

Diving rules - Scientific and archaeological diving projects

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DIVING RULES

Scientific and Archaeological Diving Projects

1. Introduction

- 1. These diving rules are intended to reduce the risk of diving-related incidents in the range of situations in which University staff and students may find themselves during their work or research. Exceptionally these rules will not adequately cover a specific diving situation. In such cases University Diving Safety Advisor (UDSA) should be consulted.
- 2. University diving rules do not apply to purely recreational diving by staff or students.
- 3. University diving rules will apply to all staff and students where their dive is directed toward the collection underwater of data, information, samples or specimens, for research or education.
- 4. If staff or students plan a recreational dive involving the collection of something that may be of use to their work or research, or the work and research of others, they should also comply with the University diving rules.

- 5. University staff who dive as part of their research or teaching work must comply with the Diving at Work Regulations 1997 (DWR 97).
- 6. The University will ensure that their diving rules are freely available to all staff and students who request a copy. An application form for University approval can be copied from Appendix 1.
- 7. University diving rules will apply to all University diving operations. In addition individual departments and Units within the University that have staff or students engaged in diving as part of their work or research, must have their own written set of diving rules to supplement those of the University.
- 8. Any queries regarding these rules or any other aspect of diving should be directed toward the UDSA on 2919 or adu@st-and.ac.uk

2. Divers

- 1. University-approved divers must be competent to undertake their planned task underwater. They should hold suitable diver qualifications as defined by the Health and Safety Executive (HSE) in their Scientific and archaeological diving projects: Approved Code of Practice, (AcoP) and their list of HSE approved diving qualifications for use in scientific and archaeological diving. These include a range of international commercial diving qualifications together with sport diving qualifications equivalent to CMAS three star.
- 2. University-approved divers must have a current HSE-approved Certificate of Medical Fitness to Dive.
- 3. University-approved divers using Surface Supplied Diving Equipment (SSDE) must be qualified to at least HSE Part III or an equivalent in the list of HSE approved diving qualifications for use in scientific and archaeological diving.

3. Diving supervisor

- 1. A diving supervisor is a suitably qualified and competent person who is on the surface and in immediate control of the diving.
- 2. University-approved diving supervisors have to be approved by the Head of Department/Institute/Unit (or their nominee) and also the UDSA. Application forms can be copied from <u>Appendix 2</u>.
- 3. A University-approved diving supervisor must have been qualified to at least the level required to dive in the operation being supervised for a minimum of one year. He or she need not necessarily have a current diving medical.

4. Diving operations

- 1. University diving operations are those where staff or students dive as part of their work or research, or for educational purposes.
- 2. All University diving operations must comply the University diving rules and Departmental/Unit diving rules and where applicable, the DWR97, and Scientific and Archaeological Diving Projects AcoP, SDSC Advice Notes on the AcoP, and Port Industry Guidance on DWR97.

- 3. There must be a representative of the University at all University diving operations. This will normally be the lead member of staff. In diving operations under DWR97 the University will formally appoint the representative and a register of these will be kept by the UDSA. Such a University representative can delegate another University member of staff to act as his or her nominee during a diving operation.
- 4. University diving operations begin from the time members of a team start to prepare personnel, plant and equipment at the site for diving and end 24 hours after the last dive has been completed.
- 5. A University diving operation can include student divers who may not be sufficiently qualified to be appointed as a University-approved diver if they are receiving tuition from University staff.
- 6. A University diving operation can include other divers who are not approved by the University provided the University's on-site representative and the diving supervisor are both satisfied with their competency and qualifications.

5. Diving Team

- 1. Personnel involved in University diving operations must be trained and competent to operate the equipment and employ techniques they are directly involved with.
- 2. Divers must keep an up-to-date logbook with details of each dive countersigned by the Diving supervisor of that diving operation. The logbook must be available for on-site inspection by the Diving supervisor, the University's on-site representative, or an HSE Inspector. The logbook must also be made available, at any reasonable time, for inspection by the UDSA.
- 3. Diver's logbooks should comply with the HSE requirements. Sport diver logbooks are not suitable. A logbook for scientific diving is available from University Environmental Health and Safety Services.
- 4. University-approved divers must have a valid Certificate of Medical Fitness to Dive issued by an HSE-approved physician. Other divers involved in University diving operations must have an appropriate and current diving medical certificate.
- 5. There must always be a sufficient number of people for University diving operations to be carried out safely. The manning levels must comply with those stated in the Scientific and Archaeological Diving Projects AcoP. The minimum team sizes indicated in the AcoP are not suitable for open water but may be suitable for diving in swimming pools, tanks and similar benign environments.
- 6. University diving operations must be under the control of a University-approved diving supervisor whose name appears in the diving operations log. He or she must be on the surface and in immediate control of the operation unless another University-registered diving supervisor is nominated to take over control of the diving operation. Such a change must be noted in the diving operations log.
- 7. A fully equipped standby diver must be ready to offer immediate assistance in an emergency to a diver in the water. All their equipment must be in place except the mask or diving helmet, and these must be immediately to hand.
- 8. Two SCUBA divers in the water together can act as 'standby' for each other. Solo SCUBA diving is prohibited unless there is clear voice communication between the diver and the diving supervisor. The diver's location must be indicated to the Diving Supervisor

by either a surface marker buoy or by a tether monitored by an attendant, or by an acoustic diver tracking system.

6. Equipment

- 1. All equipment used in University diving operations must be well maintained, in good working order, and suitable for the task.
- 2. Equipment in the control of the University must be identified in a register and have certificates to demonstrate that regular checks, at least every six months, have been undertaken by a competent person. Records of all such inspections and tests must be kept for 2 years by the relevant Department.
- 3. Equipment owned personally by staff or students should be checked by a competent person within six months of its use in a University diving operation.
- 4. The diving supervisor or a delegated competent person must also check equipment not more than two hours before the dive. A valid test certificate for all cylinders owned by individuals must be made available.
- 5. Divers must be suitably equipped to stay warm in the water.
- 6. All divers wearing dry suits must have a method of suit inflation. Gas for this purpose should not come from the divers alternative breathing gas supply.
- 7. All SCUBA divers must have a quick-release weight belt, an independent buoyancy aid, such as buoyancy compensator, a sharp knife, and a whistle.
- 8. SSDE divers must wear a harness for umbilical attachment.
- 9. SSDE divers must have a bale-out cylinder supplying an alternative source of breathing gas. This cylinder must contain sufficient breathing gas at the start of the dive to allow the diver to safely reach the surface.
- 10. All University-approved divers must be in voice communication with the diving supervisor except in benign environments such as enclosed pools. This can be through either hard-wire or through-water communications.
- 11. University-approved divers using SCUBA, unless monitored by an acoustic diver tracking system, must be connected to the surface by a line of at least 8mm diameter. One end must be fastened to the diver while the other can either be to an attendant on the surface, or attached to a suitable surface marker buoy (SMB). A second SCUBA diver in the water should be fastened to a 'buddy line' of at least 8mm diameter that is attached to the other diver.
- 12.SMBs should be sufficiently large and bright to be visible in moderate seas. Ideally the SMB should be buoyant enough to support a diver at the surface and have provision to display an International Code Flag A on the mast. Polythene cans or drums, for example, are rarely acceptable for this purpose.
- 13. During University diving operations at night each diver must carry at least one suitable underwater torch and SCUBA divers one secondary marker light, such as a chemical light stick (e.g. Cyalume) or a flashing strobe (e.g. Jotron AQ4) on themselves, and another on their SMB if they are not tethered.
- 14. Water in seas, rivers and lakes may be contaminated and care must be taken to safeguard against infection. Particular care to be taken with diving equipment placed in the mouth or against the face and these should be appropriately disinfected.
- 15. An appropriate First Aid kit must be on site at every University diving operation, together with an Oxygen administration kit.

7. Diving procedures

- 1. University diving operations should be planned beforehand. In addition to the suitability of persons or equipment, the diving supervisor must undertake a written risk assessment of the diving operation. This will be in addition to the written risk assessment of the diving project.
- 2. The names of the diving supervisor, the divers, and all other personnel directly involved in the diving operation will be entered in a diving operations log.
- 3. In areas where harbour authority, local authority, or military restrictions apply, or in areas controlled by yacht clubs etc., appropriate officials should be contacted before diving takes place.
- 4. During the planning of a University diving operation the nearest recompression chambers should be contacted in writing and there should be written confirmation from them that they would be available in an emergency. Immediately before a diving operation the diving supervisors should contact the chambers to make sure one is available.
- 5. During daylight, a rigid International Code Flag A of appropriate dimensions, but no less than 60cms x 60cms, must be displayed in a prominent position during diving operations. This signal can be supplemented where appropriate by other signals and, at night, by the correct signal lights.
- 6. A diving operations log must be prepared before each dive by the diving supervisor or a nominated log keeper. This log must contain the names of divers, diving supervisors, dive times and depths, and any other relevant factor relating to safety during the diving operation.
- 7. Scuba diving will be in pairs unless a single diver is tethered and has some form of effective communication with the surface. Diving with three in a group is to be avoided. Larger groups of divers should be divided into pairs.
- 8. Ascents to the surface other than up shot lines and SMB lines, should be avoided.
- 9. The surface team must include an appropriately qualified first aider and someone trained in oxygen administration.
- 10. When diving in remote locations at least one of the diving team should be trained as a Diver Medical Technician or equivalent.
- 11. All University diving must be planned to be within the no-stop times of a decompression table approved by the UDSA, e.g. BSAC 88, RNPL. Each diving operation should use just one table.
- 12. At the discretion of the Diving supervisor electronic diving computers may be used to monitor dive times, depths, and ascent rates. Dive computers must not be used to calculate dive times and profiles in place of diving tables that have been approved by the University.
- 13. The maximum depth permitted on SCUBA is 30m. The maximum depth on SSDE is 50m. Note: All divers should be aware that regular diving to 30m or deeper on air, even within published decompression tables, is considered by many hyperbaric medical researchers to be unsafe.
- 14. Diving on gas mixtures other than air, or with computer-controlled rebreathing sets is allowed provided all those involved are appropriately trained and qualified.
- 15. All diving operations must include a systematic pre-dive systems check carried out to the satisfaction of the diving supervisor and recorded in the diving operations log. Departmental diving rules should include the details of these checking procedures.

- 16. Voice communications between divers and the diving supervisor should be recorded and kept for at least 48 hours. If an incident occurs during the dive, or a pressure-related medical symptom develops within 24 hours of the dive, the tape will be kept and handed to the UDSA for safekeeping.
- 17. Any incidents or dangerous occurrences on University premises must be reported in the first instance to the University Safety Adviser who will give advice on the need to report to the HSE under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995. Incidents and dangerous occurrences outwith the University e.g. on a diving operation, must be reported direct to the relevant HSE area office:

 Scotland 01224 252500N England 01603 275000S England and Wales 02077 176000
- 18. The diving supervisor should be equipped with a mobile phone during all University diving operations. At sea and in coastal areas the diving supervisor should also have access to a marine VHF radio.

8. Boats

- 1. Boats used in University diving operations must be properly equipped, in safe working order, and be under the control of competent and trained personnel.
- 2. Boats used in support of the University's work or research will need to comply with the Safety of small workboats and pilot boats: a code of practice issued by the Maritime and Coastguard Agency.
- 3. During diving operations appropriate diving signals must be prominently displayed. Alternative means of attracting the attention of oncoming vessels should also be carried, such as a horn, loud hailer, or appropriate flares.
- 4. Boats used in University diving operations must carry at least one marine VHF radio.

APPENDIX 1

Note: A copy of the 'Application for Registration as a University Diver' form can be downloaded as a Microsoft Word '97 document - Here.

University of St. Andrews

Application for Registration as a University Diver



(This form should be forwarded to the University Diving Safety Advisor after completion)			
NAME:			
•••••			
DATE OF			
BIRTH:			
DEPARTMENT / U	JNIT		
STATUS WITHIN	THE UNIVERSITY (please in // UNDERGRADUATE		
(If none please spec	rify affiliation and status to any	other relevant organisation	on)
	ing & Related Qualifi		
(including Diver M	fedical Technician)		
Grade	Awarded by	Date awarded	Expires
	•	•	
•	•	•	•
	•	•	•
	•	•	
	•		

Details of Last Diving Medical

HSE Approved?	Physician	Date awarded	Expires
•	•		·
I Hereby confirm that	t I have received a per	sonal copies of the follow	ving:
University Diving Rule	es		
Departmental Diving R	Rules (identify)		
and that I will read then	m before being involve	d in any University Diving	g Operation.
SIGNED			
DATED			
DO NOT WRIT	E IN THIS SEC	TION	
Date application recei	ived:		
Date application appr	oved:		

APPENDIX 2

Note: A copy of the 'Appointment of Diving Supervisor' form can be downloaded as a Microsoft Word '97 document - <u>Here</u>.

University of St. Andrews

Appointment of Diving Supervisor



I AGREE TO ACT AS A DIVING SUPERVISOR IN ACCORDANCE WITH THE DUTIES SET OUT IN THE UNIVERSITY DIVING RULES

SIGNED:	
DATE:	
I SUPPORT THIS NOMINATION	
SIGNED:	
(HEAD OF SCHOOL, DEPARTMENT OR UNIT)	
DATE:	
THIS APPOINTMENT IS HEREBY CONFIRMED	
SIGNED:	
(UNIVERSITY DIVING SAFETY ADVISOR)	
DATE:	

APPENDIX 3

Bibliography

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