

Diving and Snorkelling Codes of Practice

*Recreational Diving Using Compressed Gas
and Recreational Snorkelling: 2003*



Department of Sport and Recreation
Government of Western Australia

Acknowledgements

The Underwater Recreational Diving Taskforce 1999 provided the initial impetus for the development of these codes. The codes were developed in 2001 following extensive consultation with the dive industry and were launched in December 2001.

Since then, the industry in Western Australia has continued to provide valuable comment on the content of the document and this second edition incorporates many of these suggested improvements.

Feedback

These codes are the first of their kind in Western Australia and as such will continue to be refined as part the development of an industry best practice model.

The department and industry seek comments on the codes and these can be provided to info@dsr.wa.gov.au.

Additional copies can be obtained from www.dsr.wa.gov.au.

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Code of Practice

Authority

The dive code is to be read in conjunction with relevant legislation and Australian Standards AS 4005 *Training and certification of recreational divers*.

Scope

The codes of practice apply to all locations where recreational diving and snorkelling are likely to occur. This is based on the understanding that there are inherent risks in underwater diving and snorkelling and that these must be appropriately managed to prevent incidents from occurring.

All workplaces are covered by the Occupational Safety and Health Act (1984) and this document attempts to benchmark minimal acceptable standards for achieving compliance as well as best practice for the industry.

The codes provide information on the responsibilities of those involved in recreational diving and snorkelling in the workplace.

Who should use this code of practice?

All people who have responsibility for the safety and health of recreational divers and snorkellers in the workplace should use these codes of practice. The codes are primarily for dive tour operators, trainers and tour agents to inform them of their responsibilities to recreational divers and snorkellers.

Recreational diving¹ in the diving code relates to the situation where an employer, or self-employed person conducts a recreational dive as part of their business with the focus on minimal entry-level diving.

These codes should also be a guide to recreational divers and snorkellers who are not in the workplace but who undertake diving and snorkelling as a leisure activity.

Duty of care

The State Government is presently deliberating on a range of further tort law reforms (e.g. proportionate liability and assumption of risk) that will have direct impact on and relevance to the recreational underwater diving fraternity.

As these reforms are finalised the Department of Sport and Recreation will liaise with the WA Recreational Underwater Diving Forum to disseminate information as legislative reforms are finalised.

¹ Refer the glossary.

Recreational Diving Using Compressed Gas and Recreational Snorkelling: 2003

Introduction

Risk management in the workplace is critical to ensure mishaps are minimised or avoided as far as possible. All risk management strategies should be based upon Australian Standards² and other training standards and the Occupational Safety and Health Act (1984). The practices of this code, at the time of publication, satisfy the requirements of the Act.

Purpose

The purpose of the Code of Practice on *Recreational Diving and Snorkelling at a workplace* is to provide practical advice on how to minimise risks associated with recreational diving and snorkelling in the workplace³.

1. Equipment

Refer to AS 4005.1, Section 3.3. All equipment should also be maintained in accordance with the manufacturer's specifications.

1.1 Training equipment

The following equipment should be available on the boat when training is taking place:

- 1.1.1. Highly visible float with a floating mermaid line;
- 1.1.2. Descent/ascent line incorporating a safety stop facility and suitably weighted;
- 1.1.3. Decompression tables or an alternative means of calculating decompression obligations;
- 1.1.4. Notebook and pen;
- 1.1.5. Datum marker e.g. GPS or a suitably weighted line long enough to reach the bottom at the site with a float that can be used to mark a position; and
- 1.1.6. Spare, fully charged SCUBA unit, inclusive of the regulator, BCD and tank.

In addition, all equipment required by other statutory authorities should be available.

1.2 All divers

All equipment supplied to the diver should:

- 1.2.1 Perform effectively in the intended waters;
- 1.2.2 Be checked before diving starts to ensure it is in safe working condition;
- 1.2.3 Be cleaned and kept in good repair;
- 1.2.4 Be maintained in accordance with the manufacturer's specifications; and
- 1.2.5 Be suitable for the type of diving being undertaken and of adequate quality.

Oral/nasal equipment should be disinfected prior to use by another person, e.g. use of equipment by a variety of people during training or over a series of dives. This would not be practical where there is buddy breathing during a dive.

² Australian Standards 4005.1; 4005.2; etc

³ There is risk involved in diving and all operators should identify and assess potential risks and ensure that management strategies are in place to minimise the risk. Operators should take reasonable precautions at all times to minimise risk.

1.3 Resort divers (see glossary)

All resort divers should wear the following equipment:

- 1.3.1 Fins;
- 1.3.2 Mask;
- 1.3.3 Compressed gas cylinder and valve designed specifically for SCUBA, in accordance with Australian Standard 2030.1;
- 1.3.4 Buoyancy control device fitted with a SCUBA feed inflator and designed to keep the head above water;
- 1.3.5 Regulator fitted with an alternative gas source or an alternative gas supply;
- 1.3.6 Submersible depth and cylinder pressure indicators;
- 1.3.7 Quick release weight systems when weights are required; and
- 1.3.8 Suitable apparel, as appropriate to the conditions at the location or in the water.

1.4 Entry-level certificate divers (see glossary)

All entry-level certificate divers, i.e. those participating in an open water course, should wear:

- 1.4.1 The equipment as for resort divers;
- 1.4.2 A snorkel attached to a mask;
- 1.4.3 A submersible timing device during an open water dive; and
- 1.4.4 A knife, dive tool or shears are recommended for each student, although the instructor and certified assistants should carry the item of choice.

1.5 Entry-level conditional certificate divers

These are course participants between the ages of 12 and 15 seeking conditional certification for open water diving and should be under the supervision of an adult certified diver with the consent of a parent or guardian.

All entry-level conditional certificate divers should wear:

- 1.5.1 The equipment as for resort divers;
- 1.5.2 A snorkel attached to a mask;
- 1.5.3 A submersible timing device during an open water dive; and
- 1.5.4 A knife, dive tool or shears are recommended for each student, although the instructor and certified assistants should carry the item of choice.

1.6 Certified and trainee divers

All certified and trainee divers, i.e. those participating in an open/entry-level or above course, should wear:

- 1.6.1 Equipment as listed for resort divers;
- 1.6.2 A snorkel, attached or able to be attached to a mask, unless otherwise advised by the instructor, e.g. in wreck penetration, rebreather diving and technical diving;
- 1.6.3 A submersible timing device during an open water dive;
- 1.6.4 A knife, dive tool or shears if there is a chance of entanglement;
- 1.6.5 Emergency signalling equipment, including a high visibility signalling device, such as a safety sausage, flag or an audible signalling device, such as a whistle;
- 1.6.6 A lighted signalling device (glow stick) when diving is done in low light situations, such as at night, dusk or early morning;

- 1.6.7 A torch, and a back up torch if diving at night;
- 1.6.8 A compass or direction monitor; and
- 1.6.9 Tables and/or a dive computer.

1.7 Diving workers, e.g. instructors

All diving workers should wear:

- 1.7.1 Equipment as listed for certified divers;
- 1.7.2 A slate and writing instrument; and
- 1.7.3 Adequate measures for assessing decompression status e.g. dive computer or decompression tables.

1.8 Gas quality in gas cylinders

All gas cylinders should be filled with an appropriate gas as per AS/NZS 2299.1. If the dive vessel is fitted with a filling station, it shall be maintained and serviced in accordance with Occupational Safety and Health Regulations (1996) regarding unfired pressure vessels. A list of competent persons who may inspect filling stations and cylinders may be obtained from Worksafe offices.

1.9 Recreational diving using compressed gas

Reference should be made to AS 3848.2 and the manufacturer's recommendations for filling cylinders. This section applies to all participants involved in recreational SCUBA diving who use compressed gas and who:

- 1.9.1 Supervise certified recreational SCUBA divers;
- 1.9.2 Provide diver training to:
 - 1.9.2.1.1 Individuals and groups of the general public for the purposes of recreational diving;
 - 1.9.2.1.2 Recreational divers, for ongoing diver training;
 - 1.1.2.1.3 Dive supervisors, dive coordinators and dive instructors to further develop their diving leadership and employment capabilities; and
- 1.9.3 Dive at a workplace.

2. Emergency Management

Refer to the course outline and content in AS 4005.2, 4005.4 and 4005.5.

2.1 Emergency plans

All members of the dive team must be aware of the emergency plan, including procedures for liaison with emergency personnel.

The operators' operations manual should address local conditions for diving and operational procedures for each dive charter vessel and include an emergency procedures plan.

There should also be a qualified first aider⁴ on board each charter where recreational diving occurs and this may be the skipper of the boat.

⁴ A qualified first aider has completed a course to national/international standards as presented by PADI, SSI, St John, Red Cross and SDI and is approved by ANTA.

2.2 Emergency equipment and procedures

At each dive site, the employee should ensure that the following are available:

- 2.2.1 *First Aid Equipment and Kit* as per Australian Standard 4005.1 (Minimum entry-level SCUBA diving).
 - 2.2.1.1 The kit should have sufficient resources for the situation, taking into account the number of people, the distance from medical assistance and the nature of likely first aid requirements.
 - 2.2.1.2 There should be a person at the dive site who is qualified in both dive first aid and able to administer as close as practical to 100 per cent oxygen.
 - 2.2.1.3 An oxygen system should be available at the site, or nearby, and be capable of delivering as close as practical to 100 per cent oxygen immediately to a person who is breathing spontaneously.
 - 2.2.1.4 All oxygen equipment and levels should be checked each day by a suitably trained person and the equipment maintained to standards by an appropriately qualified person.
 - 2.2.1.5 Sufficient oxygen should be available at all times, taking into account the distance to back up medical services.
- 2.2.2 *Rescues and emergencies*: One or more persons competent to operate the oxygen delivery system and capable of administering first aid should be available at each dive site.
- 2.2.3 An outline of procedures for a rescue should be documented and at least one employee on the dive site should have the skill and knowledge to implement a rescue.

3. Medical Issues

3.1 Diving workers

- 3.1.1 Diving workers, i.e. dive supervisors and instructors should possess a current and valid medical statement of fitness to dive, preferably issued by a diving medical practitioner, as per Australian/New Zealand Standard 4005.1.
- 3.1.2 Such medical examinations should be performed every five years up to the age of 30 and every three years to the age of 50.
- 3.1.3 An employer must ensure that diving is only done within the limits stated on the medical certificate.
- 3.1.4 Diving workers should declare any contraindications to diving (flu, ear infection, sinus difficulties, hangovers, heart conditions, medication) to their employer or provide a statement of health for recreational diving as per AS 4005.1, Supplement 2.

3.2 Entry-level divers

- 3.2.1 Entry-level divers must possess a current and valid medical certificate for fitness in accordance with AS 4005.1, Supplement 1.
- 3.2.1 The medical certification should be in English.

3.3 Resort divers (see glossary)

Those businesses conducting resort dives may only allow a person to complete a dive if that person:

- 3.3.1 Provides a current and valid medical declaration of fitness to dive; or
- 3.3.2 Has read and signed a fit to dive declaration; or
- 3.3.3 Has demonstrated that they are fit to dive; and
- 3.3.4 Has not declared any conditions that may be contraindications of diving, e.g. a cold, flu, hay fever, ear infections, heart conditions or being under the influence of alcohol or drugs.

If a diver declares that they have a medical condition, they should receive a medical clearance to dive prior to being permitted to dive. All of this information should be recorded and retained as confidential by the operator.

Divers are recommended not to smoke as smoking has a harmful effect upon cardiac, pulmonary and upper respiratory systems.

Alcohol can also impair body functions, such as increasing the likelihood of vomiting, narcosis, dehydration and decompression sickness. It is recommended that divers not consume alcohol within 8 hours prior to a dive or immediately following a dive.

3.4 Entry-level certificate divers

All entry-level divers must possess a current and valid medical certificate for fitness to dive in accordance with AS 4005.1, Supplement 1.

3.5 Certified divers

If the employer/self-employed person has concerns about the medical fitness of a diver, the employer/self-employed person should:

- 3.5.1 Advise the diver to seek medical advice; or
- 3.5.2 Advise the diver not to dive; or
- 3.5.3 Ensure the dive supervisor or dive instructor accompanies the diver on the dive.

3.6 Flying after diving

All divers should wait at least 12 hours after diving before flying in a pressurised or unpressurised aircraft. Where a diver has completed multiple dives on consecutive days or dives that require decompression stops, the length of the break between diving and flying should be greater and in keeping with the recognised decompression schedule.

4. Training

Industry training refers to that provided by any organisation engaged in the certification of recreational dives through documented training procedures in accordance with the AS4005 series or an internationally recognised training series (AS2299.3, S1.5.60).

4.1 Minimum age

As per the Australian Standard 4005.1, Section 1.6, the minimum age for entry-level SCUBA diving certification is 14 years and the maximum number of trainees in open water at any one time should not exceed eight per SCUBA instructor or 10 trainees per SCUBA instructor with a certified assistant (S3.4.)

Persons who have reached 12 years of age may in some cases be eligible to train for conditional certification, which allows the young person to dive with a certified diver given the consent of a parent or guardian.

4.2 Instructor, assistant and trainee instructor training

All certified training of instructor trainers, assistant, instructors and dive supervisors should comply with AS 4005.2, 3, 4 and 5.

A dive instructor must instruct resort divers and divers in training for recreational scuba diving qualifications and a certified assistant should be available to assist with instruction where appropriate.

4.3 Certified training of divers

All certified training of divers should comply with Sections 1.6, 2 and 3 of AS 4005.1. In addition, courses should be conducted:

- 4.3.1 By a national SCUBA training organisation⁵; or
- 4.3.2 Other recognised international training standard;
- 4.3.3 To comply with Occupational Safety and Health Act (1984) and Health Regulations; and
- 4.3.4 To ensure all hygiene procedures in relation to infectious diseases are adhered to.

4.4 All divers should be briefed on:

- 4.4.1 The environmental conditions and the nature of the dive;
- 4.4.2 Risks to the diver's health and safety from a build up and release of nitrogen in the blood and body tissue as related to the number of dives completed in a 24-hour period or over several days and with inadequate surface intervals;
- 4.4.3 Risks to health and safety from nitrogen narcosis;
- 4.4.4 The danger of maximum bottom time non-decompression diving;
- 4.4.5 Risks of decompression diving and pulmonary barotrauma;
- 4.4.6 The need for safety stops;
- 4.4.7 Risks associated with flying or altitude exposure;
- 4.4.8 The effects of dehydration and diving;
- 4.4.9 Risks associated with exertion and diving; and
- 4.4.10 Risks associated with diving while ill, on medication or under the influence of alcohol or drugs.

4.5 Resort divers

The instructor should assess the skills, knowledge and abilities of potential resort divers and provide the necessary information and training to participate in a dive. The skills to be taught underwater are:

- 4.5.1 Mask clearing; and
- 4.5.2 Removing and replacing a regulator.

Divers should also be informed about and taught how to:

- 4.5.3 Equalise their ears;
- 4.5.4 Use and understand hand signals;
- 4.5.5 Make an emergency ascent; and
- 4.5.6 Prevent pulmonary barotrauma.

⁵ National training organisations include PADI Asia Pacific, SSI, NAUI, SDI Australia and New Zealand.

Consideration should also be given to the following during instruction and information provided as outlined in the nationally accredited courses:

- 4.5.7 Environmental conditions;
- 4.5.8 Health and safety issues relating to the vessel and dive site; and
- 4.5.9 The location and roles of staff.

4.6 Non English speaking divers

Information and training should be given to non-English speaking divers in a manner so as to increase their understanding of diving in the local environment. This may be done through:

- 4.6.1 Written information in their language;
- 4.6.2 An interpreter;
- 4.6.3 An instructor who speaks their language; and
- 4.6.4 Assessing their understanding of procedures prior to commencing the dive.

4.7 Entry-level divers

All entry-level divers should be trained according to the AS 4005.1 and the nationally accredited training courses and standards.

- 4.7.1 A diver should not be awarded a certificate to dive unless all components of the course have been completed successfully, i.e. the diver is competent.
- 4.7.2 As per the Australian Standard 4005.1 S3.4, all open water training dives should be conducted during daylight hours and in water that allows direct and immediate access to the surface. Open water dive training should not occur at night, in caves or in wrecks.
- 4.7.3 Trainees should not exceed three dives per day.

4.8 Certified divers

The employer or responsible person, i.e. skipper and/or diving supervisor, should assess the competence of each diver prior to them diving. Factors that should be considered include:

- 4.8.1 The recency of the recreational diver's certificate and last dive; and
- 4.8.2 The diving experience of the recreational diver in the conditions at the dive site.

If there are doubts about the competence of the diver to complete the dive, the diver should be advised not to dive, and if the diver insists, then be accompanied by a dive instructor or supervisor.

Certified divers should be briefed on:

- 4.8.4 The dive site boundaries;
- 4.8.4 Environmental conditions;
- 4.8.5 Health and safety issues relating to the vessel and dive site;
- 4.8.6 The location and roles of supervisors;
- 4.8.7 The need to regularly monitor gas levels in gas cylinders and note minimum gas content requirements for a safe return to the surface;
- 4.8.8 The benefits of buddy diving and procedures;

- 4.8.9 Diving within the capacity of their training and experience;
- 4.8.10 The need to comply with training standards and instructions;
- 4.8.11 Emergency procedures and signalling; and
- 4.8.12 Their responsibility to maintain their own safety by adherence to safe diving practice and any limits imposed on the dive by the operator, once they are submerged.

5. Dive Risk Management and Human Behaviour

There should be a dive supervisor when divers are in the water and the supervisor should have experience in the area to be supervised.

5.1 Risk assessment and dive procedures

All dives should be conducted according to the procedures and standards outlined in Australian Standards 4005.2, Section 2.1 and Section 2.5. Training and certification of recreational divers: Recreational SCUBA dive supervisor.

All operators should undertake appropriate risk assessments and put in place strategies or have procedures to minimise the impact of these risks. The employer should also ensure that a dive supervisor oversees all dives and that all procedures related to safe diving are documented.

Extreme care should be taken when boarding and diving near the propellers of the vessel when they are in operation.

5.2 Dive tables and computers

All dives should be conservatively planned consistent to one set of recognised dive tables⁶ or a dive computer. The tables and/or the dive computer are guides only and no diver should dive beyond their training or experience⁷.

5.3 Dive safety logs

All employers, self-employed persons and employees must keep a dive safety log which complies with Australian Standard 4005.2; Training and certification of recreational divers: Recreational SCUBA dive supervisors, and must contain a record of every dive completed by the employer, self-employed person and the dive worker, including dives completed during each course. This also applies to customers.

5.4 Diver's log

Divers should complete a diver's log and the log should include the following information:

- 5.4.1 Date the dive was completed.
- 5.4.2 Sequential number of the dive.
- 5.4.3 Location and type of the dive.
- 5.4.4 Environmental conditions.
- 5.4.5 Time in and out of the water.
- 5.4.6 Maximum depth of the dive.
- 5.4.7 Bottom time.

⁶ Recognised tables are any tables approved by a scuba training organisations, DCIEM tables, Buhlemann tables and/or dive computer used in accordance with the manufacturer's instructions.

⁷ Experience refers to the individual's ability to complete the dive, including their psychological, physical and emotional condition during the dive, giving consideration to the changing conditions during a dive and as a consequence of multiple days of diving within a limited time frame.

- 5.4.8 The decompression tables followed by the diver.
- 5.4.9 Any emergency or incident that occurred during the dive to be noted.
- 5.4.10 Any discomfort or injury that may have been experienced.
- 5.4.11 Depth and duration of the safety stop.

5.5 Dive plan

All dives should be performed in accordance with a predetermined dive plan.

5.6 Diving depths

While diving is in progress under the control and responsibility of the operators, the employer/self-employed person must ensure that:

- 5.6.1 All recreational **diving workers** dive within their ability, training, experience and their known medical fitness to dive. They should not be required to dive beyond a depth of 40 metres;
- 5.6.2 **Resort divers** are not permitted to dive beyond 12 metres;
- 5.6.3 **Entry-level certificate** divers are not permitted to dive beyond their training and experience unless under the supervision of a dive supervisor or instructor;
- 5.6.4 **Certified divers** are advised not to dive to depths beyond their training, fitness or experience unless accompanied by an instructor on a training or check out dive. These divers should be advised that should they experience difficulties beyond a depth of 40 metres, a diving worker may not be able to render assistance; and
- 5.6.5 **Technical divers** are to produce proof of training and current experience for the type of dive being planned, prior to being permitted to undertake the dive.

5.7 Supervision of divers in open water

All supervisors should take into consideration the dive conditions, the ability, training and experience of the diver(s). Supervision ratios should meet national and international standards and as outlined in the nationally accredited courses⁸ for industry training.

There should be a dive supervisor when divers are in the water and the supervisor should have experience appropriate to the site/area to be supervised.

An employer or self-employed person may allow a person to do a recreational dive only if they consider the environment to be safe for such a dive. When diving from a boat, the lookout must be:

- 5.7.1 Out of the water and in such a position as to be able to see the whole area where diving is taking place. If there is more than one lookout, each one should cover a designated area;
- 5.7.2 Involved only in lookout functions whilst the dive is taking place;
- 5.7.3 Able to recognise relevant hazards and divers in difficulty;
- 5.7.4 Able either to rescue a diver or direct an available person to rescue a diver;
- 5.7.5 Able to provide first aid, including expired air resuscitation, oxygen resuscitation and external cardiac compression; or
- 5.7.6 Able to direct an available person to provide the necessary first aid.

⁸ Nationally accredited courses include PADI Asia Pacific, SSI, NAUI and SDI Australia and New Zealand.

A **lookout** is still taken as being a lookout when they are involved in a rescue and/or first aid procedures. Therefore, the employee/self-employed person must have assessed the degree of risk in not having a second person as a back up for emergency situations and have justifiably concluded that it is reasonable to operate without a second person.

When boat diving, the **dive supervisor** should manage the dive operation and remain at the surface while diving is taking place. The dive supervisor may act as the lookout, if the operator has only one person available and considers that there is no increased risk to the divers due to having the lookout and dive supervisor being the same person.

The **lookout** should carry out their duties as outlined in the national training standards for a qualified dive master, including the following:

- 5.7.7 Continuous scanning of the designated dive area;
- 5.7.8 Performing rescues or directing another person to perform a rescue;
- 5.7.9 Being sufficiently fit to perform a rescue;
- 5.7.10 Providing adequate first aid for a dive emergency, or able to direct another person to perform the necessary tasks;
- 5.7.11 Observing divers as they enter and exit the water;
- 5.7.12 Having access to aids that enhance vision of the dive site, e.g. binoculars and sun glasses;
- 5.7.13 Continuous monitoring of the site, looking out for potential hazards, divers in difficulty, any adverse change in conditions and able to respond appropriately.
- 5.7.14 Wearing clothing that is identifiable; and
- 5.7.15 Being able to communicate with the appropriate people, who may be the skipper or a person with access to communications.

5.8 Resort divers: in water supervision

The employer/self-employed person must ensure that people doing resort dives are supervised by an instructor and an assistant where appropriate.

When a dive instructor is the only supervisor, divers should be briefed to swim within view and easy reach of the instructor. Single-file swimming is not acceptable.

5.9 Entry-level certificate divers: in water supervision

International standards do not require an entry-level diver to have completed all confined water dives prior to participating in the first two dives.

All supervision should be carried out to the national training standards.

While in the water, the instructor should be aware of the location of all students at all times and be in a position to provide immediate assistance if required. Students should dive with a buddy at all times, or where this is not practical, e.g. one-on-one instruction, under the close supervision of the instructor.

5.10 Certified divers: in water supervision

The employer/self-employed person should ensure that the diver has the skill, fitness, qualifications and experience to cope with the conditions at the site of the dive.

5.11 Head counts

A count of all persons on board must be made and recorded when an employer or self-employed person uses a boat to transport persons to, or to the vicinity of, a recreational diving site.

Before the boat departs for the recreational diving site, the employer or self-employed person must ensure a crew member:

- 5.11.1 Counts all persons on board;
- 5.11.2 Makes a written record of the count; and
- 5.11.3 Verifies the count by signing the written record.

If anyone leaves the boat permanently by alternative transport to shore, or transfers to another vessel, or if an additional person permanently joins the boat the employer or self-employed person must ensure a crewmember:

- 5.11.4 Counts the persons leaving the boat as they leave it;
- 5.11.5 Count the persons boarding the boat as they board;
- 5.11.6 Makes a written record of each of the counts;
- 5.11.7 Makes a written record of the number of persons currently on board; and
- 5.11.8 Verifies the information recorded under statements 5.11.6 and 5.11.7 by signing the written record.

Before the boat departs from the recreational diving site or the dive vicinity, the employer or self-employed person must ensure a crewmember:

- 5.11.10 Counts the persons on board;
- 5.11.11 Makes a written record of the count;
- 5.11.12 Compares the count with the latest count recorded under this section to ensure the counts agree; and
- 5.11.13 Verifies the information recorded as recorded in statement 5.11.11 and the comparison done as outlined in statement 5.11.12 by making a record of the comparison and signing it.

The employer or self-employed person must keep the head count records for at least one (1) year.

Recreational divers should also note that they have a duty of care to ensure that they keep the dive operator informed of their whereabouts during a dive and can facilitate the head count process by reporting to the responsible person before and following dives as instructed.

Glossary

Bottom time: The time between a diver leaving the surface at the start of a dive and starting the final ascent, however it does not include the time taken for a safety stop.

Certified assistant: A person who holds a current qualification from a recreational SCUBA organisation, designed to qualify the person to assist a dive instructor and to work with certified divers in all aspects of recreational diving as per Clause 3.4 of AS 4005.1.

Certified dive supervisor: an individual who has undergone formal training to plan and conduct supervised SCUBA diving activities. Refer AS 4005.2.

Confined water: Confined water refers to either a swimming pool or an open water site that offers swimming pool-like conditions with respect to clarity, depth and lack of currents and swell.

Direct supervision: The 'in water' visual observation and evaluation of trainee skill performance by a SCUBA instructor in a position to render assistance and guidance.

Dive instructor: A person who holds a current qualification from a recreational SCUBA-training organisation, designed to qualify the person as a SCUBA instructor.

Dive supervisor: A person appointed to supervise the diving area whenever divers are in the water and who holds a current qualification in diving operations leadership from a recreational SCUBA-training organisation.

Dive time: The time between a diver leaving the surface at the start of a dive and surfacing at the end of the dive.

Diving first aid: First aid training provided by approved diver training agencies and which covers basic first aid training, CPR and oxygen administration.

Diving medical practitioner: A medical practitioner who has satisfactorily completed a nationally accredited course in diving medicine as recorded by the South Pacific Underwater Medicine Society.

Dive worker: A person who is employed to dive, to instruct or supervise the diving of others.

Employer: A person who employs (pays) another person to instruct and/or supervise others when diving. A self-employed person is one who directly earns an income from instructing in diving and/or supervising others when diving.

Entry-level certificate divers: Those people participating in an open water dive course.

Entry-level conditional certificate divers: These are course participants between the ages of 12 and 15 years of age seeking conditional certification for open water diving under the supervision of an adult certified diver given the consent of a parent or guardian.

Entry-level diver: An individual who has completed all requirements of an entry-level certification course.

Non-English speaking diver: A diver who does not understand and speak English, or whose understanding of English is such that he or she is not able to understand or question an instruction and advice given in English.

Open water: Any body of water which is subject to wind, swell, current or waves and which can be used for diving.

Recreational diving: Any of the following underwater diving for recreation using compressed air, other than diving in a swimming pool:

- Resort diving;
- Diving by a person undertaking training in diving for recreation, whether or not the person is being photographed, filmed or videoed while diving; and
- Diving for recreation by a person with a qualification in underwater diving, whether or not the person is being photographed, filmed or videoed while diving.

Recreational SCUBA training organisation: An organisation engaged in the certification of recreational divers through documented training procedures that, in principle, comply with AS 4005.1, or an internationally recognised training course.

Repetitive dive group/pressure group: Is an alphabetic code, given by dive tables, that represents the amount of residual nitrogen in a diver's tissues immediately on surfacing at the end of a dive.

Repetitive factor/pressure group at end of surface interval: An alphabetic code, given by dive tables, that represents the amount of residual nitrogen in a diver's tissues at the end of a surface interval as determined by the repetitive dive groups and the surface interval.

Residual nitrogen: Nitrogen dissolved in the tissues in excess of the amount normally present.

Resort diving: An introductory SCUBA experience, or introductory educational diving program, conducted according to a recreational SCUBA training organisation's program, whether or not the person is being photographed, videoed or filmed. This type of diving is usually conducted in less than 12 metres of water, is under direct supervision of an instructor and held in areas where there is minimal influence from environmental conditions such as currents, tides, waves that may provide a challenge to the diver.

Surface interval: The time a diver spends at the surface between dives.

Time in: The time a diver leaves the surface at the start of the dive.

Time out: The time a diver surfaces at the end of a dive, however the diver may remain in the water. This is not always the same as the time when the diver leaves the water.

Trainee diver: A diver training beyond entry-level diving.

Appendix

List of Australian Standards to be Used in Conjunction with this Code

1. AS 4005 Training and certification of recreational divers
2. AS 1777 Aluminium cylinders for compressed gasses
3. AS 1943 Industrial gas cylinder identification
4. AS 2030 The verification, filling, inspection, testing and maintenance of cylinders for the storage and transport of compressed gases.
5. AS 2030.1 Part 1: Cylinders for compressed gases other than acetylene.
6. AS 2473 Valves for compressed gas cylinders
7. AS 2705 Portable cylinders for self contained breathing (SCUBA)-safety guide
8. AS/NZ 2299 Occupational diving operations
9. AS 1349 Bourdon tube pressure and vacuum gauges
10. SAA MP48 Approved gas cylinder test stations
11. AS 2337 Gas cylinder test stations

Recreational Snorkelling

This code covers recreational snorkelling that occurs in the workplace. The practices outlined here are also relevant to the individual undertaking recreational snorkelling in a non-work environment.

Snorkelling applies to activities using mask, snorkel and fins and is distinct from any diving in which compressed gas is used.

This code does not cover snorkelling in a swimming pool.

1. Equipment

1.1 All recreational snorkelling

All equipment supplied for recreational snorkelling should be:

- 1.1.1 Suitable for the type of recreational snorkelling being undertaken and of sufficient quality to ensure it performs effectively in the water;
- 1.1.2 Checked before recreational snorkelling starts to ensure it is in safe working condition;
- 1.1.3 Cleaned and kept in good repair;
- 1.1.4 Also have available a diving flag; and
- 1.1.5 First aid kit.

Masks should:

- 1.1.6 Be made with tempered glass;
- 1.1.7 Fit the snorkellers properly;
- 1.1.8 Have adjustable straps that are secure during snorkelling;
- 1.1.9 Be disinfected prior to use by another person; and
- 1.1.10 Be clean and in good condition to prevent leaking.

Snorkels should:

- 1.1.11 Be available in all sizes;
- 1.1.12 Be of such a design so that they can be easily secured in the correct position during use;
- 1.1.13 Be disinfected prior to use by other people;
- 1.1.14 Be inspected prior to use to ensure that the valves are in working condition;
- 1.1.15 Have mouthpiece lugs in place, be clean and free of mould, tears and any sign of perishing; and
- 1.1.16 Have straps that are not splitting or perishing and are able to be secured.

Fins should be:

- 1.1.17 Available in a variety of sizes; and
- 1.1.18 Free of tears and not perishing.

Selecting and using snorkelling equipment

The business operator should ensure that snorkellers are advised of how to select, fit and test the use of their equipment correctly.

2. Emergency Management

2.1 Emergency plans

The business operator's operations manual should address local conditions for the management of emergencies for recreational snorkelling and operational staff should be aware of these procedures, as well as be adequately trained.

Emergency plans should cover:

- 2.1.1 First aid procedures;
- 2.1.2 Rescue and resuscitation procedures;
- 2.1.3 Evacuation procedures; and
- 2.1.4 Management when a snorkeller is missing.

There should also be a qualified first aider⁹ at each snorkelling site, land based or on board a charter vessel at a recreational snorkelling site. This may be the skipper of the boat.

2.2 Emergency equipment and procedures

First Aid Equipment and Kit as per AS 4005.1 should be available at each snorkelling site.

The employer or self-employed person should ensure that the following is available:

- 2.2.1 A kit with sufficient resources for the situation, taking into account the number of people, the distance from medical assistance and the nature of potential first aid requirements;
- 2.2.2 A person who is qualified in senior first aid;
- 2.2.3 An oxygen system that is capable of delivering as close as practical to 100 per cent oxygen immediately;
- 2.2.4 A person qualified to deliver as close as practical to 100 per cent oxygen;
- 2.2.5 Oxygen equipment that has had all levels checked daily by a person trained to do so and the equipment maintained to standards by a qualified person; and
- 2.2.6 Sufficient oxygen taking into consideration the distance from back up medical services.

2.3 Rescues

There should be sufficient equipment, personnel and procedures in place to ensure that a timely and effective rescue can be carried out should it be required.

This includes:

- 2.3.1 The administration of cardiac compression;
- 2.3.2 The administration of expired air resuscitation;
- 2.3.3 Personnel trained to perform a rescue and administer 2.3.1 and 2.3.2 as well as being able to use all rescue equipment effectively; and
- 2.3.5 An effective communications system/alarm, such as a whistle, horn and/or radio.

⁹ A qualified first aider has completed a course to national/international standards as presented by PADI, St John, Red Cross, approved by ANTAB.

3. Medical Issues

3.1 Recreational snorkelling workers

Recreational snorkelling workers should be able to swim and snorkel.

3.2 Entry-level snorkellers

Snorkellers should be advised that:

- 3.2.1 Snorkelling may be strenuous;
- 3.2.2 Medical conditions that are aggravated by physical activity may also be impacted upon by snorkelling;
- 3.2.3 Medical conditions that may result in a loss of consciousness can be aggravated by snorkelling;
- 3.2.4 Asthma can be brought on by being in cold water; and
- 3.2.5 Some people may panic whilst snorkelling and this may aggravate a medical condition.

If a snorkeller has any concerns about their medical condition or ability to snorkel, they should advise the supervisor. If a snorkeller declares that they have a medical condition, the operator should record the situation and retain the information on file.

If the business operator has concerns regarding the medical fitness of a potential snorkeller, the operator should:

- 3.2.6 Take appropriate action to either closely supervise the snorkeller; or
- 3.2.7 Advise the snorkeller to wear a flotation device; and
- 3.2.8 Where possible, provide written advice to the snorkeller of any potential medical implications.

4. Training

4.1 Instruction to snorkellers

To prepare the snorkeller for the experience and to avoid the onset of panic, it is important that the person providing instruction in, and advice on snorkelling is a qualified snorkelling instructor. The information provided to the snorkeller, prior to snorkelling should include:

- 4.1.1 Selection and appropriate use of equipment;
- 4.1.2 The environment where snorkelling will take place;
- 4.1.3 How to deal with problems that may arise;
- 4.1.4 The snorkelling site boundaries;
- 4.1.5 Health and safety issues relating to the vessel and dive site;
- 4.1.6 The location and roles of supervisors and lookouts;
- 4.1.7 Emergency and rescue procedures and signalling; and
- 4.1.8 Availability and use of flotation devices.

It is appropriate to provide demonstrations where possible so as to enhance the clarity of explanations.

4.2 Snorkelling environment

The business operator should ensure that information on the snorkelling environment covers the:

- 4.2.1 Site/area where snorkelling is to take place and include a comment on currents, winds, rocks and reefs;
- 4.2.2 Location of lookouts, supervisors and vessels; and
- 4.2.3 Location of flotation devices.

All locations should be appropriate to the skill level of the person(s) snorkelling and be appropriately marked by dive flags. Dive sites should also have:

- 4.2.4 A safe entry and exit point with minimal water movement;
- 4.2.5 No obvious dangers, such as boat traffic or a strong current;
- 4.2.6 Minimum visibility of three (3) metres under water; and
- 4.2.7 Weather should be clear.

4.3 Snorkelling guide

The snorkelling guide takes a small group (up to 10 people) on a snorkelling tour and should:

- 4.3.1 Be able to swim and snorkel;
- 4.3.2 Be able to carry out an assessment of the snorkelling ability of the people going on the tour;
- 4.3.3 Take a flotation device so that a snorkeller may use it to rest should they require such assistance whilst in the water;
- 4.3.4 Take a head count at the beginning and end of the tour;
- 4.4.5 Place snorkellers in pairs so that each snorkeller has a designated buddy;
- 4.4.6 Have access to a communication system and be able to use it to alert of an emergency situation;
- 4.4.7 Be able to complete a rescue of a snorkeller or able to instruct another person to complete a rescue; and
- 4.4.8 Be able to perform emergency first aid, including expired air resuscitation, oxygen resuscitation and external cardiac compression or be able to direct another person to do so.

If in the opinion of the guide, the prospective snorkeller may become a safety risk to themselves or others, the guide may refuse to take the snorkeller on the tour.

4.4 Snorkelling supervisors

The snorkelling supervisor should be able to:

- 4.4.1 Swim and snorkel;
- 4.4.2 Assist and advise snorkellers as they enter the water;
- 4.4.3 Effectively instruct another person on how to safely snorkel in the designated area;
- 4.4.4 Observe the snorkellers when they are in the water;

- 4.4.5 Recognise snorkellers who may be in difficulty;
- 4.4.6 Recognise adverse change in conditions of the weather and/or water and take the necessary action to ensure the safety of the snorkellers;
- 4.4.7 Recognise risk factors in the marine environment that may impact upon the safety of the snorkellers;
- 4.4.8 Provide assistance in the situation when a snorkeller finds themselves in some difficulty. This should include being able to complete an emergency rescue, or instruct another person to complete the rescue; and
- 4.4.9 Access a communication system at all times and know how to communicate an emergency should the need arise.

The supervisor should also wear clearly identifiable clothing at all times, as well as sunglasses that will assist visibility in a high sun-glare environment.

4.5 Non-English speaking snorkellers

A non-English speaking snorkeller is a person who cannot understand and speak English, or who does not readily understand instructions provided in English.

Information and training should be given to non-English speaking snorkellers in a manner so as to increase their knowledge and understanding of recreational snorkelling in the local environment. This may be done through:

- 4.5.1 Written information/instruction sheets in their language;
- 4.5.2 Visual aids;
- 4.5.3 An interpreter; and/or
- 4.5.4 An instructor who speaks their language.

This should be followed by:

- 4.5.5 Assessing their understanding of procedures prior to commencing the snorkelling session;
- 4.5.6 Close supervision when they first enter the water and an assessment of their abilities; and
- 4.5.7 Close supervision until the supervisor is satisfied with their ability to snorkel independently; this includes their ability to swim.

5. Risk Management and Human Behaviour

5.1 Risk assessment

All operators should undertake appropriate risk assessment and put in place strategies to minimise the impact of these risks.

Operators should also ensure that snorkelling is coordinated by a person specifically appointed for that function and where possible, this should not be the skipper of the vessel.

All snorkelling procedures should be documented in the operations manual. This includes the responsibilities of lookouts, supervisors and snorkelling guides.

5.2 Management of potential problems

A person who has not snorkelled previously or feels inadequate should raise this with the business operator who should assess the situation and make a decision as to what is the most appropriate course of action for that snorkeller.

The business operator should also ensure that the following situations are covered during a snorkelling session:

- 5.2.1 Practising snorkelling beside a boat, platform or in shallow water prior to proceeding to deeper water;
- 5.2.2 Identifying a snorkeller's limitations and making the snorkeller aware of these limitations;
- 5.2.3 The location, use and availability of flotation devices, including life jackets;
- 5.2.4 The communication strategies and procedures to be used, in particular how the lookout and/or supervisor will communicate with snorkellers and how snorkellers are to communicate the need for support;
- 5.2.5 How to keep the face clear of the water by moving into a vertical position in the water;
- 5.2.6 How to snorkel with a buddy and stay together;
- 5.2.7 Be able to assess to the best of the operator's knowledge, that snorkellers are not under the influence of drugs, including alcohol and prescription drugs, that may impair performance;
- 5.2.8 Appropriate sun protection is available while on and off the boat. (Not all boats have shade.);
- 5.2.9 Keeping warm in and out of the water. This may be achieved by wearing wet suits, keeping covered, drying off and getting into dry clothes quickly and keeping out of the wind after exiting the water. Dress appropriately for the condition on the day; and
- 5.2.10 Snorkellers names should be checked off as they enter and leave the snorkelling site. Refer section 5.4 on Head Counts.

5.3 Supervision of recreational snorkelling in open water

All supervision should be conducted to take into consideration the:

- 5.3.1 Conditions at the snorkel site, eg. current, tides, waves, reef, rocks;
- 5.3.2 Ability, fitness levels, training and experience of the recreational snorkellers;
- 5.3.3 Number of snorkellers in the group and the water at any one time;
- 5.3.4 Size, location and physical characteristics of the snorkel site;
- 5.3.5 Cultural and language variances that may influence communication and a snorkeller's understanding of emergency procedures;
- 5.3.6 Experience of the staff in conducting supervision of the snorkelling site; and
- 5.3.7 Location of the site to emergency back up.

5.4 Head counts

A count of all persons on board must be made and recorded when an employer or self-employed person uses a boat to transport persons to, or to the vicinity of, a recreational snorkelling site.

Before the boat departs for the recreational snorkelling site, the employer or self-employed person must ensure a crew member:

- 5.4.1 Counts all persons on board;
- 5.4.2 Makes a written record of the count; and
- 5.4.3 Verifies the count by signing the written record.

If anyone leaves the boat permanently by alternative transport to shore, or transfers to another vessel, or if an additional person permanently joins the boat, the employer or self-employed person must ensure a crew member:

- 5.4.4 Counts the persons leaving the boat as they leave it;
- 5.4.5 Count the persons boarding the boat as they board;
- 5.4.6 Makes a written record of each of the counts;
- 5.4.7 Makes a written record of the number of persons currently on board; and
- 5.4.8 Verifies the information recorded under statements 5.4.6 and 5.4.7 by signing the written record.

Before the boat departs from the recreational snorkelling site or the snorkelling vicinity, the employer or self-employed person must ensure a crew member:

- 5.4.10 Counts the persons on board;
- 5.4.11 Makes a written record of the count;
- 5.4.12 Compares the count with the latest count recorded under this section to ensure the counts agree; and
- 5.4.13 Verifies the information recorded as recorded in statement 5.4.11 and the comparison done as outlined in statement 5.4.12 by making a record of the comparison and signing it.

The employer or self-employed person must keep the head count records for at least one (1) year.

5.5 Lookout involved in supervising recreational snorkellers

When snorkelling from a boat, an operator should only allow recreational snorkelling if there is at least one (1) person acting as a **lookout** during snorkelling **or** if there is a guide operating with the group at all times.

The **lookout** should be:

- 5.5.1 Out of the water and in such a position as to be able to see the whole area where recreational snorkelling is taking place. If there is more than one lookout, each one should cover a designated area;
- 5.5.2 Involved only in lookout functions where possible;
- 5.5.3 Able to recognise relevant hazards;
- 5.5.4 Able to recognise a snorkeller who might be in difficulty;
- 5.5.5 Able either to rescue a snorkeller or direct another person to conduct the rescue;

- 5.5.6 Able to provide first aid including expired air resuscitation, oxygen resuscitation and external cardiac compression; or
- 5.5.7 Able to direct another person to provide necessary first aid; and
- 5.5.8 Using a method of communication, such as a whistle or horn, able to alert the group of an emergency.

A **lookout** and/or a **guide** is taken as being a lookout or a guide when they are involved in a rescue and/or first aid procedures. Therefore, the employee or self-employed person (operator) must assess the risk in not having another person as a backup for emergency situations and have concluded that it is reasonable to operate without such backup.

The **lookout** should be:

- 5.5.8 Present for the whole of the snorkelling session;
- 5.5.9 Observing snorkellers as they enter and exit the water;
- 5.5.10 Continuously scanning and observing people who are snorkelling in the designated area;
- 5.5.11 Keeping people within the designated snorkelling site;
- 5.5.12 Able to perform a rescue or direct another person to perform a rescue;
- 5.5.13 Sufficiently fit to perform a rescue;
- 5.5.14 Able to perform first aid in an emergency, or be able to direct another person to perform first aid, including resuscitation;
- 5.5.15 Using aids to enhance vision of the snorkelling site, such as binoculars and sun glasses;
- 5.5.16 Continuously monitoring the site, looking out for potential hazards, snorkellers, any adverse change in conditions and responding appropriately;
- 5.5.17 Wearing clothing that is identifiable; and
- 5.5.18 Able to communicate with snorkellers and appropriate personnel at all times.

5.6 Snorkelling supervisors

The employer/self-employed person (operator) should ensure a snorkelling supervisor is qualified to national standards.

The **supervisor's role** is to:

- 5.6.1 Note the names of, and observe snorkellers as they enter the water, snorkel and leave the water;
- 5.6.2 Instruct snorkellers as appropriate to the site and conditions;
- 5.6.3 Identify risks that may arise due to a change in circumstance; e.g. people "fooling" around, fatigue, adverse changes in the weather, tides, currents and act accordingly;
- 5.6.4 Assist with rescues and emergencies as required;
- 5.6.5 Remain in communication with snorkellers and support personnel, eg lookouts, guides, boat staff;
- 5.6.6 Wear bright clothing for ease of identification; and
- 5.6.7 Ensure all snorkellers have a buddy prior to entering the water.

5.7 Snorkelling guide

The **guide** should be aware of the location of all snorkellers at all times and ensure that snorkellers remain with their designated buddy at all times.

The **snorkelling guide** has the **role** of taking a snorkeller or group (up to 10 people per group) of snorkellers on a guided tour and should be in the water or on a vessel sufficiently close to the snorkellers to provide immediate assistance if required and to be able to communicate with them.

The **snorkelling guide** should:

- 5.7.1 Have the necessary nationally accredited skills to snorkel and be sufficiently fit to snorkel for the duration of the snorkelling tour and/or to complete a rescue should the need arise;
- 5.7.2 Complete an assessment of each snorkeller's capability to complete the guided tour;
- 5.7.3 Not permit a person to participate in a tour if in their opinion the snorkeller is not sufficiently fit to complete the tour;
- 5.7.4 Only take small groups on snorkelling tours. The size of a group is determined by the location, conditions and ability of the participants;
- 5.7.5 Have a flotation device available in the water as a resting station if needed;
- 5.7.6 Conduct a count at the beginning and end of a tour and record this information;
- 5.7.7 Divide the snorkellers into pairs and instruct them to stay together;
- 5.7.8 Have a communication system that enables them to alert others in the case of an emergency;
- 5.7.9 Be able to complete a rescue of a snorkeller or able to instruct another person to conduct a rescue; and
- 5.7.10 Be able to provide first aid as required, including expired air and oxygen resuscitation and external cardiac compression and/or be able to instruct another person to do so.



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