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| Work/Activity: SCUBA Diving from and driving powerboats | | | |
| The club operates a powerboat and uses it to dive from around the UK. Only suitably qualified members may drive the boat and only with the explicit permission of the boat officer. The boat may also only be used with permission of the boat officer. While potentially a dangerous activity, the following risk assessment highlight the ability to solve any potential situations using a wide variety of techniques and onboard equipment. Any questions or uncertainties will be directed to a professional, or to suitably experienced members of university staff. | | | |
| Group: Southampton University Sub-Aqua Club | **Assessor(s): James Mudge (Diving Officer)** | | **Contact: do@susac.org.uk** |
| Guidance/standards/Reference documents | **Competence requirements** | | |
| All diving activities carried out by the club follow BSAC safe diving recommendations which can be found here:  <https://www.bsac.com/safety/bsacs-safe-diving-guide/>  This document is produced by a highly qualified and experienced team from BSAC (the National Governing Body for Scuba Diving and Snorkelling in the UK). As such it shall be considered the minimum benchmark for all diving practices.  The RNLI Maritime SAR Manual shall form the basis of understanding in powerboat operations and it is recommended that all cox’s have read it.: <https://rnli.org/-/media/rnli/downloads/maritime-sar-2017.pdf> | **Role:**  Diving Officer  Dive Manager | **Skills, experience or qualifications:**  The Dive Manager will have a minimum qualification level of BSAC Dive Leader or equivalent. This ensures that they are competent in first aid and oxygen administration. The Dive Manager is appointed by the Diving Officer, who shall be of at least this qualification if not higher and has the final say on all diving activity and is ultimately responsible for all club trips. The diving officer appoints the Dive Manager to ensure that the trip conforms to BSAC safe diving. The Dive Manager may dive, but they must hand over the responsibility to an Assistant Dive Manager with the minimum qualification of BSAC Sports Diver or above. | |
| Linked Risk Assessments  Alterative risk assessments are provided for the following activities:  Open Water  Sheltered Water  Swimming Pools  Public Engagement Activities  SUSU Bunfight  Social Events | **Role:**  Cox | **Skills, experience or qualifications:**  The cox should be qualified to RYA Level 2 / BSAC Boat Handling or equivalent. They should be comfortable with diver drop-off and recovery and ideally hold a GMDSS Short Ranger Certificate with authority to operate in GMDSS Sea Area A1, however this is not essential. | |
| **Role:**  Boat Officer | **Skills, experience or qualifications:**  The Boat Officer should meet all the requirements of a cox as well as being competent and confident in their ability to maintain a powerboat to the highest standards and ensure its safe operation. They should be familiar with relevant maritime laws and regulations and ensure that no club activities fall foul of this. They should ensure any appointed cox’s meet the minimum requirements and can safely operate a powerboat. | |

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| Task | Hazards | Affects Who? | Likelihood | Impact | Score | Current control measures | Additional control measures | Action by whom? | Likelihood | Impact | New Score |
| Driving the boat or being in it | Falling out the boat | All divers | 2 | 3 | 6 | When on water all persons should wear a flotation device. This will stop them from sinking and give time for someone to come over and rescue them. Divers may wear drysuits but anyone not in a drysuit must wear a lifejacket. Only qualified persons may be on water without supervision. |  | Cox | 2 | 1 | 3 |
| Moving the boat | Musculoskeletal injuries from moving heavy boats or trailers | All SUSAC members | 2 | 2 | 4 | Tractors or suitable vehicles should be used to move the boats. Jockey wheels on trailers should be utilised to help with moving trailers. |  | Boat officer | 2 | 2 | 4 |
| Being on the boat | Hypothermia or hyperthermia from weather exposure | All divers | 2 | 3 | 6 | All members on the boat should wear adequate thermal protection. Non-divers should bring a dry bag with extra clothing | Bring water on the boat, hot drinks and food. | Cox | 1 | 2 | 3 |
| Driving the boat | Primary engine failure | All divers | 2 | 3 | 6 | Boats maintained to manufacturers standard and logs kept. Any boat not in working condition is marked, recorded and the keys removed. Paddles are kept on the boat and a sea-tools kit with spanners, sockets, spark plugs and starter rope. 2 VHF radios are kept onboard. | Fit a spare outboard | Cox / Boat Officer | 2 | 1 | 3 |
| Being in the water | Being hit by the boat or propeller | All divers | 2 | 3 | 6 | Cox must wear a killcord and test it works. Man-overboard recovery is taught. Cox will ensure that the boat is in neutral whenever near divers and approaches are made at minimum revs into the wind / current |  | Cox | 1 | 3 | 3 |
| Re-fuelling the boat | Fuel spillage, fire and explosion | All members | 1 | 3 | 3 | Funnels to be used to refuel the boats, spillages to be cleaned up. No smoking or lose electrical cables. Ensure electrical systems are switched off. | Only those over 16 may refuel a boat. | Boat Officer / Cox | 1 | 3 | 3 |
| Moving around the boat | Bodily injuries from trip slips and falls on the boat | All members | 2 | 2 | 4 | Avoid trip hazards on the floor of the boat. Ensure the boat is properly moored before entering or exiting. | Fit a non-slip surface to the boat floor | Cox / Boat Officer | 2 | 2 | 4 |
| Pontoon use | Falling off the pontoon | All members | 2 | 3 | 6 | Take care and wear appropriate footwear. | Remind those present of the hazards. Identify life rings nearby. | Trip organiser | 1 | 3 | 3 |
| Coming alongside another boat | Hitting the other boat | All members/ public | 1 | 3 | 3 | Come alongside slowly. Drivers must be at least RYA powerboat level 2 |  | Cox | 1 | 3 | 3 |
| Towing other boats | Capsizing another boat, snapping a tow line | All members | 1 | 3 | 6 | Cox should be experienced in towing another boat or under instruction before commencing a tow. Strong line fixed low at two points of the transom. |  | Cox | 1 | 2 | 3 |
| Driving the boat | Running out of fuel | All members | 1 | 3 | 3 | At least one container (20l) of fuel to be carried in reserve. All trips are planned for fuel use. |  | Cox | 1 | 3 | 3 |
| Driving the boat | Hitting the gearcase causing engine immobilisation | All members | 2 | 3 | 6 | Cox should monitor depth gauge / fish finder continuously as well as chart. Passage planning to be performed. |  | Cox | 1 | 3 | 3 |
| Driving the boat | Capsizing the boat | All members | 1 | 3 | 3 | Cox must take care in bad weather. If forecast winds over force 4, the boat should not be launched | The cox should maintain a VHF radio about his / her person. | Cox | 1 | 3 | 3 |
| Lowering an anchor | Rope burn | All members | 2 | 1 | 2 | Rope should be payed out hand over hand not run freely. | Wear gloves when lowering anchors |  | 2 | 1 | 1 |
| Being on the boat | Dehydration | All members | 2 | 2 | 4 | Spare water is carried on the boat. Minimum 2l | Members to bring their own water bottles | Members / Cox | 2 | 2 | 4 |
| Being on the boat | Getting lost at sea | All members | 1 | 3 | 3 | Flares (checked in date) are carried as is an air horn. VHF radios provide backup. Compasses are kept on board. |  | Cox | 1 | 3 | 3 |
| Being on the boat | Fire / flood | All members | 1 | 3 | 3 | Fire extinguishers and hand balers are kept on the boat | Teach cox’s how to extinguish an engine fire | Cox / Boat Officer | 1 | 3 | 3 |
| Driving the boat | Beaching the boat | All members | 1 | 3 | 3 | The boat should never be beached if at all possible, but if so the skipper should be competent and confident in their ability to do so. Passengers should be advised to hold on and get as low as possible. The boat must be inspected afterwards. |  | Cox | 1 | 3 | 3 |
| Using an air compressor to fill tyres and tubes | Compressed air injuries | All members | 2 | 1 | 2 | Airlines only to be used by competent and confident people. Airlines should not inflict injuries on the user. |  | Boat Officer | 2 | 1 | 2 |
| Driving the boat | Not having a spare killcord | All members | 1 | 3 | 3 | A spare killcord will always be kept on board the boat so the engine can be restarted in a man-overboard scenario. |  | Boat Officer | 1 | 3 | 3 |
| Being on the boat | Collision with a large vessel | All members | 1 | 3 | 3 | The boat is fitted with a radar reflector complaint to SOLAS V and 2x VHF radios for communication. |  | Cox / Boat Officer | 1 | 3 | 3 |
| Being on the boat | Not being able to summon help | All members | 1 | 3 | 3 | Flares, air horns, a VHF DSC fixed radio and VHF portable are kept aboard. The Mayday procedure is located beneath the fixed radio if users are unsure of the procedure. |  | Cox / Boat Officer | 1 | 1 | 1 |
| Driving the boat | Unqualified use |  | 1 | 3 | 3 | No persons that do not meet the minimum qualifications may drive the boats under any circumstances except in a complete emergency situation where a qualified individual is unable to drive the boat and the boat must be driven to avoid grave and imminent danger to a vessel or person. |  | Cox / SUSAC members | 1 | 3 | 3 |
| Driving the boat | Collision with ropes and lines | All members | 2 | 1 | 2 | Extreme care to be taken when lines are in the water. If prop touches lines, switch off and raise before inspection. |  | Cox | 2 | 1 | 2 |
| Diving | Getting lost at sea | All divers | 1 | 3 | 3 | Cox should be competent and confident in using the VHF to summon help. They should mark the last known position and establish a search pattern. Compasses and stopwatches are kept on board. | Ensure cox’s review SAR manual | Cox / Boat Officer | 1 | 3 | 3 |

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| Likelihood | | | |
| Impact | 3 | 6 | 9 |
| 2 | 4 | 6 |
| 1 | 2 | 3 |

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| Reviewed By: | | Comments: |
| Responsible person: | Date: |  |
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| Impact | |
| Level | **Description** |
| High (3) | Major Injury or Death; Loss of limb or life-threatening conditions. In hospital for more than 3 days, and/or subject to extensive prolonged course of medical treatment and support. |
| Medium (2) | Serious injury causing hospitalisation, less than 3 days. Rehabilitation could last for several months. |
| Low (1) | Minor/superficial injuries. Local first aid treatment or absence from work for less than 3 days. |

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| Likelihood | |
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| Level | **Description** |
| High (3) | Will probably occur in most circumstances |
| Medium (2) | Might occur at some time |
| Low (1) | May occur only in exceptional circumstances |