: When using the trailer to transport the boat</b></p> <ul style="list-style-type: none"> <li>- <i>Boat falling off trailer onto persons or resulting in damage to other equipment, property etc in the vicinity of where the boat fell</i></li> <li>- <i>Road traffic accident when transporting the trailer</i></li> <li>- <i>Overloading of trailer leading to potential for trailer to collapse and injuries / damage arising from this</i></li> <li>- <i>Trailer and connections falling due to poor housekeeping or lack of maintenance</i></li> </ul>	<p>Anyone in vicinity of trailer and / or when loading / unloading boat onto the trailer</p>	<ul style="list-style-type: none"> <li>• Due to the specific legislation requirements that apply to the use of trailers, no person may tow using the trailer until authorized by the College Health and Safety Manager and checks undertaken as per the <i>University's Driver &amp; Vehicle Safety Policy Standard</i></li> <li>• Technicians provide a specific briefing on how to safely load / unload and secure the boat onto the trailer</li> <li>• The trailer is suitable for the boat being towed</li> <li>• Means to secure loads provided</li> <li>• A safety line is used to secure between the trailer and towing vehicle</li> <li>• Brakes and tyres maintained regularly</li> <li>• Trailer is washed with fresh water after each 'immersion' to prevent corrosion from salt water</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure ongoing annual 'driver authorisation' and associated checks undertaken</li> <li>• Keep records of trailer inspections and maintenance</li> <li>• Ensure equipment used to secure boats eg straps, inspected regularly</li> </ul>	<p>CoESE Admin</p> <p>Instrument. Technician</p> <p>Instrument. Technician</p>

**APPENDIX 2 – TRIP PLANNING:** Completed by Skipper before boat use

<b>GENERAL</b>		
Skipper Name:		Contact Details:
Trip on Behalf of:		Contact Details:
Trip Date & Location:		Passenger Nos & Names:
<b>WEATHER FORECAST AND SEA STATE</b>		
At launch:		Up to 6hrs after launch:
High Tide:		Low Tide:
Current Outbound:	Current On Site:	Current Inbound:
<b>HAZARDS</b>		
<b>GENERAL VOYAGE CONSIDERATIONS</b>		
Signed Skipper:		Date:

### APPENDIX 3 – BOAT CHECKLIST: Completed by Skipper before boat used

PRE USE CHECKS (state Yes / No)		
Fuel:	Engine Condition:	Boat Condition:
First Aid Kit, Fire Extinguisher:	Paddle(s), Oars & Anchor:	Key & Kill Cord:
Spare Fuel (suitable container):	Anchor:	Towing & Mooring Lines:
Knife:	Bailer / Pump:	Engine Spares:
Buoyancy Aids, Flares, Air Horn:	GPS Unit:	Working Radio (Coastguard VHF16):
<b>Check Prop: Clear off debris before start up</b>		
<b>Bilge Pump: Check works</b>		

#### START UP

1. Attach kill cord, start engine and let run for a few minutes (to check for water flow & fuel blockage)
2. Kill cord - always use (attach to Skipper, preferably around upper leg) - check working
3. Water tell tale - do not use engine unless good flow - check regularly - if blocked return to shore slowly to avoid seizing up of engine
4. Beeping from the controller means the engine is overheating or low oil pressure – turn engine off – allow to cool and then return /paddle to shore as soon as possible to avoid seizing the engine
5. Care of gears - only touch clutch lever when engaging, otherwise flat of hand on throttle lever. Positive engagement of controls

#### IN OPERATION

- **Before a Manoeuvre:** Warns Crew before a boat manoeuvre
- **Communicate:** Inform Crew before all operations. Confirm they understand
- **Radio Checks:** Check it is working regularly so you are able to communicate with others
- **Life Jackets:** Regularly check Crew remain wearing life jackets throughout
- **Crew Seated:** Skipper to give clear instructions where Crew is to sit, especially at high speed
- **Shallow Water:** Stop & tilt engine - paddle out to deep water
- **Escape Route:** Always plan for when things go wrong

#### AFTER USE

1. Check fuel (refuel if necessary)
2. Recover the boat and trailer and wash thoroughly including flushing the engine with fresh water
3. Store equipment and fuel correctly
4. Report any defects to a Technician or Health and Safety Manager without delay