

# LIRS DIVING REGULATIONS

## TRAINING

Independent scientific divers must demonstrate their competence through one of four training options:

**Option 1** (*Commercial Diver*): A relevant certificate from the Australian Diver Accreditation Scheme (ADAS).

**Option 2** (*Scientific Diver*): A scientific diver qualification issued by a Registered Training Organisation under the Australian Qualifications Framework.

**Option 3** (*Accredited Rescue Diver*): A recreational Rescue Diver certificate that has been issued under the Australian Qualifications Framework. In addition, the diver must prove that s/he has acquired, through training, qualifications or experience, specific knowledge and skills relevant to the work being undertaken.

**Option 4** (*Divemaster or higher*): Training in specific recreational Divemaster-related subject areas. In addition, the diver must prove that s/he has acquired, through training, qualifications or experience, specific knowledge and skills relevant to the work being undertaken.

A fifth option is available for divers with a lower-level diving qualification but there are strict limitations:

**Option 5** (*Supervised Short-term Diver*): A recreational open water certificate or higher plus at least 15 hours relevant underwater experience in specific depth ranges. In addition, the diver must prove that s/he has acquired, through training, qualifications or experience, specific knowledge and skills relevant to the work being undertaken. These divers must be personally supervised in the water by a person who is qualified under Options 1-4 and they may do scientific diving on a maximum of 28 days in the six months immediately before diving work is done.

### **Examples of the 28-day rule for Option 5**

*You are an Option 5 diver wanting to dive at LIRS between 1 and 31 December.*

*1) If you did 10 days of scientific diving in September but no other scientific diving since 1 June, then you are allowed to dive on a maximum of 18 days during December.*

*2) If you did 10 days of scientific diving on 1 to 9 June and no other scientific diving until the LIRS trip, then you will be allowed to dive on a maximum of 28 days during December. This is because by 10 December, you will have done (at most) 10 days of scientific diving in six months immediately prior to that date, leaving (at least) 18 days available before the 28 day maximum is reached.*

## OTHER QUALIFICATIONS

Divers must be at least 18 years old and present the following additional documents:

- Log book validating open water diving experience of at least 900 minutes.
- Current occupational diving medical certificate to Australian/ New Zealand Standard 2299. The medical must be issued by a medical practitioner who has completed specific courses as outlined by the South Pacific Underwater Medicine Society. Few medical practitioners outside Australia have done the listed courses so it is normally necessary to have the medical done in Australia.

- Evidence of current training in first aid, including CPR.
- Evidence of current training in administration of medical oxygen. The course provided by Divers Alert Network is acceptable.
- Completed Lizard Island Research Station Diver Registration Form.
- An Addendum to the Diver Registration Form must also be completed by those intending to dive under Option 5 as Supervised Short-term Divers.

## DIVER CLASSIFICATION

- **Dive Supervisors, Dive Leaders and Divers** qualify under Training Options 1-4. They must have recent diving experience, defined as:
  - at least four dives logged in the past 12 months, or
  - at least 6 dives logged in the past 18 months including at least one dive in the past 6 months.

The normal depth restriction for these divers is 21 metres although it may be increased to 30 metres by the Diving Officer after consideration of experience and other factors.

- **Restricted Divers** qualify under Options 1-4 and **Supervised Short-Term Divers** qualify under Option 5. If their diving experience is not recent (as defined above), the Diving Officer may allow them to dive after a checkout dive or a series of supervised work-up dives, depending on their diving history. Restricted and SST Divers will have a specific depth restriction imposed by the Diving Officer.
- Additional requirements may be imposed by the Diving Officer for diving by groups including undergraduate student groups, research projects that utilise volunteer divers obtained through an organisation such as Earthwatch, and special interest groups.

## EQUIPMENT

- The following diving equipment must be carried by each diver unless specifically exempted by the Diving Officer: mask, snorkel, fins, buoyancy compensator with both oral and power inflation, quick release dive weights if needed for buoyancy control, exposure protection appropriate to the conditions, watch or other submersible time-keeper, depth gauge, tank contents gauge, secondary air source such as octopus regulator, knife or shears, diver safety kit comprising chemical lightstick, inflatable safety 'sausage' (or similar) and whistle.
- Diver safety kits are available for loan and for sale at LIRS.
- Regulators, buoyancy control devices and gauges must be serviced annually.

## DIVE TABLES AND COMPUTERS

- Dives must be planned and carried out according to DCIEM dive tables. Because Lizard Island is several hours away from the nearest recompression chamber, maximum no-decompression bottom times are reduced to comply with AS 2299. Copies of the DCIEM tables showing the reduced limits are available at LIRS.
- Dive computers may be used for information and recording purposes only.
- If you do three or more dives a day on three consecutive days, you must have a 24 hour surface interval after the third day.
- The DCIEM tables allow multi-level dives which can extend bottom time for deeper dives considerably but several important conditions must be observed. Separate dive plans for multi-level dives showing calculations must be submitted to the Diving Officer for approval.

## DIVE TEAMS

A **normal dive team** comprises two or more qualified divers and a boat attendant. One of team is to be nominated as the Dive Supervisor and one of the divers is to be nominated as the Dive Leader. The Dive Supervisor can be the boat attendant or the Dive Leader. Supervised Short Term Divers may not be the Dive Supervisor or the Dive Leader. Restricted Divers may act as Dive Supervisor and/or Dive Leader only in special circumstances. Divers must dive in groups of two or three and remain within sight of each other throughout the dive. Responsibilities of Dive Supervisors, Dive Leaders and divers are outlined below.

**Diving without a boat attendant** can take place under certain conditions **within** a defined Low Risk Area as posted by the Diving Officer on a day-to-day basis. Conditions of diving without a boat attendant in this area are:

- The Dive Supervisor determines that low risk conditions, as defined below, actually exist at the dive site.
- All divers agree to dive without a boat person.
- Both boat and divers remain within the Low Risk Area throughout the dive.
- All divers agree to abort the dive at a signal from the Dive Leader if low risk conditions cease to exist.
- The Dive Supervisor ensures that a 15 m float line is deployed from the boat and that the anchor is checked for security at the beginning of each dive.
- Each diver is confident s/he can swim to land if necessary.

Southeasterly conditions prevail for at least eight months per year and a stable Low Risk Area (shown **shaded** below) generally applies during those conditions. Note that:

- The Diving Officer may cancel this general dispensation at any time
- The Diving Officer may post a map showing a different Low Risk Area according to prevailing and forecast weather conditions



**Low Risk Conditions** are defined as:

- Depth of bottom does not exceed 20 metres
- Swell and/or wave height does not exceed 0.5 metres
- Current is nil to slight (diver can swim against it with minimum exertion)
- Underwater visibility is greater than 4 metres
- Dive starts and ends in full daylight

**Away from the Lizard Island Group**, there must be a person who remains on the surface during diving operations and who has the following qualifications and experience:

- Queensland recreational shipmaster's certificate or other Australian state equivalent. No overseas qualification is acceptable.
- Significant experience handling similar craft in conditions similar to those at the dive site.
- Adequate knowledge of the actual boat to be used and of the proposed dive site area, gained under the supervision of a person approved by a LIRS director.
- Current first aid and medical oxygen certificates (this requirement may be waived by the LIRS Dive Officer if all divers have current first aid and oxygen training).
- Familiar with radio and oxygen equipment provided on Lizard Island Research Station boats.

## **DIVE SUPERVISOR RESPONSIBILITIES**

- Dive planning and risk assessment
- On-site supervision of diving operations
- Dive team compliance with the LIRS Diving Regulations
- Ensure that dive team members are sufficiently trained and experienced for proposed work
- Ensure that safety and emergency equipment is available at the dive site and is fully operational
- Pre-dive briefing for all members of the dive team (including any boat attendants) covering tasks for the dive, risk control measures, signals, diver recall methods, procedures for loss of buddy contact, defining buddy teams of 2 or 3 people and determining the Dive Leader for each team.
- Before each dive, ensure that no diver is scheduled to fly within 24 hours and that the dive is within the depth limit imposed on each diver.
- Ensure that the dive flag is displayed at the dive site.
- If diving without a boat attendant within the posted Low Risk Area, ensure that: (i) all divers agree to dive without a boat attendant, (ii) defined Low Risk Conditions actually exist at the dive site, (iii) a float line is deployed from the boat, (iv) the anchor is checked for security at the beginning of the dive, and (v) divers do not swim outside the Low Risk Area during the dive.
- If diving outside the Low Risk Area, ensure that a qualified and approved boat attendant is present who is sufficiently experienced for the conditions
- Restrict or suspend operations due to prevailing or forecast weather conditions
- Timely completion of LIRS dive log by each diver in the team
- Remove faulty equipment from service and report it to the LIRS Diving Officer
- Notify LIRS Diving Officer of any diving-related injury or accident to any member of the dive team

## **DIVE LEADER RESPONSIBILITIES**

- In-water control of one or two other divers
- Abort the dive if any member of the team reports faulty gear or other difficulty
- If diving without a boat attendant, abort the dive if it appears that Low Risk Conditions have ceased to exist
- Remove faulty equipment from service and report it to the Dive Supervisor

## **DIVER RESPONSIBILITIES (including Restricted and SST Divers)**

- Notify the LIRS Diving Officer of any relevant medical condition or injury that commenced or occurred after the dive medical was issued
- Abide by any special conditions imposed by the LIRS Diving Officer

- Participate in the risk assessment process
- Be medically and physically fit for each dive
- Decide whether or not to participate in each dive after consideration of the dive plan, the prevailing conditions, your capabilities and your medical and physical condition
- Notify the Dive Leader, Dive Supervisor or LIRS Diving Officer if uncertain about your ability to safely undertake any proposed diving task
- When you have decided to participate in a dive, comply with the instructions of the Dive Supervisor and the Dive Leader
- Dive safely within the limits of your capabilities, in accordance with the LIRS Diving Regulations and an approved dive plan, and implement agreed risk control measures
- Check your diving gear and that of your buddy(ies) before each dive
- Carry all diving equipment required under the LIRS Diving Regulations
- Monitor air supply and ensure that each dive finishes with at least 50 bar remaining in the tank, unless the Diving Officer has given permission for a lower end pressure
- Maintain contact with your buddy during the dive
- Notify the Dive Leader or Dive Supervisor immediately of any faulty dive equipment, regardless of who owns the gear, and do not use it again until it has been approved by the LIRS Diving Officer.
- Notify the Dive Supervisor as soon as possible of any diving-related injury that occurs to you or your buddy.
- Complete the LIRS dive log as soon as practical upon returning from a dive.

## THE PAPERWORK

- On or before arrival at LIRS, the dive team must submit to the LIRS Dive Officer for approval a **Dive Plan** that covers the diving operations intended for that trip. A form is available at LIRS and other formats that provide the relevant information (e.g. a plan prepared for your own institution) are acceptable.
- All members of the dive team, including any boat attendants, must read the LIRS **General Diving Risk Assessment** and agree to implement its risk control measures.
- They must also consider whether that risk assessment covers the tasks and perceived hazards of their own project. If it does not, they must complete a separate **Special Risk Assessment**.
- During the course of the trip, if any dives are planned that fall outside of the original approved dive plan, a new dive plan must be submitted to the LIRS Diving Officer for approval prior to doing the dive, accompanied by an additional risk assessment if necessary.
- As soon as practical after returning from each dive, each diver must complete the LIRS **Dive Log**.

## PROHIBITED DIVES

- Decompression dives
- Dives deeper than 30 metres
- Dives less than 24 hours before flying
- Diving inside the Low Risk Area (as posted for that day) without a boat attendant if the Dive Supervisor has determined that any of the low risk conditions are not met at the dive site
- Diving outside the Low Risk Area (as posted for that day) unless a boat attendant is present

## OTHER CONSIDERATIONS

- A safety stop at 5 metres for 5 minutes is required for all dives deeper than 9 metres.
- Cook's Look (altitude 360 m) may only be climbed if your repetitive factor has returned to 1.0.
- When planning any strenuous activity (e.g. running, volleyball), consider your nitrogen load.
- Understand *LIRS Emergency Procedures for Divers* (separate document, Appendix 6 of the *LIRS Diving Operations Manual*).

## SNORKELING BY DIVERS

- LIRS divers are allowed to snorkel wherever they are allowed to dive.
- Snorkelers are advised to fly the dive flag from the boat while snorkeling. A dive flag on a float is also available on request.
- There are normally two or more people in a snorkeling team. A two-person team may comprise two snorkelers, or one snorkeler and another person in a boat or on shore nearby.
- Snorkelers in a team of two or more who go snorkeling without using a boat are advised to notify a responsible person of their plans.
- The responsible person must be at LIRS at the snorkelers' expected time of return and must raise the alarm if the snorkelers do not return by that time.
- The responsible person is usually a member of the snorkelers' own research team. Specific arrangements can also be made with LIRS staff to check that snorkelers have returned by a certain time. If the expected time of return is earlier than the latest boat sign-in time (which changes according to the time of year), an entry in the LIRS Boat Log is equivalent to notifying a responsible person. "Snorkeling" is to be entered in the boat column and the snorkelers' names are to be listed in the dive supervisor column.
- **Solo snorkeling within the Low Risk Area** is allowed during daylight. If the snorkeler is using a boat, the boat log is used to keep track of return time. If NOT using a boat, the snorkeler is required to notify a responsible person of his/her plans including the expected time of return. In either case, the snorkeler must ensure that defined low risk conditions actually exist at the site before snorkeling solo.
- **Solo snorkeling outside the Low Risk Area** must be approved by the LIRS Diving Officer. It is subject to special risk assessment.
- Snorkelers must discuss plans for **night snorkeling** with the LIRS Diving Officer at least a day in advance. Additional regulations apply and an additional risk assessment must be submitted.
- **Twilight snorkeling** (i.e. 15 minutes after sunset or 15 minutes before sunrise) can be done under daylight procedures in the immediate vicinity of the Research Station and if a responsible person has been notified (an entry in the Boat Log is *not* acceptable for twilight snorkeling). In other circumstances, specific permission from the LIRS Diving Officer is required.