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BAREFOOT CONSERVATION DIVING STANDARDS

ABBREVIATIONS

AOW - Advanced Open Water

BC - Boat Captain

BCD - Buoyancy Control Device

BCL - Barefoot Conservation Ltd

BM - Boat Marshal

BT - Bottom Time

DG - Dive Guide

EL - Expedition Leader

eRDP - Electronic Recreational Dive Planner

ML - Multi Level

NDL - No Decompression Limit

O2 - Oxygen

OW - Open Water

PADI - Professional Association of Diving Instructors

PG - Pressure Group

PS - Project Scientist

RD - Rescue Diver

RDP - Recreational Dive Planner

SI - Scuba Instructor

SM - Shore Marshal

SMB - Surface Marker Buoy

STP - Science Training Programme

TDT - Total Dive Time



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DIVE PROFILES

- The maximum depth permitted for any dive is 28m.
- The maximum depth for divers qualified to only PADI Open Water Diver (or equivalent) is 18m
- Those undertaking SCUBA training are restricted to the depths outlined in the PADI Instructor Manual and at no time greater than 28m.
- The longest Bottom Time (BT) employed by BCL is 60 minutes under the condition that this does not exceed the No Decompression Limit (NDL) limits set out on the PADI RDP. BT is defined by PADI as:

"The total time in minutes from the beginning of descent until the beginning of the final ascent to the safety stop".

- Divers should not make more than one descent during a dive if the descent has gone deeper than five metres. Once an ascent has begun from deeper than five metres, divers should not re-descend except in the case of emergency, or for the specific purposes of PADI SCUBA training.
- Only during PADI SCUBA training courses, and only under the direct instruction of the SI, divers may re-descend during a dive. These training dives must follow the guidelines laid out in the PADI Instructor Manual.
- At the end of the no-stop BT, divers must make a direct ascent to the safety stop, following the PADI recommendations regarding ascent rates.
- A three minute safety stop at five metres is mandatory on all dives deeper than five metres.
- Dives that require decompression stops are strictly not permitted at any time.
- The maximum number of dives permitted per day is three.
- Where repetitive dives take place the deepest dive is carried out first, with each successive dive to the same or a shallower depth. The second dive must never exceed a depth of 18m.

NB. Any dives shallower than ten metres shall be treated as a ten metre dive and so can be followed by a dive of up to ten metres.

- During the PADI training courses only, confined water training dives of five metres or less may be followed by deeper open water training dives as outlined in the PADI Instructor Manual.
- During the PADI Advanced Open Water Deep Dive only, an exact surface to surface time will not be implemented but rather the bottom time agreed upon with the instructor ensuring that a safe ascent time is implemented.
- A mandatory 24-hour tissue de-saturation period (i.e. "no diving day") is required during one day in every seven.
- Confined dives of five metres or less may be carried out on the 'non-diving day' but strictly only for the following purposes:
 1. During the course of the Science Training Programme (STP)
 2. To conduct advanced training courses such as PADI RD
 3. To provide remedial training for PADI Open Water Diver and Advanced Open Water Diver courses.



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DIVE TABLES

BCL utilises the PADI RDP - Table Version to plan and implement all diving, excluding computer diving (see below).

- The maximum depths and no-stop BT's, which BCL adheres to on all dives excluding multilevel computer dives (see below), are outlined in the Barefoot Conservation Dive Profiles (see table below).
- The use of the PADI eRDP ML for multi-level diving or any other decompression tables for any single level or multi-level diving is not permitted.
- Survey dives (and recreational dives where computers are not used) are planned and conducted using the dive profiles detailed on the Barefoot Conservation Diving Profiles (see table below).
After every dive the 'Pressure Group' of each volunteer must be calculated on the PADI RDP Table Version using the 'actual' depth and bottom time for the dive.
- When 'repetitive' dives are being undertaken, the 'Pressure Group' of each volunteer must be calculated to ensure that they are re-entering the water in a minimum of 'B' Pressure Group or below.
- Volunteers are personally responsible for ensuring that they are aware of their own Pressure Group (as per the PADI RDP Table Version) at all times.
- The minimum surface interval between dives is determined by the requirement of re-entering the water in the 'B' pressure group or below. This will be in accordance with the PADI RDP.

Barefoot Conservation Diving Profiles

	Night Dives	Standard Profiles						Computer Dives
Maximum depths (Metres)	15	8	12	18	20	25	28	28
Maximum no-stop bottom time (Minutes)	37	60	60	37	29	20	14	37
Max surface to surface time (bottom time + ascent time) (Minutes)	45	68	68	45	37	28	23	50

*IMPORTANT

Do not exceed the Barefoot Conservation dive profiles at any time unless on a pre-planned computer dive.



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EMERGENCY MEASURES ONLY

- If a diver over profiles then they should abort their dive, ascend no faster than 18m per min and perform a mandatory five minute safety stop.
- The divers must refer to the PADI RDP Table Version to establish whether an extended decompression stop is required, and if necessary undertake the indicated decompression stop. Decompression time must be calculated utilising the 'actual' depth and bottom time.
- If an emergency safety stop is required the divers should undertake no further diving for 12 hours. If a decompression stop is required the divers should undertake no further diving for 24 hours.

EXPLANATORY NOTES

- Barefoot Conservation (BCL) has adopted the following PADI recommendation: "When planning a dive in cold water or under conditions that might be strenuous, plan the dive assuming the depth is four metres deeper than actual". The "Barefoot Conservation Diving Profiles" takes into account this additional four metres.
- The "Barefoot Conservation Dive Profiles" provide a set of maximum depths and no-stop bottom times to enable dive profiles to be pre-planned and adhered to during each dive (excluding computer dives – see below).
- The maximum depths must not be exceeded at any time.
- The bottom times may only be extended in the following circumstances:
 - 1) By the SI only when conducting SCUBA training.
 - 2) During computer diving (see below).

COMPUTER DIVING

- Computer diving is restricted to recreational dives, unless permission is given by a BCL Director to use on a survey dive.
- Diving computers MUST NOT be shared between divers.
- If computers are going to be used to conduct recreational dives, they must also be worn as 'data-loggers' on all previous dives during the week (i.e. since the last previous 24 hour break from diving).
- Computer dives requiring decompression stops are not permitted at any time.
- Total Dive Time (TDT) (time from the start of the descent until reaching the surface at the end of the dive) must not exceed 55 min for dives deeper than 12 metres or 68 min for dives shallower than 12 metres.
- The maximum depth for computer diving must not exceed 28m.
- The minimum 'NDL time' indicated by the computer during the dive must not be less than five minutes at any time.
- When using dive computers to conduct dives, each of the divers in a buddy pair must have a dive computer. Computers may be used as 'Depth gauge & Bottom timers' only during survey dives.



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COMPUTER DIVING continued..

- The minimum surface interval between computer dives is 1 hour 45 minutes, except for instructors undertaking dive training as outlined in the PADI Instructor manual and within PADI dive tables.
- A three-minute safety stop at five metres is undertaken on all dives deeper than five metres and must be included in the TDT.

Disclaimer: Volunteers wishing to use computers to conduct recreational dives must recognise that this is a discrete skill and that they must ensure that they do not undertake a multi-level computer dive until they are familiar with all aspects of the diving computer which they intend to use (including a detailed review of the manufacturers instructions). They must also ensure that they are familiar with the relevant skills and knowledge necessary to conduct a multi-level computer diving.

DIVING EQUIPMENT

The following equipment is mandatory on all dives:

- BCD & Regulator fitted with octopus and contents gauge*
- Digital Depth gauge & Bottom Timer (or dive computer)
- Compass (per buddy team)
- Mask and snorkel**
- Open foot fins and booties
- Knife
- Whistle
- PADI RDP Table Version***

* Loaned free to all volunteers undertaking the Dive Training Programme with BCL

** The snorkel does not have to be attached to the mask but must be in the divers possession throughout the dive

*** Loaned free to all volunteers

- The 'buddy system' is strictly adhered to on all dives for pre-dive equipment checks. Buddy checks are mandatory before each dive, following the Buoyancy-Weights-Releases-Air-Final (BWRAF) order of equipment checks.
- All divers must be in possession of a snorkel at all times.
- Dive teams are required to carry at least one, surface marker buoy (SMB) on each dive to permit the boat cover to track their movement from the surface. If divers are doing a recreational dive in a group of two – six divers they must carry at least one SMB between them and must remain as a close group throughout the entire dive. There should be no more than six divers in one group sharing one SMB. The SI may use their discretion should they feel inexperienced groups/survey teams need to carry more than one SMB.
- The wearing of gloves is not permitted at any time during a dive and divers are not permitted to touch marine life unless under instruction from science staff during science training.
- The use of underwater cameras are not allowed except on recreational dives or with permission of the Project Scientist (PS) under the conditions detailed below:
- Underwater cameras can be used, with permission from the PS, for specific science dives such as coral disease or bleaching surveys. Where possible divers should only use their own cameras to minimise chances of damage to other people's cameras.

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SCUBA DIVING PROCEDURES

The following summary provides an overview of the key diving procedures that must be adhered to at all times:

- When shore diving, a Shore Marshal (SM) must be appointed to supervise the diving activities and track each SMB. SM must have with them, or be within one minute of, the following items:
 - Mask, fins and snorkel
 - Hand-held radio, mobile phone or satellite phone (site dependant) to communicate with the expedition site
 - Emergency oxygen kit
 - Emergency first-aid medical kit & stretcher (site dependant)
- In the event of a surf entry from the shore, divers should enter the water with their buddy, with their masks fitted to their face and snorkel or regulator in their mouths. They should then move beyond the surf zone before attempting to fit fins.
- When boat diving, a Boat Marshal (BM) must be appointed. The Scuba Instructor will brief all volunteers about the BM duties and responsibilities at the start of an expedition.
- When travelling in boats to or from a dive site, all personnel in the boat must wear a properly fitted life jacket or buoyancy aid.
- When diving from boats, divers must not exit or enter the boat unless instructed to do so by the person in charge of the boat (Boat Captain). Upon entry into the water, the divers must give an 'OK' signal to the BM.
- Before entering the water, all divers need to have given the SM/BM their tank pressure in BAR.
- Cylinders must have a minimum of 180 BAR pressure before conducting an open water dive. For confined dive training of less than five metres the SI can, at their discretion only, allow themselves or a dive trainee to start a confined dive with a cylinder that has less than 180 BAR.
- Divers must always be assigned to a buddy pair and must remain in this pairing for the duration of the dive. The only exception to this is during Science Training where buddy pairs can be changed by the science staff during a dive. This must however be clearly signalled and all divers must show that they understand and know who their new buddy is.
- Divers may only be assigned to dive in a group of three in the following circumstances:
 - Numbers prevent a buddy pair being formed
 - A 'dive leader' is assigned who will lead the other two divers
 - The 'dive leader' must hold at least a PADI Divemaster or equivalent certification (see PADI Qualification Comparison table), or higher (e.g. PADI Instructor) If the individual's professional annual subscription/insurance is not paid then they are no longer a diving professional & so cannot be a 'dive leader'.
 - The dive plan is approved in advance by the SI and EL.
- Whilst on the surface it is recommended that divers keep their mask fitted to their face at all times and keep either their regulator or snorkel in their mouth.
- During any dive, the buddy pair must not separate more than a few metres from each other and must not attempt any dive that might require them to become separated. Should a diver become separated from their buddy they should search for no longer than one minute before safely returning to the surface. In such cases, the diver should return directly to the surface and not undertake a safety stop at five metres.



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SCUBA DIVING PROCEDURES continued...

- Buddy pairs and/or survey team must descend and ascend together. Should any member of a buddy pair or survey team experience any difficulty in descending BEFORE reaching five metres, ALL of the divers must ascend together to the surface and exit the water. Once the Boat Marshal has verified that the divers did not exceed five metres, the divers who experienced no problems during the descent may undertake a buddy check and restart the dive. If ANY of the divers descended below five metres NONE of the divers may restart the dive. Any of the divers who descended deeper than five meters must not undertake a subsequent dive until they are in PG "B" or below, and to a depth no greater than 12 metres.
- Divers must abort their dive and begin their ascent once they reach 70 BAR pressure and return to the surface with a minimum of 50 BAR pressure remaining in their cylinder. If they return to the surface with less than 50 BAR pressure the boat/SM must report it to the SI who must monitor the diver's air use over subsequent dives and take action if the incident reoccurs
- Masks and snorkels must not be removed until the diver is safely back inside the boat/on the shore. Fins must not be removed until the diver has physical contact with the boat or is in water shallow enough to stand.
- For Advanced Open Water deep dive training a hang tank (full tank with reg on it) should be hung five metres below the boat. This should only be done if the boat is moored and not drifting. If it is not possible to moor the boat then no hang tank should be used.
- Should the need arise to recall the divers the following signals shall be implemented:
 - Three tugs on the SMB/three revs of the boat engine: Upon receiving this signal; all divers should get the attention of their buddy/dive leader, abort the dive and make their way to the surface making a three minute safety stop at five metres.
 - Continuous tugging of the SMB/revving of the boat engine: Upon receiving this signal; all divers should get the attention of their buddy/dive leader, abort the dive and make their way to the surface without making a safety stop. (This signal should only be used in a serious emergency).
- All divers must return to the expedition base with at least one hour of daylight remaining.

Night Dives

- One night dive will be scheduled every 2 weeks, using the Barefoot Conservation Dive Profiles (see table).
- Night dives are undertaken for recreational purposes only and must not be included in any programme of survey or training dives. Night dives may only be conducted at the discretion of the EL.
- Prior to each night dive, the SI must provide all divers with a detailed briefing on the relevant night dive procedures and the signalling procedures used by BCL for night diving (below).
- Any diver who cannot provide logged evidence of night diving experience is to complete the PADI Night Dive knowledge review from the PADI Adventures in Diving Manual before going on a night dive. The subsequent dive will be directly supervised by a PADI professional.
- The minimum surface interval between the night dive and the previous dive undertaken by the diver will be determined by the PADI RDP. The divers must have had sufficient time to return to category B or below.
- The maximum permitted depth for night diving is 15m.



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Nite Dives continued...

- Night diving may only be conducted at a location previously agreed upon by BCL, EL and SI. This will either be a well know shore diving site or a secured boat mooring.
- Where night dives have been authorised from the shore a BC and boat must be immediately on-hand in the case of an emergency.
- For night dives from a secured boat mooring, during daylight hours, two strobe lights and two cyalume sticks must be fitted (and activated) to the mooring buoy as follows: One strobe and one cyalume stick attached to the buoy at the surface (and clearly visible to boats at a distance); and one strobe and one cyalume attached to the mooring line at a depth of five metres.
- During the night dive, the boat must be moored to the mooring line at all times, and divers should ascend at the end of each dive only up the mooring line. The boat must be securely attached to the mooring line before and during each dive. In the event that the boat needs to detach from the mooring line during the course of a dive (i.e. only in an emergency) then those divers concerned should maintain hold of the mooring line until the boat returns to collect them.
- For night dives from the shore, a mixture of strobes and cyalume sticks should be laid on the appropriate substrate to guide divers back to the water entrance.
- Should a buddy pair become separated during a night dive, both divers should search for the other for no longer than 1 minute before returning to the surface without doing a safety stop.
- Divers must provide their own underwater torch plus safety marker lights (e.g. cyalume stick). A safety light/ cyalume stick must be attached to the top of their SCUBA tank and another to the top of the SMB.
- Each buddy pair must have one SMB between them when doing a night dive.
- Each buddy pair must have an emergency back-up torch between them which will be provided by BCL. In the event that a torch fails during the dive, the emergency back-up torch should be turned on and the dive immediately aborted with a three minute safety stop at five metres.
- If night diving from the shore in an area with changeable currents, the boat should be prepped and ready to move should divers get into trouble.
- Night dives should not take place or should be aborted if strong currents mean that divers cannot descend or ascend safely. The state of the currents and other sea conditions should first be assessed by the SI and DG prior to nightfall.

Snorkelling

- No duck diving to a depth greater than five metres is allowed at any time.
- One SMB must not be shared by more than six people.
- Snorkelers must be in a minimum of one buddy pair and have an SMB.
- Snorkelers can snorkel within the pre-defined area (as agreed by the SI & EL) without an SMB. This must be an area that is well known and has no boat traffic or strong currents.
- Snorkelers must have a SM, watching them at all times, who is no more than one minute away from O2 and first aid kit.
- Snorkelers must at all times be within visual and oral contact with the SM.