Office of Industrial Relations
Workplace Health and Safety Queensland

Recreational Diving, Recreational Technical Diving and Snorkelling Code of Practice 2018

Queensland Government

This Queensland code of practice has been approved by the Minister for Education and Industrial Relations under section 43 of the *Safety in Recreational Water Activities Act 2011* and commences on 8 February 2018.

PN12304

Contents

Foreword

The *Recreational Diving, Recreational Technical Diving and Snorkelling Code of Practice 2018* (the code) is an approved code of practice under section 43 of the *Safety in Recreational Water Activities Act 2011* (the SRWA Act).

An approved code of practice is a practical guide to achieving the standards of health, safety and welfare required under the SRWA Act and the Safety in Recreational Water Activities Regulation 2011 (the SRWA Regulation).

A code of practice applies to anyone who has a duty of care in the circumstances described in the code. In most cases, following an approved code of practice would achieve compliance with the health and safety duties in the SRWA Act, in relation to the subject matter of the code. Like regulations, codes of practice deal with particular issues and do not cover all hazards or risks which may arise. The health and safety duties require duty holders to consider all risks associated with the recreational activity, not only those for which regulations and codes of practice exist.

Codes of practice are admissible in court proceedings under the SWRA Act and Regulation. Courts may regard a code of practice as evidence of what is known about a hazard, risk or control and may rely on the code in determining what is reasonably practicable in the circumstances to which the code relates.

Compliance with the SWRA Act and Regulation may be achieved by following another method, such as a technical or an industry standard, if it provides an equivalent or higher standard of work health and safety than the code.

An inspector may refer to an approved code of practice when issuing an improvement or prohibition notice.

It is important to note the health and safety duties of persons conducting a business or undertaking, workers and others are outlined in the *Work Health and Safety Act 2011* (WHS Act), the Work Health and Safety Regulation 2011 and associated codes of practice. Although the WHS Act encompasses the health and safety of others, such as customers whose health and safety may be affected by a work activity, it does not specifically address the health and safety risks of recreational diving and snorkelling, when the activity is conducted by a business or undertaking .

Specific duties for the health and safety of recreational diving and snorkelling when the activity is conducted by a business or undertaking, are outlined in the SRWA Act, Regulation and this code of practice. However the WHS Act continues to apply, and must be complied with, in addition to the SWRA Act. The diving specific regulations and codes may not outline every risk of your workplace (e.g. electrical safety and manual tasks risks), so you must ensure you are familiar with all relevant WHS regulations and codes.

Scope and application

This code provides practical guidance to persons conducting a business or undertaking on how to comply with their health and safety duties when providing recreational water activities, in particular recreational diving, recreational technical diving and snorkelling.

How is the code organised

In providing guidance, the word ‘should’ is used in this code to indicate a recommended course of action, while ‘may’ is used to indicate an optional course of action.
This code also includes various references to provisions of the SWRA Act and Regulation which set out the legal requirements. These references are not exhaustive. The words ‘must’, ‘requires’ or ‘mandatory’ indicate that a legal requirement exists and must be complied with.

All defined terms in the code are bolded and the definitions found in the dictionary at Appendix 9.

1. Introduction

1.1 What is Recreational Diving, Recreational Technical Diving and Snorkelling?

Recreational diving
Businesses and undertakings in Queensland conduct a range of recreational water activities including recreational diving, snorkelling and recreational technical diving. Typically recreational diving is undertaken using compressed air without the need for decompression stops.

Key risk areas for recreational diving include poor medical fitness, inexperience, inadequate skills, panic and decompression illness.

Recreational diving is underwater diving for recreation using compressed gas, other than diving in a swimming pool, and includes any of the following:

- **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
- 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 technical diving is underwater diving for recreation, other than in a swimming pool:

- using EANx or mixed gas

or

- that is decompression diving using compressed air or other gases.

Recreational snorkelling is swimming for recreation with the aid of a snorkel, other than snorkelling in a swimming pool.

Recreational snorkelling in Queensland is usually conducted during tours or from vessels at reef or island locations. Tragically more snorkellers than divers die in Queensland.

Common factors contributing to cause of death are cardiac related with age; pre-existing conditions; weight and fitness. Other risk areas include inexperience, particularly for non-English speaking snorkellers, and hypoxic blackout. Often also called shallow water blackout, hypoxic blackout usually affects young males engaged in extended breath hold snorkelling.

Generally the requirements for snorkelling are similar to many of the requirements for recreational diving.

1.2 Who has health and safety duties in relation to these activities?

A **person conducting a business or undertaking** (PCBU) has the primary duty under the SRWA Act to ensure, as far as reasonably practicable, that people for whom recreational water activities are provided are not exposed to health and safety risks arising from the provision of the recreational water activities.

Officers, such as company directors, have a duty to exercise due diligence to ensure that the business or undertaking complies with the SRWA Act and Regulation. This includes taking reasonable steps to ensure that the business or undertaking has and uses appropriate

resources and processes to provide and maintain a safe work environment.

Workers have a duty to take reasonable care for their own health and safety and that they do not adversely affect the health and safety of other people. Workers must comply with any reasonable instruction and cooperate with any reasonable policy or procedure relating to health and safety at the workplace.

Others at a place where recreational water activities are provided must take reasonable care for his or her own health and safety and take reasonable care that his or her acts or omissions do not adversely affect the health and safety of other people present at the place. In addition they must comply, so far as the person is reasonably able, with any reasonable instruction that is given by the person conducting the business or undertaking to allow the person conducting the business or undertaking to comply with the SWRA Act (for example, wearing a stinger suit).

1.3 Risk management

The WHS Act and Regulations require people who have a duty to ensure health and safety to manage risks by eliminating health and safety risks so far as is reasonably practicable, and if it is not reasonably practicable to do so, to minimise those risks so far as is reasonably practicable.

Guidance on the general risk management process that must be followed is available in the *Work Health and Safety Act 2011* and the *How to Manage Work Health and Safety Risks Code of Practice 2011*.

To properly manage risks, a person must:

- identify hazards—find out what may cause harm
- assess risks that may result because of the hazards—understand the nature of the harm that could be caused by the hazard, how serious the harm could be and the likelihood of it happening
- decide on control measures to prevent, or minimise the level of, the risks and implement control measures
- monitor and review the effectiveness of the measures.

This code outlines some control measures which can be used to manage risks related to **recreational diving**, **recreational technical diving** and **snorkelling**.

The person conducting the business or undertaking must:

- undertake risk management at their own workplace to ensure the control measures chosen are suitable for the workplace and the tasks and activities being undertaken
- ensure all diving/snorkelling is subject to coordination by a diving/snorkelling supervisor or other person or people who have been appointed for that purpose.

Diving/snorkelling procedures should be documented along with the responsibilities of lookouts, diving/snorkelling supervisor, dive instructors and other workers with respect to health and safety. It is important that responsibilities are clearly allocated and the diving/snorkelling procedures to be followed are known to all parties.

2. Control measures that apply to all activities

This section covers control measures that apply to all recreational diving, recreational technical diving and snorkelling activities.

2.1 Ensuring no people are left behind

SRWA Regulation sections 6 and 12: If the duty holder uses a boat to transport persons to, or to the vicinity of, a recreational diving, recreational technical diving or recreational snorkelling site, before the boat departs **for the site** and before the boat departs **from the site**, the duty holder must nominate at least two crew members and ensure those crew members do all of the following:
(a) independently count all persons on board
(b) compare the counts to ensure the counts agree
(c) make a written record of the counts
(d) verify the counts
(i) by signing the record
or
(ii) if the record is made electronically—by entering in the record the name of, and a unique identifier for, each crew member.

The same requirements apply if anyone leaves the boat permanently or joins the boat.

However, if only one crew member is aboard the boat, the crew member **must do the count twice**, using:
(a) an active count system for one count
and
(b) a different active count system or a passive count system for the other count.

The duty holder must keep each record made for at least one year.

Head counts are required:

- before the boat departs **for** the dive or snorkelling site
- if anyone leaves the boat permanently for alternative transport or joins the boat to participate in any of the activities
- before the boat departs **from** any dive or snorkelling site or its vicinity (e.g. from one dive site to another in the same reef area).

This record of the total number on board must be compared with and agree with the previous record after taking into account any permanent changes.

Each crew member carrying out the counts must verify each count record and comparison by signing each record; or if the record is made electronically—by entering in the record the name of, and a unique identifier for, the crew member.

If the comparison shows the count does not match, a recount must be done. If there is still a mismatch, then procedures set down in the emergency plan must be followed.

Two types of systems are described in the SRWA Regulation:

- ***Passive count systems,*** **for example, a head count**

  These systems require little participation by the people being counted. They tend to be quicker and less obtrusive but are also more susceptible to error. If passive systems are used, the count must be conducted twice, and independently, by different crew members.
- ***Active count systems*** **for example, roll calls, tagging or signing systems**

  Active count systems require the people being counted to actively participate in the counting process. These systems tend to be slower than passive systems but are less prone to error. The use of an active system is preferred, but for vessels carrying over 50 people, passive systems may be more appropriate.

An example of both a passive and an active count system is in Appendix 1.

As with any other system, it is important the adopted process is clearly known to all workers and the responsibility for completing the count is clearly allocated to a person or people on each day. The person conducting the business or undertaking should ensure all other people on board the vessel are clearly informed of the counting process to be followed.

The SRWA Regulation requires that at least two crew members on board the vessel independently conduct, record and verify counts of people on board whenever a count is required. Where there is only one crew member on board the vessel, at least two counts must be conducted by this one person using either two active or one active and one passive count systems. In each instance the numbers recorded must agree.

2.2 Emergency plans

The person conducting the business or undertaking must ensure that a documented emergency plan is prepared for the diving/snorkelling vessel to deal with emergency situations.

The emergency plans must provide for the following:

- emergency procedures
- testing of the emergency procedures, including the frequency of testing and
- information, training and instruction to relevant people in relation to implementing the emergency procedures.

Emergency situations to be covered by the documented emergency plan should include:

- first aid
- rescue
- evacuation
- missing people.

Further information regarding emergency plans can be found in the *Managing the Work Environment and Facilities Code of Practice 2011* at www.worksafe.qld.gov.au.

2.3 Rescue of a person diving/snorkelling

Procedures, equipment and personnel should be in place so that any rescue of a person diving/snorkelling and, if required, delivery of expired air resuscitation and external cardiac compression and/or defibrillation can begin as soon as possible after a person diving/snorkelling in difficulty is sighted. It must be remembered that lack of oxygen for as little as three minutes can lead to permanent brain damage.

The person conducting the business or undertaking should ensure effective and efficient rescue and resuscitation procedures have been developed. In the development of these procedures, consideration should be given to the following factors:

- size, type and location of the diving/snorkelling site
- appropriateness of rescue procedures to the diving/snorkelling site
- adequacy of the communication system so that clear messages and information can be relayed to the appropriate personnel, including emergency services personnel, with the minimum of delay
- location of lookouts/rescuers and their skills and fitness levels. Rescuers should have knowledge and skills in diving/snorkelling and in the management of diving/snorkelling related incidents, injuries and illness. They should also have a level of fitness so their own health and safety are not compromised, and be dressed and equipped to maximise the likelihood of a successful rescue.
- availability, locality and appropriateness of any rescue equipment such as rescue

boards, tenders, flotation devices and ropes. Any rescue vessels or equipment should be maintained in a ready condition and positioned so they can be used to reach a person diving/snorkelling in distress with the minimum of delay. An appropriate powered tender vessel should be maintained in a ready condition in the water for the purpose of rescue during diving/snorkelling operations.

2.4 First aid and oxygen

Timely and appropriate use of first aid is an important factor in the treatment of a diving/ snorkelling related injury. Oxygen administration and defibrillation may be important parts of resuscitation, or for use with any diver/snorkeller who is in respiratory or cardiac distress.

The person conducting the business or undertaking should ensure:

- A first aid kit is available at the diving/snorkelling site. The contents of this kit should be sufficient to cater for the injuries that may occur. Consideration also should be given to the number of people diving/snorkelling and the nature and type of diving/snorkelling which is being undertaken.
- A person on the surface at the diving/snorkelling site should hold current training in diving first aid including emergency oxygen administration.
- An oxygen system capable of providing a spontaneously breathing person with an inspired oxygen concentration of as near as possible to 100%. The equipment shall also facilitate oxygen enriched artificial ventilation of a non-breathing person. The person/s administering the oxygen should hold a current qualification in the correct use of the system.
- Oxygen equipment and oxygen levels are checked daily by a person who has received training to carry out the checks correctly. Any other maintenance of the oxygen system should be carried out by an authorised service agent.
- Sufficient oxygen is available to supply the injured person, taking into account the location of the diving/snorkelling site and access to medical facilities.

2.5 Automated external defibrillators

Providing an automated external defibrillator can reduce the risk of fatality from cardiac arrest. The person conducting the business or undertaking should ensure that an Automatic External Defibrillator (AED) and trained operator is available on the vessel or readily accessible at the dive or snorkel site (for example, located on the primary vessel, on the dive pontoon, or for shore-based snorkelling, on the shore or in a close by location).

In circumstances where an operator determines it is not reasonably practicable to provide an AED (for example, a small vessel), a documented risk assessment should describe all the matters considered in making this determination.

The AED should be located in an area that is known to all staff, clearly visible and readily accessible. The device should be clearly signed and maintained according to the manufacturer’s specifications.

2.6 Risks from moving vessels

The person conducting the business or undertaking should ensure that the risks of a person diving/snorkelling being injured or killed by moving vessels is minimised or eliminated. In determining control measures, the following systems should be considered:

- Propeller guards for tender vessels operating in the area where diving/snorkelling is taking place and which are under the control of the person conducting the business or undertaking.
- Using buoys or markers to separate diving/snorkelling activity from vessel activity.
- Using appropriately sized and displayed flags (Code A) or lights to indicate.

diving/snorkelling activity (Note: this control measure is only effective where the flag or lights are displayed where diving/snorkelling is taking place, not just in the vicinity).
- Ensuring lookouts maintain a watch for approaching vessels and are part of a communications system to allow contact to be made with the approaching vessel in a timely manner.
- Ensuring diving/snorkelling workers are familiar with diving/snorkelling sites and are able to navigate competently.
- Adopting systems of work to minimise or eliminate the chances of these injuries occurring.

2.7 Marine jellyfish stings

This section has application in relevant Queensland waters and at times of year where people diving/snorkelling are at risk from severe marine jellyfish stings, particularly *Chironex Fleckeri* and *Irukandji (Carukia barnesi)* and related species.

The person conducting the business or undertaking should ensure that people diving/snorkelling are advised of:
- the risks of marine jellyfish
- where to access first aid
- appropriate precautions (e.g. use of stinger suits where appropriate).

The person conducting the business or undertaking should undertake a risk assessment to determine the risk of marine jellyfish stings. Further guidance on marine stingers is available in section 6.5.

2.8 Entry and exit from water

Risks associated with a person entering and exiting the water should be eliminated or minimised. The person conducting the business or undertaking should ensure:
- all people engaging in diving/snorkelling are aware of the entry and exit location from the water
- entry and exit locations are free from obstacles and other hazards
- entry and exit locations are suitable for the fitness and physical capabilities of the people engaging in diving/snorkelling activities
- assistance, where applicable, is made available to people entering and exiting the water to reduce their physical exertion. This may include providing assistance in removing and stowing heavy equipment. (Note: additional physical exertion by a diver exiting the water may contribute to some type of physical strain or injury including the onset of decompression illness).

3. Control measures for recreational diving and recreational technical diving

This section covers control measures that apply to all recreational diving and recreational technical diving activities.

3.1 Medical fitness

Diving workers
The person conducting the business or undertaking should request that workers advise the relevant person of any conditions in themselves which are contraindications to diving. Examples of temporary contraindicated conditions are colds, hay fever, ear infections and hangovers. Chronic conditions such as cardiac and respiratory conditions (among others)

should be reported if diagnosed subsequent to the latest diving medical.

The person conducting the business or undertaking and workers with these conditions should not dive.

Resort divers

SRWA Regulation section 7: If a duty holder intends to provide resort diving for a person they may allow the person to do resort diving only if:
(a) the person first gives the duty holder a medical declaration in the form approved by the regulator about his or her medical fitness to dive
and
(b) the duty holder, or someone on his or her behalf
- (i) has read the declaration
- (ii) does not know or suspect that the declaration is false or misleading
- (iii) has assessed the person's fitness to dive, having regard to the declaration
- (iv) decides it is reasonable to allow the person to dive.

The SRWA Regulation requires that each resort diver must complete a medical declaration in the approved form. The declaration must be read by the duty holder or someone on their behalf such as a dive instructor. They must decide that the declaration is not false or misleading and then make an assessment that it is reasonable for the resort diver to dive.

For example, a declaration discloses a medical condition. The dive instructor seeks medical advice. In accordance with the medical advice the dive instructor decides it is reasonable to allow the person to dive.

A sample of the approved form is attached at Appendix 2. Translated versions of this form are available at www.worksafe.qld.gov.au.

Any medical advice received in relation to resort divers should be recorded. If the information on the approved form indicates the prospective diver has consumed alcohol within eight hours prior to the diving, he or she should not dive.

The person conducting the business or undertaking should ensure that people undertaking resort dives are at least a minimum of 12 years of age. If the resort diver is under the age of 18 years, parental or guardian consent is required for that diver to undertake a resort dive. The parent or guardian should sign the medical declaration as witness.

Entry-level certificate divers

SRWA Regulation section 10C: If a duty holder intends to provide entry-level certificate diving for a person they may allow the person to do entry-level certificate diving only if:
(a) the person first gives the duty holder a medical declaration about the person's medical fitness to dive
and
(b) the duty holder, or someone on the duty holder's behalf
- (i) has read the declaration
- (ii) does not know or suspect that the declaration is false or misleading
- (iii) has assessed the person's fitness to dive, having regard to the declaration
- (iv) decides it is reasonable to allow the person to dive.

The duty holder must keep a copy of the medical declaration for at least one year.

SRWA Regulation section 10D: If a duty holder intends to provide entry-level certificate diving for a person who has disclosed, in the medical declaration given by the person to the duty holder under section 10C, that the person:
(a) has or has had any of the medical conditions mentioned in the declaration
or

(b) is over 45 years old
or
(c) has a body mass index of more than 30 and a waist circumference of more than 102cm for males or 88cm for females.

The duty holder must, before providing entry-level certificate diving for the person, ensure the person provides a medical certificate by a doctor certifying that the person is medically fit to dive. The duty holder must keep a copy of the medical certificate for at least one year.

The SRWA Regulation requires any person training for an entry-level recreational diving certificate to complete a self-assessed medical declaration form prior to training. Where they identify in the declaration medical conditions or if they are over 45 years old or have a body mass index of over 30 and a waist circumference greater than 102 cm for males and 88 cm for females; then the person conducting the business or undertaking must not allow the person to commence the training until the person can provide a dive medical certificate by a doctor, certifying that the person is medically fit to dive.

An example of a self-assessed medical declaration for entry-level certificate divers is attached at Appendix 3. A body mass index (BMI) calculation chart is attached at Appendix 4 (reproduced with the permission of Queensland Health).

The medical certification should be provided in English, preferably by a medical practitioner with experience in diving medicine, within 90 days prior to the commencement of training.

The person conducting the business or undertaking should ensure that people undertaking training for an entry level recreational diving certificate are at least a minimum of 10 years of age. If the diver is under the age of 18 years, parental or guardian consent should be obtained for the diver to undertake training for an entry-level recreational diving certificate.

Certificated divers
The person conducting the business or undertaking should assess the diver's current medical fitness to dive.

The following questions are an example of questions that may be asked of the diver to assess his or her current medical fitness to dive:

- Since completing your last dive medical assessment, have you suffered any illness or injury that may affect your ability to dive safely?
- Are you currently suffering any illness or injury?
- Are you currently taking any prescription medication, other than the contraceptive pill?

If the person conducting the business or undertaking has concerns regarding the medical fitness of a potential diver, they should not conduct diving for that person, unless:

- the diver seeks medical advice which advises diving can be undertaken

or

- a dive instructor or certified assistant accompanies the diver on a dive.

3.2 Supervision of divers in open water

Site supervision
An appointed **dive supervisor** should manage the diving operation and remain at the surface of the dive site while diving is taking place. The dive supervisor should have appropriate experience for the area supervised. (Further information about number and location of supervisory personnel is provided below.)

The dive supervisor appointed to supervise the diving area should be able to swim, help and advise divers as they enter and exit the water, effectively instruct divers and other people so

that necessary information is delivered in a manner that enhances understanding and increases the likelihood of directions being followed, recognise changes to risks because of diver abilities and behaviour, and recognise hazards and risks of the marine environment.

Lookout and rescuer

SRWA Regulation Section 8: If a duty holder is conducting recreational diving or recreational technical diving for one or more persons they may allow the persons to do the diving only while there is at least one person acting as lookout for the diving.

The lookout must be:
(a) positioned out of the water where the lookout can see the whole area where the diving is taking place
(b) solely engaged in being the lookout
(c) able to recognise relevant hazards and divers in difficulty
(d) able to either
(i) rescue a diver
or
(ii) direct a person who is immediately available and capable of rescuing a diver to rescue a diver
and
(e) be able to either
(i) provide first aid including expired air resuscitation, oxygen resuscitation and external cardiac compression
or
(ii) direct a person who is immediately available and capable of providing the first aid to provide the first aid.

A lookout is taken to be acting as lookout while occupied under (d) or (e) if:
(a) the duty holder, or someone on his or her behalf, has conducted a proper assessment of the risks involved in not having another person available to act as lookout while the lookout is occupied under (d) or (e)
and
(b) it is reasonable having regard to those risks not to have another person available to act as lookout.

A lookout is taken to still being solely engaged in being a lookout if they are performing a rescue and giving first aid if it is reasonable to have no other person to act as lookout.

The person conducting the business or undertaking should ensure the lookout/s:

- is present for the whole time diving takes place, including the time entry to and exit from the water are occurring
- scans the area under his or her supervision in an effective and efficient manner, and observes people who are diving
- if required, rescues a person diving or directs a person who is immediately available and capable of rescuing a person diving, to rescue the person
- has a level of fitness so his or her own health and safety are not compromised if required to carry out or assist in a rescue
- if required, provides first aid including expired air resuscitation, oxygen resuscitation and external cardiac compression or directs a person who is immediately available and capable of providing the first aid, to provide the first aid
- observes divers when they are entering and exiting the water or are on the surface
- has access to binoculars and polarised sunglasses so that visibility across and into the water can be improved
- continually monitors the positions of the divers, looks for hazards or changes which may lead to problems, and identifies problems so that the dive operation can be adjusted as required, for example, tides, currents, marine animals, people skylarking,

fatigue
- wears a brightly coloured shirt, wet suit or other identifying clothing or equipment so the lookout can be recognised easily by divers
- is part of a communication system which is relevant to the site and which allows for necessary communication with people diving/snorkelling and any other appropriate personnel so that effective and efficient transfer of information can occur. A communication system may include, for example, ordinary voice communication, a loud hailer, two-way radios, whistles or signalling.

Dive site risk assessment

A dive site risk assessment should be conducted by the dive supervisor for the environmental conditions at each site. The assessment should include:
- currents
- weather
- surface conditions
- visibility
- maximum depths at the site.

The assessment should consider all aspects of the conduct of the dive operation, including entries and exits, searches for divers, rescues and evacuations. Dive procedures should be modified or cancelled where the assessment shows that normal control measures will not eliminate or minimise the risks faced by divers.

Number and location of supervisory personnel
The person conducting the business or undertaking may assign the roles of supervisory personnel including lookout, dive supervisor, rescuer, first aid and oxygen provider to one or more **competent persons** where the performance of these roles is not incompatible.

An assessment should be undertaken to determine an appropriate number of person(s) for the diving activities being undertaken. In determining the number and location of lookouts and supervisory personnel for a particular site, the following factors should be considered:
- the size, type and location of the dive area and control measures already in place to minimise the risks to divers
- environmental conditions which could impact on the safety of divers, for example, if a strong current is running, then increased supervision may be necessary
- number of people diving
- ability of divers to easily understand instruction and advice given about diving. If communication between the supervisory personnel and divers is difficult, this could increase the likelihood of an incident because of misunderstandings. Increased supervision therefore, might be appropriate
- divers' competence, experience, fitness and confidence levels
- skills and abilities of supervisory staff
- type and effectiveness of equipment at the dive site, for example, rescue equipment and two-way radios.

Resort divers - in water supervision

SRWA Regulation section 9: If a duty holder is conducting resort diving for one or more persons the duty holder must ensure that:
(a) each person doing resort diving is supervised in the water by a dive instructor or a dive instructor assisted by a certified assistant
(b) the dive instructor who is not assisted by a certified assistant must not supervise more than four resort divers at a time or a dive instructor assisted by a certified assistant must not supervise more than six resort divers at a time.

In some instances, the number of resort divers being supervised may need to be lowered. For instance, if a risk assessment shows that the abilities, fitness and confidence levels of divers, or environmental conditions at the dive site (for example, low visibility, strong current) put the health and safety of workers or resort divers at an unacceptable risk, then the ratios should be reviewed.

While in the water, the **diver instructor** and **certified assistant** should always be positioned so they can make immediate physical contact with, and render assistance to, any resort diver. Participants must be continually observed with only the brief, periodic interruptions needed to lead the dive and to provide assistance to individual divers. No dive should be conducted that allows the students to swim in single file behind or in front of the instructor. Single file swimming with only one instructor at the beginning or end of the students has been the cause of divers being lost.

Divers being supervised by a dive instructor only
When divers are being supervised by a **dive instructor** only, then the divers should swim closely:

- on each side of the instructor

or

- abreast with the instructor close in front of the students, facing them and swimming backwards.

Divers being supervised by a dive instructor and certified assistant
When divers are being supervised by a **dive instructor** and **certified assistant**, the divers should swim in a formation that allows the **dive instructor** or **certified assistant** to make immediate physical contact with and render assistance to, any resort diver.

Techniques that reduce the likelihood of separation
Other techniques that reduce the likelihood of separation of resort divers from the instructor include:

- holding hands or linking arms
- minimising the distance swum and spending periods of the dive stationary on the sea floor
- remaining in the vicinity of the entry/exit point
- diving with certified assistants
- diving with people undertaking certified assistant training, videographers and photographers (note: utilising people undertaking certified assistant training does not change the ratio of dive instructor/s to resort divers, and the dive instructor remains solely responsible for the people undertaking the resort dive).

Supervision of mixed groups
Where mixed groups of divers (resort divers and other divers) are supervised by a **dive instructor** or a **dive instructor** and **certified assistant**, the total number of divers supervised should not exceed the maximum ratios.

Entry-level certificate divers – in water supervision
This refers to entry-level divers who have completed **confined water** training.

There should be a maximum of eight students with one **dive instructor** or a maximum of 10 students with one **dive instructor** and at least one **certified assistant**. If children aged 10–11 are participating in an entry level diving course, there should be a maximum of two children aged 10–11 with one **dive instructor,** and no more than four people in total in the group. This ratio cannot be increased by adding a certified assistant.

While in the water, the **dive instructor** and **certified assistant** should be aware of the

location of all students at all times so that any student requiring assistance can be readily helped. Students should dive with a buddy or buddies at all times.

Certificated divers – in water supervision
Following the assessment of the divers, if the dive site assessment reveals the dive site conditions are outside the qualifications and experience of the diver, then in water supervision by a **dive instructor** or **certified assistant** should be provided.

Diving workers – in water supervision
The person conducting the business or undertaking should ensure that dive workers do not dive alone without appropriate training and equipment.

3.3 Appropriate skills and knowledge

Dive workers
The person conducting the business or undertaking should ensure diving workers are trained in the procedures required at any particular dive site and are qualified for the diving work they are doing.

All diving workers must be competent to undertake their designated duties. A competent person has acquired the knowledge and skills to carry out their duties through training, qualifications, experience or a combination of these.

The person conducting a business or undertaking must provide suitable and adequate information, training and instruction to their diving workers, for example, lookouts should be trained in appropriate observation and monitoring techniques. This should include ongoing training and supervision of their workers to maintain and improve their competence to perform lookout duties, supervisor duties and guide duties.

A **dive instructor** should instruct resort divers and divers in training for a diving qualification.

The person conducting the business or undertaking should ensure that a **dive instructor** has the knowledge, skills and ability to safely conduct diving and minimise the risks to other people's health and safety. The **dive instructor** should be able to:

- assess potential divers
- provide the necessary instruction
- provide effective in water supervision
- respond appropriately to problems or emergencies.

For **resort diving** the person conducting the business or undertaking should ensure that the **dive instructor** is competent to conduct resort diving instruction. Evidence of a **dive instructor's** competency to conduct **resort diving** may be provided through documented training and assessment specific to **resort diving** from a dive training organisation or through documented and assessed induction training conducted by the person conducting a business or undertaking. This should be undertaken prior to the **dive instructor** commencing **resort diving** instruction.

When required, there should be a **certified assistant** to assist a **dive instructor**.

Resort divers
The person conducting the business or undertaking should ensure the **dive instructor** assesses the knowledge, skills and abilities of potential divers and provides the necessary information and instruction to minimise the risks to the person's health and safety. Skills taught underwater to resort divers who are not **helmet diving** should include:

- mask clearing
- removing and replacing the regulator.

These skills should be taught in situations where resort divers can easily keep their heads clear of the water, such as:

- would include shallow water, or where there is some form of support such as a bar hanging from the side of the boat for the divers to hold onto, or a platform on which the divers can stand.

Resort divers should also be taught how to inflate and deflate their buoyancy control device while on the surface of the water.

Divers should also be instructed and/or informed about:

- equalising the pressure in their ears
- using appropriate hand signals
- using an emergency ascent procedure which includes exhaling on ascent and achieving and maintaining positive buoyancy on the surface.

Consideration should also be given to the following issues during information and instruction sessions:

- environmental conditions and marine life at the dive site, for example, depth, currents, visibility and behaviour of marine animals likely to be encountered
- health and safety issues relating to the vessel, for example, entry and exit points
- health and safety issues relating to dive site entry such as a beach, jetty, pontoon, river bank
- location and roles of supervisory staff, for example, dive instructors, dive supervisors and lookouts
- any other information required because the assessment shows the prospective diver needs such information to dive safely.

Entry-level certificate divers

Entry-level certificate divers should be trained through documented training procedures which, in principle, comply with Australian Standard 4005.1 – 2000 Training and certification of recreational divers Part 1: Minimum entry level scuba diving. A diver should not be awarded a certificate to dive unless he or she has successfully completed this training with a **recreational scuba or dive training association**.

Certificated divers

The person conducting the business or undertaking should ensure the **dive supervisor** ensures each diver is assessed as being competent prior to diving. Factors taken into account should include:

- when did the diver perform their last dive and when was the recreational certificate awarded
- the diving experience, including experience in relevant environmental conditions, of the diver since the certificate was gained, for example, as contained in log books
- the diver's current medical fitness to dive.

If there are doubts as to the competence of the diver to complete a particular dive, a **certified assistant** or **dive instructor** should accompany the diver on that dive or assess the diver during an assessment dive.

Certificated divers should be advised of the following:

- boundaries of the dive site
- environmental conditions and marine life at the dive site, for example depth, terrain, currents, visibility and behaviour of marine animals likely to be encountered
- health and safety issues relating to the vessel, for example entry and exit points

- health and safety issues relating to dive site entry such as a beach, jetty, pontoon, river bank
- location and roles of supervisory staff, for example, dive instructors, dive supervisors, and lookouts
- to regularly monitor air levels in gas cylinders and the minimum air content required for safe return to the surface. This advice would need to take into account the depth of the dive and exertion levels, for example, when diving against a current
- to dive in dive buddy teams
- not to dive to depths greater than that to which they have been trained or have experience. (As recreational diving workers should not be required to dive beyond 40 metres, certificated divers should be advised that if they get into difficulty beyond this depth, their rescue may put a recreational diving worker at unacceptable risk.)
- their responsibilities as divers to dive safely and comply with the instructions of the person conducting the business or undertaking or people acting on their behalf
- emergency procedures such as recall, distress and rescue procedures, and use of signalling devices
- solo diving may only be conducted under the following conditions:
    - that the solo diving activities are authorised by the **dive supervisor** (note, the business or undertaking should ensure that the dive supervisor is aware of the business or undertaking's policies, procedures and qualifications applicable for a person to be authorised for solo diving)
    - that the diver is appropriately qualified for the solo diving activities (note, a prerequisite for solo diving should include a minimum of 100 logged dives, a solo diving certificate or equivalent certification (such as a self-reliant or independent diver), including technical diving certifications that ensure the diver has been taught self-rescuer techniques, and be a minimum of 18 years of age)
    - that the diver is suitably equipped for the solo diving activities (note, suitable equipment shall include all the equipment listed for **certificated diver**s plus a **redundant gas system**, an **alternative ascent system,** a redundant depth gauge and bottom timer and any additional equipment so specified by the **dive supervisor**)
    - that suitable solo diving procedures are in place (note, suitable procedures shall include all procedures listed for **certificated diver**s including intended depth, planned bottom time, planned total dive time and any additional procedure so specified by the **dive supervisor**)
- Depending on certain factors such as the competency of the divers, environmental conditions and the nature of diving being undertaken, consideration should be given to offering other advice such as
    - the risks to health and safety from a build-up and release of nitrogen in the blood and bodily tissues because of multiple ascents or multiple dives in any 24 hour period; or because of a series of dives over a number of days with inadequate surface intervals to allow the nitrogen to off-gas
    - the risk to health and safety from nitrogen narcosis at depth and the need to move to shallower water if this occurs
    - the danger of maximum bottom time non-decompression diving
    - the risks of decompression diving
    - the need for safety stops
    - the risks associated with flying or altitude exposure after diving
    - the effects of dehydration
    - the risks associated with exertion after diving
    - the risks associated with diving while ill.

3.4 Instruction and advice to non-English speaking people

Resort and entry-level certificate divers

Information and advice should be given to a **non-English speaking person** in a manner that enhances understanding by the person. This should occur through:

- the information being explained to the diver by an instructor who speaks the same language as the non-English speaking person

or

- the use of an interpreter with a sound knowledge of the activity being undertaken and terminology to relay the dive instructor's instructions to the non-English speaking person, and feedback the responses to the instructor. The interpreter should be able to speak fluently to the instructor and the non-English speaking person in languages they can readily understand

or

- the use of instruction sheets written in a language the non-English speaking person can read and understand, for example the safety information for scuba diving and snorkelling, which is translated into thirteen languages. The instruction sheets are available from the Workplace Health and Safety website www.worksafe.qld.gov.au.
- Testing of the diver by having him or her demonstrate the required knowledge and skills to the instructor.

Diving should not proceed unless the instructor is satisfied the person can dive safely.

Certificated divers
Information and advice should be given to a non-English speaking diver in a manner that enhances understanding by the diver. This should occur through the provision of the necessary information and advice in a language easily understood by the diver. This information and advice can be in verbal or written form. An example of written form is the safety information for scuba diving and snorkelling, available in English and in 13 other languages. The sheets are available from the Workplace Health and Safety website (www.worksafe.qld.gov.au). If communication between supervisory personnel and people diving is difficult, this could increase the likelihood of an incident because of misunderstandings. Increased in water supervision therefore might be appropriate.

3.5 Equipment for diving

The person conducting the business or undertaking should ensure diving equipment supplied to divers is:

- suitable for the type of diving being undertaken and of sufficient quality to ensure it performs effectively for the wearer
- supplied in an appropriate size range to ensure a good fit
- checked before diving starts to ensure it is in safe working condition
- cleaned and kept in good repair
- maintained in accordance with manufacturers' specifications.

Oral/nasal equipment should be disinfected prior to use by another person, that is, it does not need disinfecting if the same person is using the equipment over a period of time.

Resort divers engaging in recreational diving
All resort divers, other than those doing **helmet diving**, should wear the following equipment:

- fins
- mask
- compressed air cylinder and valve designed specifically for SCUBA
- buoyancy control device fitted with a power inflator device
- regulator fitted with an alternate air source or an alternative air supply
- submersible depth and cylinder pressure indicators

- quick-release weight system
- exposure protection, as appropriate to conditions.

Entry-level certificate divers engaging in recreational diving
All entry-level certificate divers should wear:
- all equipment recommended for resort divers
- a snorkel (attachable or attached to the mask)
- submersible timing device during open water dives
- a knife, dive tool or shears if there is a chance of entanglement.

Certificated divers engaging in recreational diving
All **certificated diver**s should wear:
- all equipment recommended for resort divers
- a snorkel (attachable or attached to the mask)
- submersible timing device during open water dives
- a knife, dive tool or shears if there is a chance of entanglement
- emergency signalling equipment, including a high visibility signalling device e.g. a safety sausage; and an audible signalling device e.g. a whistle
- a lighted signalling device e.g. a glow stick, if diving is to take place close to dusk or after dark
- a torch, if night diving is being undertaken.

Diving workers engaged in recreational diving
All diving workers should wear:
- all equipment recommended for resort divers
- a snorkel (attachable or attached to mask)
- submersible timing device
- a knife, dive tool or shears
- emergency signalling equipment, including a high visibility signalling device, for example, a safety sausage; and an audible signalling device, for example, a whistle
- a lighted signalling device, for example, a glow stick, if diving is to take place close to dusk or after dark
- a torch, if night diving is being undertaken
- slate and writing instrument.

Identifying missing certificated divers
A number of significant incidents have occurred where certificated divers have surfaced and drifted for extended periods before being located and rescued. Some divers were experienced and all were unguided.

Divers drifting at the surface are at risk from drowning, dehydration, hypothermia and injuries such as stings and bites caused by marine animals.

The person conducting the business or undertaking should undertake an assessment of the risks of certificated divers surfacing and becoming separated from their surface support.

Environmental factors that have contributed to incidents have included:
- remote location of the dive site from search and rescue facilities
- currents in the vicinity of the dive site
- poor surface conditions, visibility and swell
- reflection of sunlight, for example near dawn and dusk
- proximity to dusk.

In deciding on control measures to minimise this risk, consideration should be given to the types and performance characteristics of any equipment supplied to divers to minimise the risk of separation from their surface support.

Equipment that may assist in monitoring the location of divers during a dive includes:

- surface marker buoys.
- delayed deployment surface marker buoys.

Equipment that may assist divers to signal their location, once they are on the surface, includes:

- electronic signalling devices e.g. electronic position indicating radio beacon, personal location beacon or VHF position indicating radio beacons
- high visibility signalling devices e.g. safety sausages, flags, kites, heliographs, flares, water dyes
- audible signalling devices e.g. whistles, air horns
- high visibility, reflective and coloured dive equipment
- radar reflective devices
- equipment suitable to signal after dark e.g. strobe lights, high power torches. (Note: A lighted glow stick is not a sufficient lighted signalling device for anything other than searches in the immediate vicinity of a dive site.)

Divers equipped with several different devices have a greater likelihood of attracting attention, both in the event of one system failing or when different search techniques are employed.

Divers should be instructed, including by practical demonstration, about when and how to use any signalling equipment

Dive workers and unguided certificated divers who are diving in adverse environmental conditions and are remote from search and rescue facilities should consider utilising an appropriate electronic signalling device. Consideration should be given to electronic signalling devices if other risk factors are significant.

The equipment should be of sufficient quality to ensure it performs effectively. In particular, previous incidents have shown that plastic film-type safety sausages can develop holes even when unused, and therefore cannot be properly deployed.

The equipment should be checked before diving starts to ensure it is in safe working condition. It should be inspected regularly to ensure it is in good condition and will perform effectively if used. It should be cleaned, kept in good repair and maintained in accordance with manufacturer's specifications.

Other administrative controls to minimise this risk include:

- assessments of certificated divers' skills and experience
- providing thorough advice about conditions and navigation
- enhanced lookout effectiveness
- increased surface supervision
- monitoring dive safety logs
- developing and implementing emergency plans for missing divers.

3.6 Gas quality in gas cylinders

The person conducting the business or undertaking should ensure that:

- Compressed gas cylinders are filled, tested, operated and maintained according to manufacturers' instructions and the Australian Standard 3848.2 - 1999 Filling of

portable gas cylinders - Part 2 Filling of portable cylinders for self-contained underwater breathing apparatus (SCUBA) and non-underwater self-contained breathing apparatus (SCBA) - Safe Procedures.

- Water content in the cylinders is monitored and the cylinders are checked and cleaned at regular intervals to prevent or minimise corrosion of the inner surface and to clean out any residues of corrosion.
- On any day that compressed gas cylinders are being used, samples of the air in the cylinders are 'sniff' tested to ensure the air has no objectionable or nauseous odour.
- Cylinders contain
    - not more than 5 ppm of carbon monoxide
    - not more than 600 ppm of carbon dioxide
    - not more than 0.5 mg/m3 of oil.
- Cylinders are not filled to a pressure that exceeds the lesser of the working pressure ratings of either the valve, yoke or cylinder.

Compressors used to fill compressed gas cylinders should:

- be designed specifically for the purpose of filling compressed gas cylinders used by underwater divers
- be tested for gas quality, and operated and maintained according to manufacturers' instructions
- be positioned to minimise potential for overheating and so only clean, uncontaminated gas is taken into the compressor
- have filters which are in sound working order so they effectively remove contaminants so these cannot enter the cylinders. (Water content of the gas reduces the effectiveness and life of the filters).

3.7 Decompression management

All dives should be planned conservatively and consistently to one set of recognised dive tables. Recognised dive tables are generally taken to be:

- any tables approved by a recreational scuba or dive training association
- DCIEM tables
- Buhlmann tables
- any dive computer used in accordance with manufacturers' instructions.

Dive tables and computers should be used as guides only for planning and executing a dive because individual differences of divers, dive profiles and dive site conditions may require a more conservative approach. For example, psychological factors such as anxiety, individual physiological responses to changing pressure levels and physical activity, multiple dives over multiple days and the state of hydration of a diver are associated with decompression illness.

After each dive, the **dive supervisor** should assist divers where necessary in reviewing decompression calculations and computers so that a safe profile can be planned for the next dive.

Flying after diving

The longer the period between diving and subsequent flying, the less likely it is that decompression illness will occur.

All divers should be advised, therefore, that after diving, they should wait a minimum of 12 hours before flying in pressurised aircraft. Where divers have had daily multiple dives for several consecutive days or have made dives that require decompression stops, the minimum time before flying after diving should be extended to 24 hours.

3.8 Diving depths

Diving workers engaged in recreational diving
The person conducting the business or undertaking should ensure **recreational diving** workers dive within any depth limits stated on their medical certificate, and when compressed air diving should not be required to dive to depths in excess of 40 metres.

Resort divers engaging in recreational diving
The person conducting the business or undertaking should ensure resort divers do not dive beyond 12 metres.

Entry-level certificate divers engaging in recreational diving
The person conducting the business or undertaking should ensure entry-level divers in training do not dive beyond 18 metres, and that children aged 10–11 do not dive beyond 12 metres.

Certificated divers engaging in recreational diving
The person conducting the business or undertaking should advise **certificated diver**s they should not dive in excess of the depth to which they have been trained or have experience to.

These divers should be advised that if they get into difficulty beyond 40 metres, a **recreational diving** worker using compressed air may not be able to come to their assistance, that is, dive beyond 40 metres.

3.9 Ascent training

The person conducting the business or undertaking should ensure that a **dive instructor** does not teach ascent training to more than one class (eight students to one **dive instructor** or 10 students to one **dive instructor** and one **certified assistant**) in any 24 hour period.

3.10 Dive safety log

SRWA Regulation Section 10: If a duty holder intends to provide recreational diving or recreational technical diving for one or more persons they must ensure a written dive safety log is kept as required.

The dive safety log must contain the required information about:
(a) each dive conducted by the duty holder
and
(b) each dive done by the duty holder or the duty holder's workers in conducting the dive.

The following information is required:
(a) the diver's name
(b) the name of any diver with whom the dive is conducted
(c) the name of a person authorised by the duty holder for the purposes of subsection (9) to verify the dive safety log
(d) the date and location of the dive
(e) time in
(f) time out
(g) maximum depth of the dive
(h) any incident, problem, discomfort or injury experienced or suffered by the diver
(i) if the dive was done using a dive computer – the dive time
(j) if the dive was done using dive tables – the repetitive dive group and either bottom time or dive time
(k) if the repetitive dive group and surface interval result in a repetitive factor – the surface interval and the repetitive factor.

If the dive will use EANx (either with scuba or rebreather), the following additional information is required:
(a) oxygen content of the EANx
(b) maximum operating depth for the gas.

If the dive will use mixed gas (either with scuba or rebreather), the following additional information is required:
(a) oxygen and nitrogen content of the mixed gas
(b) maximum operating depth for the mixed gas
(c) maximum operating depth of the bottom mix.

At the end of the dive each diver must verify their return by signing their log entry. The completed log entries and the diver's signature must be verified by the dive supervisor and vessel master or by other people appointed by the duty holder. All verifications may be made by signing the dive safety log or by using a unique electronic identifier if the log is kept electronically.

All entries in the dive safety log must be made as soon as possible. For example the signature of the diver is an important check on whether the diver has returned to the boat. Accordingly the signature needs to be made as soon as the diver has removed necessary gear and dried their hands.

The dive safety log must be kept for one year.

During a dive, the log should be monitored so that missing diver situations are quickly identified. For example, if a 40 minute **bottom time** dive is planned and an accurate 'time in' is recorded, then the **dive supervisor** should be organising a response to a missing diver situation if the diver is absent for more than the **bottom time**, ascent time and stop time, that is 45 minutes.

3.11 Diver's log

Entry-level certificate divers
The person conducting the business or undertaking should ensure people doing an entry-level certificate complete a divers log for their own records. The divers log should include:

- date of dive
- operation number of the dive, that is, sequential numbering of each of the dives for any one day
- location and nature of dive site for example, boat or shore diving
- environmental conditions at the dive site
- time in
- time out
- maximum depth of the dive
- bottom time
- the decompression tables followed by the diver
- any emergency or incident of special note which occurred during the dive, for example, failure of diving equipment or emergency decompression
- any discomfort or injury suffered by the diver
- depth and duration of safety stop.

Diving workers and certificated divers
The person conducting the business or undertaking should advise all diving workers and **certificated divers** to complete a diver's log for their own records.

4. Control measures for recreational snorkelling

4.1 Assessing snorkellers

Before snorkellers enter the water they should be assessed to determine whether they may be at risk. This process is subjective and relies on the knowledge and skills of the snorkel worker. The assessment is not designed to stop potential snorkellers from participating in snorkelling activities. Identifying which individuals are at risk and providing them with additional attention is a vital part of ensuring their safety by providing them with appropriate advice, equipment and supervision.

The assessment can be completed in a number of ways including by:

- asking the participating group questions
- talking with snorkellers individually
- using an assessment form
- observing individuals or the group (e.g., walk throughs or as passengers on board).

Snorkelling workers should observe and record whether any participants:

- are either an older or a very young person
- are overweight
- appear to be in bad health (e.g. with respiratory problems or particularly unfit)
- exhibit stressed behaviour (e.g. appearing to be jumpy, hesitant, overly excited, fidgety or have shaking hands)
- have mobility issues
- have difficulties in readily understanding instructions from the crew.

Example questions that can be asked to help determine whether a person intending to snorkel is at risk are below.

- Do you have any medical conditions?
- Are you currently taking any prescribed medication?
- Do you smoke?
- Have you snorkelled before?
- Can you swim well?

Where the person conducting the business or undertaking identifies an at risk snorkeller they should:

- make sure all members of the team know who they are and why they are at risk
- implement controls for managing at risk snorkellers (see section 4.3).

4.2 Medical fitness

SRWA Regulation section 13: Advice about medical conditions
(1) This section applies if a duty holder intends to provide recreational snorkelling for one or more persons.

(2) The duty holder must ensure that each person who intends to do the recreational snorkelling is advised that:
(a) snorkelling can be a strenuous physical activity and may increase the health and safety risks for persons suffering from
(i) any medical condition that may be made worse by physical exertion, for example, heart disease, asthma and some lung complaints
or
(ii) any medical condition that can result in loss of consciousness, for example, some

forms of epilepsy and some diabetic conditions
or
(iii) asthma that can be brought on by cold water or salt water mist and
(b) the person should tell the lookout, snorkelling supervisor or snorkelling guide if the person has any concerns about a medical condition.

Older people are more likely to suffer from diagnosed and undiagnosed medical conditions that may be made worse by physical exertion, for example, heart disease and stroke. As exact ages of people intending to snorkel are seldom available, the person conducting the business or undertaking should advise all people intending to undertake snorkelling that there is an increased risk to older people.

The person conducting the business or undertaking should be aware that some people may panic while snorkelling, especially if they are not experienced and/or they get into difficulty. Panic or strenuous activity can aggravate some medical conditions and certain medical conditions such as heart disease may result in cardiac arrest and death. Similarly epilepsy may lead to unconsciousness and drowning and some medical conditions are made worse through exposure to cold water or salt water mist.

An example of a method of providing advice about medical conditions to prospective recreational snorkellers is available at Appendix 5.

Note that this advice is not limited to older snorkellers as some conditions and medications apply to those in all age groups e.g. asthma and certain medications such as insulin, tranquillisers and pain killers.

Declarations for at risk snorkellers
In addition, where a person is identified as an at risk snorkeller, the person conducting the business or undertaking may require the person to complete a declaration and request they advise the snorkel worker if they have any concerns about their medical conditions. A sample declaration is provided at Appendix 6.

The completed declaration should be considered by the duty holder or someone on their behalf such as a snorkelling supervisor to determine what advice, equipment and supervision should be given to the person to assist in their safe participation.

4.3 Control measures for at risk snorkellers

Where a person is identified as an at risk snorkeller, the person conducting the business or undertaking should ensure they:

- are easy to identify in the water to assist in providing for closer supervision
- wear and/or use a flotation device
- snorkel in a buddy pair.

Where the person refuses to comply with any reasonable instruction by the person conducting the business or undertaking to use control measures for their safe participation, the duty holder can refuse to allow the person to enter the water.

Snorkellers must comply, so far as the person is reasonably able, with any reasonable instruction that is given by the person conducting the business or undertaking to allow the person conducting the business or undertaking to comply with the SRWA Act.

System for easy visual identification of at risk snorkellers
Operators should have a system in place to provide the lookouts with an easy visual identification of at risk snorkellers while they are in the water (for example, different coloured vests, wetsuits, snorkels, or noodles, or flotation jackets).

Snorkelling equipment is usually available in bright colours. Using the same colour snorkels, fins or masks, or attaching coloured ribbons is a simple way to clearly identify and easily supervise at risk snorkellers.

Flotation devices for at risk snorkellers
Flotation devices used for snorkelling include personal flotation devices, non-standard swim jackets, boards, life rings and tubes (such as noodles).

All at risk snorkellers should be directed to wear and/or use a flotation or other device which is able to support the wearer in a relaxed state. Snorkel workers should assist at risk snorkellers with these devices by demonstrating their use and advising that it will help them as a control to relax in the water.

Generally all flotation devices can provide some support for snorkellers and minimise the stress of maintaining their position in the water. However, a panicking snorkeller will receive better flotation support from a personal flotation device compared to a noodle.

Snorkel guides should always have a flotation device on hand that can be given to a snorkeller who appears to be tired or distressed.

Snorkelling in a buddy pair
At risk snorkellers should so far as is reasonably practicable be directed to snorkel in a buddy pair and remain in a pair arrangement for the duration of their time in the water.

People should be advised where they become separated from their buddy they should attempt to locate their buddy in the first instance.

Where an at risk snorkeller has been identified as snorkelling alone they should be directed by the snorkelling worker to return to the vessel or to the snorkel supervisor until their buddy is located.

In addition, at risk snorkellers may also be directed to snorkel in an area which allows the lookout or snorkelling supervisor to offer closer supervision.

4.4 Supervision of snorkelling in open water

SRWA Regulation section 14: Lookout, guide and rescuer
(1) This section applies if a duty holder is providing recreational snorkelling for one or more persons.

(2) The duty holder may allow the persons to do recreational snorkelling only if, as required under subsections (3) to (5)
(a) there is at least 1 person acting as lookout for the snorkelling
or
(b) the snorkelling is done with a guide and
- (i) the guide is guiding 10 snorkellers or less
- (ii) the guide has conducted a proper assessment of the risks involved in not having a lookout
- (iii) it is reasonable having regard to those risks not to have a lookout.

(3) The lookout must
(a) be positioned out of the water where the lookout can see the whole area where the snorkelling is taking place
and
(b) be solely engaged in being the lookout.

(4) The lookout or guide must
(a) be able to recognise relevant hazards and snorkellers in difficulty

and
(b) be able to either
(i) rescue a snorkeller
or
(ii) direct a person who is immediately available and capable of rescuing a snorkeller, to rescue a snorkeller
(c) be able to either
(i) provide first aid including expired air resuscitation, oxygen resuscitation and external cardiac compression
or
(ii) direct a person who is immediately available and capable of providing the first aid, to provide the first aid.

(5) A lookout is taken to be acting as lookout and a guide is taken to be acting as a guide while occupied under subsection (4)(b) or (c) if
(a) the duty holder, or someone on his or her behalf, has conducted a proper assessment of the risks involved in not having another person available to act as lookout or as a guide while the lookout or guide is occupied under subsection (4)(b) or (c)
and
(b) it is reasonable having regard to those risks not to have another person available to act as lookout or as a guide.

Site supervision
An appointed snorkelling supervisor should manage the snorkelling while snorkelling is taking place. The snorkelling supervisor should have appropriate experience for the area supervised (Note: Further information about number and location of supervisory personnel is provided below).

The snorkelling supervisor appointed to supervise the snorkelling area should be able to:

- swim and snorkel
- help and advise snorkellers as they enter and exit the water
- effectively instruct snorkellers and other people so that necessary information is delivered in a manner that enhances understanding and increases the likelihood of directions being followed
- recognise changes to risks because of snorkeller abilities and behaviour
- recognise hazards and risks of the marine environment.

Lookouts
The person conducting the business or undertaking should ensure the lookout/s:

- is present for the whole time snorkelling takes place, including the time entry to and exit from the water are occurring
- scans the area under his or her supervision in an effective and efficient manner, and observes people who are snorkelling
- aims to keep people within the boundaries of the snorkelling site
- if required, rescues a person snorkelling or directs a person who is immediately available and capable of rescuing a person diving/snorkelling, to rescue the person
- has access to binoculars and polarised sunglasses so that visibility across and into the water can be improved
- wears a brightly coloured shirt, wet suit or other identifying clothing or equipment so the lookout can be recognised easily by people snorkelling
- is part of a communication system which is relevant to the site and which allows for necessary communication with people snorkelling and any other appropriate personnel so that effective and efficient transfer of information can occur. A communication system may include, for example, ordinary voice communication, a loud hailer, two-way radios, whistles or signalling

- has a level of fitness so his or her own health and safety are not compromised if required to carry out or assist in a rescue
- if required, provides first aid including expired air resuscitation, oxygen resuscitation and external cardiac compression or directs a person who is immediately available and capable of providing the first aid, to provide the first aid
- observes people snorkelling when they are entering and exiting the water
- continually monitors the positions of the people snorkelling, looks for hazards or changes which may lead to problems, and identifies problems so that snorkelling operations can be adjusted as required, for example tides, currents, marine animals, people skylarking, fatigue
- is aware of which people snorkelling intend to breath hold dive and provide them with additional levels of supervision.

Snorkelling guide

A snorkelling guide takes a snorkeller or small group of snorkellers on a guided snorkelling tour. The guide should be either in the water with the snorkellers or in a vessel close enough to the snorkellers so communication between the guide and the snorkellers is easily maintained.

If a guide is used without a lookout, the guide must:

- be able to recognise relevant hazards and snorkellers in difficulty
- be able to rescue a snorkeller and provide first aid, including expired air resuscitation, oxygen resuscitation, and external cardiac compression

or

- direct someone who is immediately available to perform a rescue and give first aid.

The person conducting the business or undertaking should ensure any snorkelling guide:

- can swim and snorkel
- carries out an assessment of people wanting to do the tour before commencement of any tour. Through discussion with any prospective snorkeller, the guide should assess the health, fitness and snorkelling ability of the person
- does not take a person on a guided tour, if the assessment suggests this person's participation would pose an unacceptable health and safety risk to the person or to other people
- takes small groups only on any snorkelling tour. In deciding the size of any snorkelling group, the guide should consider the health, fitness and snorkelling ability of the people and the environmental conditions
- ensures the tour has a discrete beginning and end so that snorkellers know when they are under the supervision of a snorkelling guide
- takes a floatation device on the tour so that a snorkeller can use this as a resting station if required. The resting station should be able to support easily at least one person
- takes a head count at the beginning and the end of the tour and regularly during the tour
- divides snorkellers into buddy pairs and requests they look out for one another
- is part of a communication system which allows for necessary communication with snorkellers, lookouts and snorkelling supervisors and any other relevant personnel so that effective and efficient transfer of information can occur. A communication system may include, for example, ordinary voice communication, two-way radios, whistles or signalling
- if required, rescues a snorkeller or directs a person who is immediately available and capable of rescuing a snorkeller, to rescue a snorkeller

- has a level of fitness so his or her health and safety are not compromised if required to carry out or assist in a rescue
- if required, provides first aid including expired air resuscitation, oxygen resuscitation and external cardiac compression or directs a person who is immediately available and capable of providing the first aid, to provide the first aid
- can work as a team member, and follow the procedures in relation to the co-ordination of supervision and of the rescue and resuscitation of snorkellers
- is aware of which snorkellers intend to breath hold dive and provide them with additional levels of supervision.

Snorkelling site risk assessment

A snorkelling site risk assessment should be conducted by the snorkelling supervisor for the environmental conditions at each site. The assessment should include:

- currents
- weather
- surface conditions
- visibility.

The assessment should consider all aspects of the conduct of the snorkelling operation, including entries and exits, searches for people snorkelling, rescues and evacuations. Snorkelling operations should be modified or cancelled where the assessment shows that normal control measures will not minimise or eliminate the risks faced by snorkellers.

Number and location of supervisory personnel

The person conducting the business or undertaking may assign supervisory personnel the roles of lookout, snorkelling supervisor, guide, rescuer, first aid and oxygen provider to one or more competent people where the performance of these roles is not incompatible.

An assessment should be undertaken to determine an appropriate number of supervisory personnel for the snorkelling activities being undertaken. In determining the number and location of supervisory personnel for a particular site, the following factors should be considered:

- the size, type and location of the diving/snorkelling area and control measures already in place to minimise the risks to people snorkelling. For instance, a snorkelling area bounded on most sides with ropes and buoys and with resting stations for snorkellers would normally require less intense supervision than a similar snorkelling site without boundaries and resting stations
- environmental conditions which could impact on the safety of people snorkelling, for example, if a strong current is running, or people snorkelling have to swim some distance to reach a reef, then increased supervision may be necessary
- number of people snorkelling in the water
- ability of people snorkelling to easily understand instruction and advice given about snorkelling. If communication between supervisory personnel and people snorkelling is difficult, this could increase the likelihood of an incident because of misunderstandings. Increased supervision therefore, might be appropriate
- person’s snorkelling ability, fitness and confidence levels. Although a thorough assessment may not be possible, lookouts and snorkelling supervisors should be able to gauge a person’s ability, fitness and confidence levels through discussion with the person and/or observation. For instance, in observing a somewhat anxious, elderly person going snorkelling, it would be prudent to give closer supervision to that person until the snorkelling supervisor was satisfied that this close supervision was no longer required. The lookout in scanning the snorkelling area may deem it sensible to observe this person a little more closely than other snorkellers who appear to be at lower risk of an accident

- skills and abilities of supervisory personnel
- type and effectiveness of equipment at the snorkelling site, for example, rescue equipment and two-way radios.

4.5 Appropriate skills and knowledge

Snorkelling workers
All snorkelling workers must be competent to undertake their designated duties. A competent person has acquired the knowledge and skills to carry out their duties through training, qualifications, experience or a combination of these.

The person conducting a business or undertaking must provide suitable and adequate information, training and instruction to their snorkel workers. This should include ongoing training and supervision of their workers to maintain and improve their competence to perform lookout duties, supervisor duties and guide duties.

There should be a snorkelling supervisor appointed whenever people are in the water and this snorkelling supervisor should have appropriate experience for the area supervised.

Briefing snorkellers
From the time a snorkeller makes a booking until they enter the water, there are opportunities to provide them with information and advice about safe snorkelling.

Most snorkelling operators and workers provide information and advice to snorkelling customers through a briefing, but this can be combined with:
- distributing brochures, signs and posters
- using illustrated charts, diagrams and site photographs
- showing safety films of snorkellers
- providing translated materials where required.

Key safety messages for all recreational snorkellers should include:
- There are serious risks associated with certain medical conditions, especially cardiac conditions.
- Snorkelling with a paired buddy improves your safety.
- Know your own ability and snorkel accordingly.

Key safety messages for at risk snorkellers should include:
- Use a flotation device to reduce your physical exertion in the water.
- Snorkel with a buddy or as a part of a guided tour.
- Stay close to supervising staff or other support and signal if help is required.

It may not be necessary to cover all issues with every snorkeller. Separate briefings for more experienced snorkellers may be required.

The health and safety of snorkellers can be at risk if they have inadequate knowledge, skills or experience related to snorkelling. For instance, some people may panic while snorkelling. Panic can contribute to faulty decision making, breathing difficulties and fatigue. Instruction and advice can help reduce the likelihood of snorkelling related panic and accidents. The person giving the information should have knowledge, skills and experience in snorkelling, and the ability to pass on to others this knowledge and skills.

Before snorkelling, snorkellers should be given advice relating to the following:
- selecting and using snorkelling equipment including
    - how to adjust and fit masks, snorkels and fins
    - how to clear water from the mask and snorkel

    - how to use masks, snorkels and fins
    - what to do in the case of equipment failure
- the snorkelling environment
- dealing with certain problems.

Where appropriate, demonstrations should be used to enhance understanding.

Advice on the snorkelling environment and potential problems
The person conducting the business or undertaking should ensure advice on the snorkelling environment and potential problems covers:

- the area where snorkelling is to take place and any relevant environmental conditions, for example, boating channels, marine animals, wind and tide strength and direction
- location of lookout/s and snorkelling supervisors
- location and use of flotation devices such as buoys and rest stations
- practising snorkelling beside a platform, boat, or in shallow water before venturing further afield
- snorkellers being aware of their own limitations in the water and taking these into account when snorkelling
- the location and availability of life jackets, wetsuits or other flotation devices which can be used by snorkellers
- the communication system and signals between lookouts/snorkelling supervisors and snorkellers, for example, signals a snorkeller can use to indicate he or she requires assistance, or how snorkellers are advised when to return to the vessel
- how to lift and keep the face clear of the water by moving into an upright position
- how to use the buddy system whereby two snorkellers ensure they are always snorkelling within a short distance of each other and they watch out for one another
- if people have not snorkelled before, cannot swim, or have any concerns about snorkelling they should discuss these with a snorkelling supervisor prior to snorkelling
- abstaining from drinking alcohol prior to snorkelling
- managing the risks of sun exposure or hypothermia (if appropriate) for example, through the use of clothing, sunscreen, wetsuits and covering up from the wind on leaving the water
- if people intend to breath hold dive
    - The risk posed to breath hold divers of hypoxic blackout, which if undetected will lead to serious injury, unconsciousness, or death.
    - This risk is increased significantly for breath hold divers who hyperventilate by taking repeated deep breaths before descending or who do deep dives. Consequently divers should be strongly advised not to hyperventilate in this manner.
    - Experienced breath hold divers are at particular risk in that they do longer and deeper dives.
    - Breath hold divers should always dive in buddy pairs where one buddy remains on the surface and observes the other buddy whilst they are diving.
    - Breath hold divers using weight-belts should be carefully weighted to ensure that they are neutrally or positively buoyant whilst at the surface. The weight belts should have a quick release mechanism and divers should be familiar with its operation.

4.6 Instruction and advice to non-English speaking people

Information and advice should be given to a non-English speaking person in a manner that enhances understanding by them. This should occur through:

- the information being explained to the person snorkelling by an instructor who speaks the same language as the non-English speaking person

or

- the use of an interpreter with a sound knowledge of the activity being undertaken and terminology to relay the instructor's instructions to the non-English speaking person, and feedback the responses to the instructor. The interpreter should be able to speak fluently to the instructor and the non-English speaking person in languages they can readily understand

or

- the use of instruction sheets written in a language the non-English speaking person can read and understand.

If an interpreter or instruction sheet is not available in the required language for a non-English speaking snorkeller, close supervision (by a snorkelling supervisor) should be provided when the snorkeller first enters the water. In this instance, close supervision means having the snorkelling supervisor initially positioned close enough to the snorkeller so that, if necessary, the supervisor can readily give assistance to the snorkeller. Close supervision should be maintained until the supervisor is satisfied that it is no longer necessary.

4.7 Equipment for snorkelling

The person conducting the business or undertaking should ensure snorkelling equipment supplied to people snorkelling is:

- suitable for the type of snorkelling being undertaken and of sufficient quality to ensure it performs effectively for the wearer
- supplied in an appropriate size range (including children's sizes) to ensure a good fit
- checked before snorkelling starts to ensure it is in safe working condition
- cleaned and kept in good repair
- maintained in accordance with manufacturers' specifications.

Oral/nasal equipment should be disinfected prior to use by another person, that is, it does not need disinfecting if the same person is using the equipment over a period of time.

All snorkellers should wear the following equipment:

- fins
- mask
- snorkel (attachable or attached to the mask)
- exposure protection, as appropriate to conditions.

5. Recreational technical diving – additional requirements

5.1 Recreational technical diving using EANx or mixed gas

This part of the code offers advice to persons conducting a business or undertaking including, employers, self-employed people and workers in the **recreational technical diving** industry on how they can make **recreational technical diving** using **EANx** a healthier and safer activity. This part of the code must be read in conjunction with all other sections of this code. This part outlines some control measures which can be used to manage specific risks related to **recreational technical diving** using **EANx** or **mixed gas**.

Diving using gas other than air
The person conducting the business or undertaking should ensure:

- a recreational technical diving does not take place unless an EANx dive supervisor is present at the dive site
- if the diver is undertaking recreational diving using EANx, that the diver is a certificated EANx diver, unless the diver is undertaking training for the purpose of certification as an EANx diver in accordance with this code
- if the diver is undertaking recreational diving using mixed gases, that the diver is a certificated mixed gas diver, unless the diver is undertaking training for the purpose of certification as a mixed gas diver in accordance with this code
- oxygen partial pressure exposure times are not exceeded
- the diver has identified the maximum operating depth for the breathing gas being used
- before a breathing mixture is used, the diver conducts a gas analysis to verify the O2 content. The results should be recorded in the EANx dive safety log and on the cylinder
- divers comply with the requirements of relevant training agency standards. Training agency standards are diver training standards developed by technical dive training organisations, such as PADI, SSI, RAID, TDI/SDI and NAUI, or those based on the minimum international standards recognised by the Recreational Scuba Training Council.

Rebreathers should not be used for introductory experiences or resort dives in **open water** for non-certificated diving.

Requirements for EANx rebreather diving
The person conducting the business or undertaking should ensure that **EANx rebreather** diving does not take place unless the **EANx dive supervisor** is present at the dive site who ensures each rebreather diver conducts the following checks/tests on their **rebreather** unit:

- check the rebreather unit scrubber is operational and not expired
- check the unit's flow rate
- test the mouthpiece check valves
- check the bypass valve functions, if applicable
- conduct a positive pressure test
- conduct a negative pressure test
- analyse the gas supply
- check that the analyser is in test
- check the redundant gas supply system is working; and
- check the oxygen partial pressure monitor, if applicable.

Qualifications and experience of an EANx dive supervisor

The person conducting the business or undertaking should ensure the **EANx dive supervisor**:

- is trained and certificated by a recreational scuba training organisation to supervise diving
- is qualified as an EANx diver.

Pre-dive checks and emergency procedures

The person conducting the business or undertaking should ensure the divers are consulted about:

- the dive plan
- dive objectives
- maximum depth for the breathing gas
- loss of breathing gas procedures
- buddy separation procedures
- safety requirements
- emergency procedures, including the location of and contact procedures for the nearest recompression facilities
- checking the position and correct operation of their own equipment and that of their buddy
- omitted decompression procedures.

Manufacturers' recommendations and/or specifications

The person conducting the business or undertaking should ensure manufacturers' recommendations and/or specifications are followed in respect of:

- pre-dive checks and emergency procedures
- carbon dioxide scrubbers.

Blending, testing, storage and use of EANx

If **EANx** is blended, tested, stored or used at the workplace, the person conducting the business or undertaking should ensure:

- EANx gas mixing and EANx cylinder filling are carried out by a competent person
- all equipment associated with the filling or use of EANx is used in accordance with manufacturers' recommendations
- all scuba cylinders to be used for the storage of EANx are clearly marked "NITROX"
- prior to using an EANx cylinder, the O2 content in the cylinder is tested by the diver
- after testing, a tag/decal is completed by the diver and is attached to the cylinder showing
    - oxygen percentage
    - maximum operating depth of the gas mixture
    - cylinder serial number, in case the tag is separated from the cylinder.

Blending, testing, storage and use of mixed gases

The person conducting the business or undertaking should ensure:

- all gas blending is undertaken by a competent person in the blending of gases to produce underwater breathing mixtures
- all equipment associated with the filling or use of mixed gases is to be used in accordance with manufacturers' recommendations
- all cylinders to be used for the storage of mixed gas are clearly marked as to their contents
- prior to using a mixed gas cylinder, the O2 content in the cylinder is tested by the diver
- after testing, a tag/decal is attached to the cylinder showing

- oxygen percentage
- calculated nitrogen percentage
- calculated helium or other gas percentage
- minimum operating depth of the gas mixture
- maximum operating depth of the gas mixture
- cylinder serial number, in case the tag/decal is separated from the cylinder.

5.2 Decompression diving (using air or other gases)

This section of the code offers advice to persons conducting a business or undertaking including employers, self-employed people and workers in the **recreational technical diving** industry on how they can make **decompression diving** a healthier and safer activity. This part outlines some control measures which can be used to manage specific risks related to **decompression diving**.

Diver surface support station when doing decompression diving
Where **decompression diving** is taking place the person conducting the business or undertaking should ensure there is a diver surface support station and that the following equipment is available from this station:

- emergency breathing gas positioned for use during decompression
- a device for the purpose of controlling position and maintaining ascent rate during decompression, for example, an ascent line
- a copy of each dive team's dive plan
- copy of each diver's calculated gas consumption requirements for the dive, showing adequate gas supplies to safely complete the required dive profile without the use of the diver's redundant gas system.

Surface support
The person conducting the business or undertaking should ensure that at all times divers are in the water that there is on the surface:

- a person trained and competent in the operation of all emergency equipment on the diver surface support station
- a person who is fully aware of the dive plan for each dive team
- if the station is a boat, a person capable of controlling the vessel.

The number of support personnel required should be determined during the dive plan risk assessment. Consideration should be given to all factors which influence the degree of risk, including the maximum number of divers in the water at any time, the prevailing conditions, the location and nature of the dive site and the level of experience of divers.

Equipment
The person conducting the business or undertaking should ensure that all divers undertaking **decompression diving** are equipped with an alternate ascent system and a **redundant gas system**.

Maximum exposures to decompression diving
The person conducting the business or undertaking should ensure dives are planned so that divers are not exposed to:

- oxygen in the mixture being breathed at any time in excess of a partial pressure of 1.6 bar
- nitrogen in the mixture being breathed at any time in excess of a partial pressure of 5.0 bar while diving.

Prerequisites for divers doing decompression diving to depths of 40 metres or less on gas
The person conducting the business or undertaking should ensure that any diver undertaking **decompression diving** on gas to depths of 40 metres or less has:

- successfully completed a course in decompression diving or
- 10 logged decompression dives.

If a diver cannot meet either of these requirements and still intends to do **decompression diving**, the diver should be accompanied on any decompression dive by a **dive supervisor** or **dive instructor** competent in **decompression diving** on gas.

Prerequisites for divers doing decompression diving to depths over 40 metres on gas
The person conducting the business or undertaking should ensure that any diver undertaking **decompression diving** on gas to depths over 40 metres has successfully completed a course in **decompression diving**.

6. Additional guidance on certain matters

The following provides information on certain important health and safety issues relating to diving/snorkelling and other general hazards relevant to persons conducting a business or undertaking that involves recreational diving and snorkelling activities.

6.1 Decompression illness

As a diver descends below the surface of the water, the increased pressure means nitrogen from the gas supply will be absorbed into body tissues. When a diver ascends, the surrounding pressure decreases, and the nitrogen previously absorbed begins to leave the body as the diver breathes out. As long as the nitrogen taken into the body is kept within reasonable limits, the diver should not be at risk of decompression illness. Decompression illness can result, however, when the nitrogen in the body is excessive to a diver's individual limits, and nitrogen which is not expelled from the body begins to form bubbles in the blood vessels and tissues when the diver ascends. These bubbles can cause tissue damage and block blood vessels, obstructing blood flow to vital organs.

Once these bubbles form, a decrease in pressure such as ascent in the water or travel over mountains or in aircraft will expand the bubbles.

Symptoms of decompression illness
Symptoms of decompression illness in divers include:

- mental dullness
- fatigue
- pins and needles (prickling and itching)
- pain in the joints and muscles
- numbness
- headache
- weakness
- dizziness and nausea.

Medical advice should always be sought if symptoms are displayed.

Factors which can contribute to development of decompression illness
Decompression illness can arise after any diving even when diving has been carried out within the limits of standard decompression tables. Susceptibility to decompression illness varies among individuals, however, some factors which can contribute to the development of decompression illness include:

- poor physical condition/fatigue
- chronic injuries or recent bruises or strains
- obesity—overweight people are at higher risk
- age—older people are at higher risk
- cold—diving in cold conditions make decompression illness more likely
- dehydration
- heavy physical exertion before, during or soon after a dive
- drinking alcohol or taking certain drugs before or after a dive
- prolonged hot showers after a dive
- previous incidences of decompression illnesses
- depth—generally the deeper the dive the greater the risk, although decompression illness has occurred in divers diving to depths of less than 10 metres
- decompression diving
- carrying out free or buoyant ascent training
- multiple ascent diving
- multiple dives over multiple days
- prolonged dive times
- carbon dioxide excess
- increase in altitudes shortly after diving, for example, flying or travelling over mountains.

6.2 Nitrogen narcosis

Nitrogen narcosis can result from breathing nitrogen under pressure. It acts like a drug and affects individuals differently. Nitrogen narcosis affects reasoning, judgement, memory, perception, concentration and coordination. It may lead to over confidence, anxiety or panic. Survival instincts and responses may be suppressed. If the dive is uneventful, the narcotic effects of nitrogen narcosis may not be evident. A diver failing to follow instructions or the dive plan, or being inattentive to buoyancy, air supply or buddy signals may be suffering from nitrogen narcosis.

Diving on air at or beyond 30 metres significantly increases the risk of nitrogen narcosis. Nitrogen narcosis can develop when diving in shallower depths, but is less likely to be evident, that is, a diver may not be aware that he or she is affected by nitrogen narcosis and/or it may not be evident to an observer. Safe diving beyond 30 metres requires an awareness of the increasing risk of this condition and its symptoms, and the practices required to reduce the symptoms and the associated likelihood of an accident. Nitrogen narcosis is directly related to diving at depths and diminishes as a diver ascends to shallower water. If a diver begins to be affected by nitrogen narcosis, then immediate ascent to shallower depths, taking into account decompression requirements, is required.

Factors known to increase the effects of nitrogen narcosis include:

- fatigue or heavy work
- anxiety, inexperience or apprehension
- the diver feeling cold
- poor visibility
- carbon dioxide excess
- recent alcohol intake or use of sedative drugs including sea sickness medications or marijuana.

6.3 Barotrauma

Barotrauma is injury brought about because of pressure differences between air-containing cavities of the body and the environment. Examples of air-containing cavities at risk of

barotrauma include the ears, sinuses, lungs and the face-mask cavity.

During descent in underwater diving the external pressure is greater than the pressure within air-containing cavities. For example, if a diver cannot or does not equalise the ears during descent, then a perforated eardrum can result.

When a diver ascends, the external pressure is less than the pressure within an air-containing cavity, for example, the lungs. If the diver does not exhale on ascent and/or makes a rapid ascent, the lungs will expand as the volume of gas increases. It can result in lung tissue being so overstretched that it tears at its weakest point with gas escaping through this tear and entering surrounding tissues or the bloodstream. If the gas enters the bloodstream, it may lead to arterial gas embolism which can result in, for example, a stroke or other neurological condition.

As the greatest pressure changes occur near the surface, the diver is most at risk of barotrauma within the first 10 metres.

6.4 Panic

Studies have implicated panic as a contributor to many **recreational diving**/snorkelling deaths. As panic develops, anxiety increases and a person diving/snorkelling reduces his or her capacity to think rationally and may focus on only one act or goal while forgetting about other important requirements. For instance, a panicky diver might focus on reaching the surface but forget to exhale during ascent.

Factors which can play a role in the development of panic include:

- equipment problems such as low air and ill-fitting equipment
- environmental hazards such as cold water, deep diving, marine animals and poor visibility
- personal factors such as fatigue, medical or physical unfitness, seasickness, alcohol intake, inexperience, excessive general anxiety, phobias, diving accidents, dizziness or disorientation
- inadequate instruction and training of person diving/snorkelling.

Effective explanation and training in relation to all relevant aspects of diving can help minimise the likelihood of panic. Additionally, it is important for a person diving/snorkelling to know his or her limitations and to stay within these. While the person displaying anxiety and lack of confidence may be readily noticed and can be more thoroughly trained, more carefully monitored, given more assistance or advised not to engage in diving/snorkelling, also at risk is the overconfident person diving/snorkelling who is out of touch with, or concealing his or her real capabilities and concerns.

6.5 Marine stingers

Australia’s marine and estuarine environment is home to some harmful jellyfish collectively known as marine stingers. The sting from marine stingers can cause discomfort, and some of the tropical waters species such as the irukandji and the box jellyfish can be lethal.

Caution must be exercised when entering tropical waters (generally north of Bundaberg in Queensland and Geraldton in Western Australia). Whilst marine stingers may be present throughout the entire year in tropical waters, the risk associated with dangerous jellyfish are higher during the marine stinger season that typically runs from November through to May.

Protective clothing (such as lycra body suits or neoprene wetsuits) offers a high degree of protection against marine stings as well as UV damage from the sun. It is possible to be

stung on exposed skin, such as hands, face and feet, but most stings occur on parts of the body that are typically covered by protective clothing.

Protective swimwear designed specifically to reduce the incidence of a marine sting include the following properties:

- a mesh size no greater than 200 microns (1/5 of a millimetre)
- synthetic smooth fabrics are preferable as there is less of a chance that tentacles will stick, possibly leading to secondary marine stings
- covers over 75% of the body's skin surface.

Protective swimwear should also be regularly inspected for holes, loose threading, broken or damaged zippers and other causes of decreased effectiveness, and where required replaced or repaired.

What to expect for a box jellyfish sting

The victim will be in an enormous amount of pain, and quite possibly hysterical and uncontrollable. The tentacles will likely still be on the victim, appearing as tapeworm-like ribbons. The sting marks will look like whip-marks, swollen, red—within a few minutes the marks will go frosty white as the skin dies. Death can result within two to five minutes of a box jellyfish sting.

What to expect for an irukandji sting

The initial sting will be minor, feeling like sea lice or a scratchy, pin-stabbing feeling; many victims do not feel the sting at all. Often there is no mark; if present, it may look like a small area of goose-pimples, small red dots, a rash-like line, or a blotchy reddened area. Often the sting area will sweat profusely. After about 20–30 minutes (but onset can vary from 5–40 minutes), the victim may have any or all of the following:

- severe lower back pain
- nausea
- vomiting
- sweating
- difficulty breathing
- full-body cramps
- limb spasms
- coughing
- extremely high blood pressure.

Treatment

For irukandji or box jellyfish stings:

- Remove the patient from the water and restrain if necessary.
- Call for help (dial 000), assess the patient and commence CPR as necessary.
- Liberally douse the stung area with vinegar to neutralise invisible stinging cells—do not wash with fresh water. (Vinegar will not alleviate the pain or help with scarring, but is thought to inactivate any undischarged stinging cells.) Vinegar needs to be in contact with the skin for at least 30 seconds. A vinegar soaked pad is useful after the initial dousing.
- If vinegar is unavailable, pick off any remnants of the tentacles (this is not harmful to the rescuer) and rinse sting well with seawater (not freshwater). Wash your hands with seawater afterwards.
- Seek medical assistance with rapid transport to hospital.

For stings other than irukandji and box jellyfish:

- Keep the patient at rest and under constant observation.
- Do not allow rubbing of the sting area.
- Pick off any remaining tentacles with fingers (a harmless prickling may be felt).

- Rinse the stung area well with seawater (not freshwater) to remove any invisible stinging cells.
- For bluebottle stings
    - Place the patient's stung area in hot water (no hotter than the rescuer can comfortably tolerate).
    - If the pain is unrelieved by the heat, or if hot water is not available, apply cold packs or wrapped ice.
- For other minor jellyfish stings apply cold packs or wrapped ice to manage pain.
- If local pain is unrelieved by these treatments, or generalised pain develops, or the sting area is large (half of a limb or more), or if the patient appears to be suffering an allergic reaction to the sting, seek urgent medical help.

6.6 Plant

Injuries which can result from the use of or exposure to plant include lacerations, amputations, fractures, crush injuries and bruising.

In the **recreational diving** and snorkelling industry, plant includes compressors, **scuba** tanks, regulators, hoses, buoyancy control devices, life jackets, masks, snorkels, fins, wet suits, tenders, motors, rubbish bins as well as any machinery and equipment on board vessels, such as cranes, inflatable dinghies, outboard motors, kitchen equipment and appliances.

Control measures to prevent or minimise the risk of injury from plant
The person conducting the business or undertaking should ensure:

- plant is suitable for the work or activity being done, for example, life jackets are available in a range of sizes which ensure comfort for the wearer and in a colour that can be easily seen in the marine environment
- plant is being used properly and safely
- plant that has been modified has not created risks to people's health and safety
- plant is serviced, maintained and tested according to manufacturers' instructions and appropriate records are kept of this servicing, maintenance and testing
- operators are trained, and where required, hold current relevant certificates
- workers and at risk visitors wear appropriate protective equipment if no other protection is possible
- adequate and appropriate guarding is installed to prevent people coming into contact with moving parts, for example, propeller guards are attached to the motors of tenders and rescue vessels
- health and safety information on plant from manufacturers, importers and suppliers is obtained when the plant is purchased, and is available at or near where the plant is used.

For more information on how to manage the health and safety risks of plant, refer to the *Managing Risks of Plant in the Workplace Code of Practice 2013*.

6.7 Noise

Excessive noise can result in hearing loss. It can also create other problems such as stress leading to tiredness, irritability and headache. It can cause dizziness, raise blood pressure and increase heart rate. Noise increases the risk of accidents by disguising sounds of approaching danger or warnings, and affects balance, concentration and communication among people.

Excessive noise is defined in 2 parts as noise in excess of the exposure standard, namely:

- an eight-hour exposure of 85 dB(A) which refers to an average of the total sound energy of 85 decibels received over eight hours
  and
- a peak value of 140 dB (lin) which represents the upper limit of 140 decibels to which a person may be exposed at any time. This level of noise can cause immediate hearing damage.

Generally speaking, if it is necessary to raise your voice to be heard by others who are less than a metre away, noise will most likely be a problem at your workplace. On a vessel, however, the wind factor may also make voices hard to hear.

Control measures to prevent or minimise the risk of exposure to noise
The person conducting the business or undertaking should ensure:

- noise emission data are obtained from suppliers and that suitable plant with the lowest noise level is selected
- devices which will reduce noise, such as mufflers or specially designed mats under motors, are used where appropriate
- noisy equipment is separated from people by enclosing it, for instance, in a sound-proofed area
- regular maintenance on plant is carried out
- work practices are arranged so people spend a limited time in a noisy environment
- personal hearing protectors are provided. These should be supplied to people in the area where noise is excessive and when other measures to reduce the risk of hearing loss are not suitable. Training in the use of these protectors should be provided. The selection of hearing protectors should ensure they are appropriate to the wearers, the work environment and to the noise problem in the workplace
- areas where noise is excessive are signposted. These are areas that have noise levels above 85 dB (A) over an eight hour period. These areas should be signposted as ‘hearing protection areas” and the boundaries clearly defined. No person should enter a “hearing protection area” during normal operation, even for brief periods, unless appropriate personal hearing protectors are worn.

For more information on how to manage the health and safety risks of noise, refer to the *Managing Noise and Preventing Hearing Loss at Work Code of Practice 2011*.

6.8 Hazardous chemicals

Exposure to hazardous chemicals can lead to skin complaints, loss of feeling to fingers and toes, external or internal burns, respiratory complaints, cancer and death. Hazardous chemicals are used widely in industry and the person conducting the business or undertaking needs to be very sure before deciding their workplace does not have any.

Hazardous chemicals include:

- acidic or caustic cleaning products
- chlorine
- anhydrous ammonia (a refrigerant)
- flammable chemicals such as fuels, oils, gases and lubricants.

Control measures that must be implemented to prevent or minimise the risk of exposure to hazardous chemicals
If hazardous chemicals are used at the workplace, the person conducting the business or undertaking must:

- keep a register which contains a list of all hazardous chemicals used at the workplace and the current Safety Data Sheet (SDS) for each hazardous chemical used. SDSs can be obtained from chemical suppliers. Manufacturers, importers or suppliers of chemicals must show that the health and safety effects of the chemical have been established and they must make this information available
- undertake risk assessment as soon as possible after the chemical is first used
- ensure all hazardous chemical containers are labelled so the contents can be readily identified and used correctly. A hazardous chemical must not be transferred from one container to another unless the new container is properly labelled. A hazardous chemical should not be transferred if there is a risk that it will react with the new container or residue in the container
- make relevant information available to all people who could be exposed to a hazardous chemical. A copy of the SDS must be kept close to where any hazardous chemical is being used so a worker who may be exposed can easily refer to the SDS
- train all workers who may be exposed to a workplace hazardous chemical in the safe use of that hazardous chemical, and must keep records of this training.

Control measures that should be implemented to prevent or minimise the risk of exposure

The person conducting the business or undertaking should:

- remove the hazardous chemical, wherever possible, or replace it with a chemical which is less hazardous
- keep the work area well ventilated by opening doors and windows and/or using extraction ventilation systems so vapours and dust are kept to a minimum
- provide proper storage facilities for hazardous chemicals
- have emergency planning arrangements in case an emergency involving hazardous chemicals occurs
- apply the precautions for use, and safe handling information from the relevant SDS.

For more information on how to manage the health and safety risks of hazardous chemicals, refer to the *Managing Risks of Hazardous Chemicals in the Workplace Code of Practice 2013* and the *Labelling of Workplace Hazardous Chemicals Code of Practice 2011*.

6.9 Manual tasks

Manual tasks can lead to strains, sprains and serious long-term injuries to various parts of the body including backs, shoulders, arms and hands.

Manual tasks include lifting, carrying, lowering, pushing, moving, holding or restraining any object, as well as working in the same position or holding the same posture for long periods, particularly when bending or reaching is involved.

Manual tasks in the diving/snorkelling industry include:

- assisting people out of the water
- rescuing people in difficulty
- kitchen work/catering
- moving equipment such as oxygen cylinders and scuba tanks
- working awkward positions, particularly in small spaces
- manual tasks carried out on unstable, moving surfaces or in adverse environmental conditions, for example, on a small inflatable.

Control measures to prevent or minimise the risk of injury from manual handling

The person conducting the business or undertaking should ensure:

- mechanical handling equipment is used where possible, for example, tank trolleys, mobile gear crates, mobile belt loaders onto floating vessels, cranes on vessels for duck/dinghy and equipment transfers
- tasks are varied or, where repetitive tasks are carried out for long periods, rest periods or tasks rotation are used to break-up any length of time spent on the repetitive activity, for example, split the filling of tanks with other tasks
- items which are used frequently, are stored or shelved between knee and shoulder height, for example, stacking tanks on a boat in storage racking
- the majority of tasks carried out by standing workers are at waist height and within easy reach
- workplace layout is designed so twisting movements are kept to a minimum
- adequate training in the preferred methods of manual handling are provided and supervision is available to workers
- where mechanical aids and assistive devices cannot be used, team lifting can be used where workers are suitably selected and trained in the handling methods, for example team handling of inflatable duck/vessel at the waterline onshore
- incorporating an in-house work preparation program, such as an exercise program, to suit worker's tasks. The effective use of such a program would require expert advice.

For more information on how to manage the health and safety risks of manual tasks, refer to the *Hazardous Manual Tasks Code of Practice 2011*.

6.10 Confined spaces

Confined spaces present a risk to health and safety whenever a person has to enter them. A person whose upper body or head is within a confined space is considered to have entered the confined space. Confined spaces potentially contain many hazards, which are often invisible and cannot be detected without special equipment. These hazards include:

- lack of oxygen
- toxic gases, vapours and fumes
- flammable or explosive gases, vapours and fumes
- mechanical equipment.

Control measures to prevent or minimise the risk of injury from confined spaces

Training
The person conducting the business or undertaking must ensure all people required to carry out work within or on a confined space are provided with training in:

- the hazards associated with the confined space
- risk assessment procedures
- risk control measures
- first aid and emergency and rescue procedures
- selection, use, fit and maintenance of personal protective equipment.

Control measures that must be implemented
Before a person enters the confined space to carry out work, the person conducting the business or undertaking must:

- ensure a competent person undertakes a risk assessment
- issue an entry permit
- isolate the confined space
- ensure the confined space is tested and monitored for
    - safe oxygen level
    - toxic gases, vapours and fumes

    - flammable or explosive gases, vapours and fumes
- ensure that before a person enters a confined space, the space has a safe level of oxygen, atmospheric contaminants are reduced to a level below the relevant exposure standards, the space is free from extremes of temperature and the concentration of flammable contaminants is at a safe level
- ensure people entering the confined space wear suitable personal protective equipment, including supplied air respiratory equipment, where it is not possible to provide a safe oxygen level or reduce atmospheric contaminants to a safe level
- ensure that where the risk assessment indicates a risk to health and safety, no-one enters the confined space unless a stand-by person is present outside the space
- ensure that appropriate signs and protective barriers are erected to prevent entry of people not involved in confined space work.

Once work in the confined space has been completed, the person conducting the business or undertaking **must** ensure all people have left the confined space before authorising the confined space to be returned to service.

For more information on how to manage the health and safety risks of confined spaces, refer to the *Confined Spaces Code of Practice 2011*.

6.11 Workplace environment

Workplace environment
Workplace environment is a broad term and includes:

- floor surfaces, building and fixtures, lighting and electrical fittings in your workplace, air quality and temperature, water temperature and surface conditions, and marine animals
- general housekeeping at the workplace, for example, making sure that aisles and exits are not obstructed
- an emergency plan so that people can respond quickly and effectively to any incident that happens in the workplace
- other work environment issues, for example, infectious diseases, violence, sun and wind exposure, working at heights or in confined spaces.

Given the range of risks which can be associated with the work environment, injuries or diseases can differ markedly. For instance, slips, trips and falls can result in sprains or fracture, while extremes of temperature can result in heat stress or hypothermia.

Environmental factors
Environmental factors can also increase the risk of injury related to manual tasks in the diving/snorkelling industry. These factors include:

- cold water temperature
- wet surfaces while handling equipment
- moving and unstable surfaces, for example, vessels
- poorly lit engine rooms, pontoons.

Control measures to prevent or minimise the risk of injury from the workplace environment

- elimination/substitution of the hazard, for example, replacing slippery flooring with non-slip flooring
- engineering controls, for example, keeping the hazard and people apart by putting a locked door on a confined space

- administrative controls such as adjusting the time and conditions of a person's exposure to the risk. For example, rotating tasks so people do not spend too long in hot or cold conditions
- providing personal protective equipment when other ways of controlling risks cannot be used, for example, providing appropriate thermal protection for cold water dives.

For more information on how to manage the health and safety risks of the workplace environment, refer to the *Managing the Work Environment and Facilities Code of Practice 2011.*

Appendix 1: Example record for passive count system – headcount

	Departure for dive/ snorkel site	**Permanent changes:** **Arrivals or Departures**	**Departure from dive/ snorkel site 1**	**Departure from dive/ snorkel site 2**
Crew 1 Name	Total on Board: Signature	Arrival No: Depart No: Total on board: Signature	Total on board: Signature	Total on board: Signature
Crew 2 Name	Total on board: Signature	Arrival No: Depart No: Total on board: Signature	Total on board: Signature	Total on board: Signature

EXAMPLE RECORD FOR ACTIVE COUNT SYSTEM – SIGNATURE SHEET
OR crew member to mark off names after acknowledgement by each person

Name	**Departure for dive/ snorkel site**	**Permanent Changes:** **Arrivals**	**Permanent Changes:** **Departures**	**Departure from dive/ snorkel site 1**	**Departure from dive/ snorkel site 2**
1. Name					
2. Name					
Total on board					
Crew 1 Name	Signature	Signature	Signature	Signature	Signature
Crew 2 **Name**	Signature	Signature	Signature	Signature	Signature

Appendix 2: Sample medical declaration for resort diving

TO BE COMPLETED AND SIGNED BY RESORT DIVER

Personal Details	
Surname	Given names
Address	
	Phone
Date of birth / /	Sex: Male Female

Have you ever suffered, or do you now suffer from, any of the following:

	YES	NO
Asthma or wheezing		
Brain, spinal cord or nervous disorder		
Chest surgery		
Chronic bronchitis or persistent chest complaint		
Chronic sinus conditions		
Collapsed lung (pneumothorax)		
Diabetes mellitus (sugar diabetes)		
Ear surgery		
Epilepsy		
Fainting, seizures or blackouts		
Heart disease of any kind		
Recurrent ear problems when flying		
Tuberculosis or other long-term lung disease		

Are you currently suffering from:

	YES	NO
Breathlessness		
Chronic ear discharge or infection		
High blood pressure		
Other illness or operation within the last month		
Perforated eardrum		

	YES	NO
Are you currently taking any medicine or drug (excluding oral contraceptives)?		
Have you ingested any alcohol within the 8 hours prior to diving?		
Could you be pregnant?		
Do you understand that concealment of any condition incompatible with safe diving might put your life or health at risk?		

Signature	Date / /
Witness	Date / /

Appendix 3: Medical declaration for entry-level certificate divers

Participant details

Name_____Birth date _____ Age ____

Mailing address _____

City_____State/Province/Region _____

Country _____ Zip/Postal code _____

Home phone ( ) _____ Mobile phone ( ) _____

Email _____

Height (in metres) _____ Weight (in kilograms) _____ BMI* _____

Waist circumference (in cm, measured around belly button) _____

* BMI = weight / (height x height)

Please read carefully before signing

This is a declaration in which you are informed of some potential risks involved in scuba diving and of the conduct required of you during the entry-level recreational diving certificate training program. Your signature on this statement is required for you to participate in the training.

Read this statement prior to signing it. You must complete this declaration, which includes the medical questionnaire section, to enrol in the training. If you are a minor, you must have this declaration signed by a parent or guardian.

Diving is an exciting and demanding activity. When performed correctly, applying correct techniques, it is relatively safe. When established safety procedures are not followed, however, there are increased risks.

To scuba dive safely, you should have an appropriate level of physical fitness and not be extremely overweight. Diving can be strenuous under certain conditions. Your respiratory and circulatory systems must be in good health. All body air spaces must be normal and healthy. A person with coronary disease, a current cold or congestion, epilepsy, a severe medical problem or who is under the influence of alcohol or drugs should not dive.

You will learn from the instructor the important safety rules regarding breathing and equalisation while scuba diving. Improper use of scuba equipment can result in serious injury. You must be thoroughly instructed in its use under direct supervision of a qualified instructor to use it safely.

If you have any additional questions regarding this declaration or the Medical Questionnaire section, review them with your instructor before signing.

Participant medical questionnaire

The purpose of this medical questionnaire is to find out if you should be examined by your doctor before participating in entry-level recreational diving certificate training. A positive response to a question does not necessarily disqualify you from diving. A positive response means that there is a pre-existing condition that may affect your safety while diving and you must seek the advice of a medical practitioner, preferably with experience in diving medicine, prior to engaging in dive activities.

Please answer the following questions on your past and present medical history by ticking **YES** or **NO**. If you are not sure, tick **YES**. If any of these items apply to you, you must be assessed by a medical practitioner prior to participating in training. To undertake recreational diver entry level certificate training, the medical practitioner must issue you with a dive medical certificate that states that you are fit to undertake recreational diver training.

	YES	NO
1. Could you be pregnant?		
2. Are you presently taking prescription medications? (with the exception of birth control or anti-malarial medication)		
3. Are you over 45 years of age?		
4. Is your BMI over 30 **AND** your waist circumference greater than 102 cm for males and 88 cm for females?		

Have you ever had or do you currently have:

	YES	NO
5. Asthma, or wheezing with breathing, or wheezing with exercise?		
6. Frequent or severe attacks of hayfever or allergy?		
7. Frequent colds, sinusitis or bronchitis?		
8. Any form of lung disease?		
9. Pneumothorax (collapsed lung)?		
10. Other chest disease or chest surgery?		
11. Behavioural health, mental or psychological problems (Panic attack, fear of closed or open spaces)?		
12. Epilepsy, seizures, convulsions or take medications to prevent them?		
13. Recurring complicated migraine headaches or take medications to prevent them?		
14. Blackouts or fainting (full/partial loss of consciousness)?		
15. Frequent or severe suffering from motion sickness (seasick, carsick, etc.)?		
16. Dysentery or dehydration requiring medical intervention?		
17. Any dive accidents or decompression sickness?		
18. Inability to perform moderate exercise (example: walk 1.6 km/one mile within 12 mins.)?		
19. Head injury with loss of consciousness in the past five years?		
20. Recurrent back problems?		
21. Back or spinal surgery?		
22. Diabetes?		
23. Back, arm or leg problems following surgery, injury or fracture?		
24. High blood pressure or take medicine to control blood pressure?		
25. Heart disease?		
26. Angina, heart surgery or blood vessel surgery?		
27. Heart attack?		
28. Sinus surgery?		
29. Ear disease or surgery, hearing loss or problems with balance?		
30. Recurrent ear problems?		
31. Bleeding or other blood disorders?		

32. Hernia?		
33. Ulcers or ulcer surgery?		
34. A colostomy or ileostomy?		
35. Recreational drug use or treatment for, or alcoholism in the past five years?		

The information I have provided about my medical history is accurate to the best of my knowledge. ***I agree to accept responsibility for omissions regarding my failure to disclose any existing or past health condition.***

_____ _____
Signature of participant Date

_____ _____ _____ _____
Name of Parent or Guardian (if applicable) Signature Relationship Date

Training providers details
This section is to be completed and signed by the training provider.

Business name of training provider _____

Business address _____

City _____ State _____ Post Code _____

Phone ( ) _____ Email _____

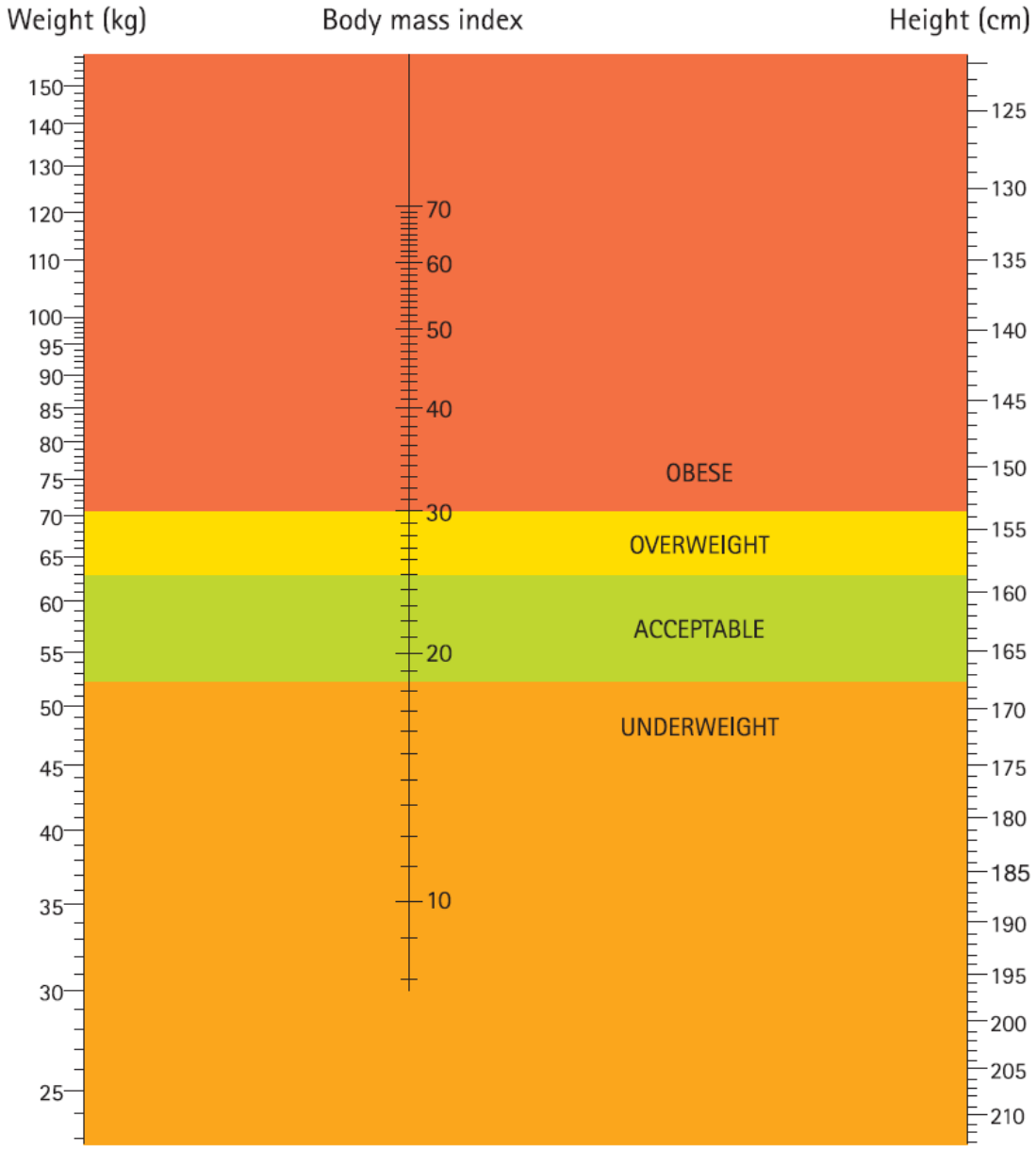
Has the participant answered **YES** or left blank any of the participant medical questions?

_____

If **YES** then the participant requires a dive medical certificate certifying that the person is medically fit to dive.

_____ __ _____ _____ _____
Name Signature Position Date

Appendix 4: Body mass index chart



Place a ruler between your weight in kilograms at left and the body height in centimetres (without shoes) at right.

The body mass index is read from the middle scale.

Appendix 5: Sample method of providing advice about medical conditions to prospective recreational snorkellers

I declare that I have been advised snorkelling can be a strenuous physical activity and may increase the health and safety risks to me if I am suffering from:

A. Any medical conditions that may be made worse by physical exertion. *For example heart disease, asthma, some lung complaints*
B. Any medical condition that can result in loss of consciousness. *For example some forms of epilepsy and some diabetic conditions*
C. Asthma that can be brought on by cold water or salt water mist

I have been advised that snorkelling can be a strenuous physical activity even in calm water and that older people are at an increased risk of death and injury due to a higher incidence of medical conditions made worse by physical exertion, such as heart disease and stroke.

I have been advised to tell the lookout, snorkelling supervisor or snorkelling guide if I have any concerns about a medical condition.

Please note if you have been identified as an at risk snorkeller you will be required to:

- Wear and/or use a flotation device that will support the wearer in a relaxed state
- Wear a particular colour snorkel or vest that will allow the crew to offer closer supervision
- Snorkel in a buddy pair.

Name	Signature	Date

Appendix 6: Sample declaration form for a person who is identified as an at risk snorkeller

This declaration is to assist the crew in identifying which individuals may be at risk from participating in recreational snorkelling. It is not designed to stop potential customers from participating in snorkelling activities. Instead, it ensures you are provided with additional attention and control measures to ensure your safe participation.

Rate your swimming ability:
☐ First Time Swimming ☐ Poor Swimmer ☐ Average Swimmer ☐ Strong Swimmer
☐ I have snorkelled before (if so, how long since your last snorkel? ……..)

Snorkelling can place some unique stresses on the heart. These include the effects of immersion itself, exertion, anxiety and water aspiration. This can increase the risk of the heart going into an abnormal rhythm which can be fatal, especially in the water. For this reason, it is very important that you declare any medical conditions that you have (especially heart conditions past and present), and medications that you take. It is in the interests of your safety and will enable the crew to make suitable arrangements.

If you suffer from any of the following you should take special precautions and inform the crew of your current medical conditions:

	Yes	**No**
Allergies/Anaphylaxis		
Asthma or wheezing		
Diabetes		
Emphysema		
Epilepsy		
Fainting, seizures or blackouts		
Heart disease/heart condition of any kind		
High or low blood pressure		
Mobility Issues		
Recent head injury or concussion		
Shortness of breath (especially when exercising)		

Other:

Please note if you have been identified as an at risk snorkeller you will be required to:

- Wear and/or use a flotation device that will support the wearer in a relaxed state
- Wear a particular colour snorkel or vest that will allow the crew to offer closer supervision
- Snorkel in a buddy pair.

Signature _____ Date _____

Parent's or guardian's signature for minors

_____

Appendix 7: Recreational diving and snorkelling compliance checklist

This checklist is not a complete list of issues addressed in the Safety in Recreational Water Activities Regulation 2011 and this code of practice. This may serve as an example of a tool that a duty holder may develop to assess their own levels of compliance.

It should therefore be used as a guide only and duty holders need to undertake risk management at their own workplace to ensure the control measures that are chosen are suitable for their workplace and the tasks being undertaken.

Checklist issues:

Risk management

	Yes	No	?
Has specific risk management been undertaken to ensure the control measures that are chosen are suitable for their workplace and the tasks being undertaken?	☐	☐	☐
When was this last reviewed?			
Is a dive/ snorkelling supervisor appointed each day?	☐	☐	☐
Are dive/ snorkelling procedures documented?	☐	☐	☐
Are the responsibilities of lookouts, dive/snorkelling supervisors, dive instructors, guides and other workers documented with respect to health and safety?	☐	☐	☐
Do these people know their responsibilities and the diving/snorkelling procedures to be followed? (Induction, ongoing and emergency training)	☐	☐	☐

Count of all people on board (written record of number and signature)

	Yes	No	?
Is it done independently by at least two crew members before departure from port?	☐	☐	☐
Are new totals recorded for permanent departures/arrivals?	☐	☐	☐
Are counts done, compared and recorded independently by at least two crew members for all people at each departure from dive/snorkelling site? (may be several)	☐	☐	☐
Are appropriate counting methods used? (active counts preferred)	☐	☐	☐
If only one crew member is available, are two separate active methods or an active and a passive counting method used at each required count?	☐	☐	☐

Dive safety log

	Yes	No	?
Is one made for all divers/ dives including workers?	☐	☐	☐
Signed by all divers on completion of each dive?	☐	☐	☐
Signed as completed by dive supervisor and master or appointed people?	☐	☐	☐
Are all entries completed as soon as possible?	☐	☐	☐

Medicals

	Yes	No	?
Appropriate medical declaration for each resort diver?	☐	☐	☐
Resort diver's fitness to dive assessed where required?	☐	☐	☐

Appropriate medical declaration for each Entry-level Certificate diver?	☐	☐	☐
Medical certificate for each Entry-level Certificate diver when required?	☐	☐	☐
Certificated divers have their medical fitness to dive assessed?	☐	☐	☐
If diving, were certificated divers with medical risks accompanied by a certified assistant / dive instructor?	☐	☐	☐
Have snorkellers been given medical advice?	☐	☐	☐

Supervision of divers/ snorkellers in open water

	Yes	No	?
Is the appointed lookout out of the water and solely engaged in being the lookout?	☐	☐	☐
Is the lookout able to rescue and provide first aid or able to direct a capable and immediately available person to do so?	☐	☐	☐
Are resort divers supervised by a dive instructor? (max four divers per instructor or six with a certified assistant)	☐	☐	☐
Are entry level certificate divers supervised by a dive instructor? (max eight divers per instructor or 10 with a certified assistant)	☐	☐	☐
Does a dive supervisor remain at the surface at the dive site?	☐	☐	☐
Is in water supervision by a certified assistant/ dive instructor provided for certificated divers if dive conditions are outside experience and qualifications of the diver?	☐	☐	☐
Do dive workers dive alone only with appropriate training and qualifications?	☐	☐	☐

Skills of divers

	Yes	No	?
Are dive workers trained in procedures required at dive site and qualified for the work they are doing?	☐	☐	☐
Are resort divers taught mask clearing and regulator removal and replacement skills underwater in an appropriate environment?	☐	☐	☐
Are entry level certificate divers trained through documented training procedures which in principle comply with AS4005.1?	☐	☐	☐
Does a dive supervisor ensure that each certificated diver has their skills assessed?	☐	☐	☐
Does a certified assistant/ dive instructor accompany or conduct an assessment dive for each certificated diver where there are doubts as to their competency?	☐	☐	☐

Equipment for diving

	Yes	No	?
Is the diving equipment supplied to divers suitable for the diving being undertaken?	☐	☐	☐
Is the equipment checked, cleaned and in working order before diving starts?	☐	☐	☐
Is the equipment maintained in accordance with manufacturer's specifications?	☐	☐	☐
Are certificated divers supplied with audible and visual signalling devices and instructed in their use?	☐	☐	☐

Are cylinders hydro tested and serviced within 12 months by a properly qualified person?	☐	☐	☐
Has an assessment of the risks of certificated divers surfacing and becoming separated from their surface support been undertaken?	☐	☐	☐
In deciding on control measures to minimise this risk, has consideration been given to the types and performance characteristics of any equipment supplied to divers to minimise the risk of separation from their surface support?	☐	☐	☐

Air quality

	Yes	No	?
Are compressed air cylinders filled, tested, operated and maintained according to manufacturer's instructions and AS 3848.2?	☐	☐	☐
Has air quality been tested within last three months?	☐	☐	☐

Dive tables

	Yes	No	?
Are all dives planned conservatively and consistently to a set of recognised dive tables/computer?	☐	☐	☐

Dive depths

	Yes	No	?
Do workers dive deeper than 40m?	☐	☐	☐
Do resort divers dive deeper than 12m?	☐	☐	☐
Do entry level certificated divers dive deeper than 18m?	☐	☐	☐
Are certificated divers advised not to dive deeper than 40m?	☐	☐	☐

Dive ascent training

	Yes	No	?
Does any instructor teach more than one class involving ascent training in any 24hr period?	☐	☐	☐

Emergency plans

	Yes	No	?
Does the dive/ snorkelling vessel have written emergency plans with which workers are familiar?	☐	☐	☐
What training is done?			
Do they address first aid, rescue, evacuation and missing people?	☐	☐	☐

Rescue of a diver

	Yes	No	?
Have effective rescue procedures been developed?	☐	☐	☐
Have all workers been trained in undertaking these rescues?	☐	☐	☐
Are ship to shore communications functioning?	☐	☐	☐

First aid and oxygen

	Yes	No	?
Is a first aid kit available at the dive/ snorkelling site and sufficient to cater for injuries?	☐	☐	☐
Is there functioning appropriate oxygen equipment for both breathing and non-breathing people?	☐	☐	☐
Are operators qualified to use the equipment?	☐	☐	☐

Is the equipment checked daily?	☐	☐	☐
Is there a sufficient oxygen supply?	☐	☐	☐

Risks to divers and snorkellers from vessels

	Yes	No	?
Have appropriate controls been adopted to minimise the risk to divers and snorkellers from other vessels?	☐	☐	☐

Risks to divers and snorkellers from marine stings

	Yes	No	?
Have divers and snorkellers been advised of the risks of marine stings?	☐	☐	☐

Action required

_____

_____

_____

_____

_____

_____

_____

Checklist completed by:

Name: …… Date: ……

Position: …….. Signature: ……..

Reviewed by:

Name: …… Date: ……

Position: …….. Signature: ……..

Appendix 8: Guidance material

Workplace Health and Safety Queensland develops guidance material to:

- assist duty holders discharge their legal duties under:
    - the *Work Health and Safety Act 2011*
    - the Work Health and Safety Regulation 2011
    - the *Safety in Recreational Water Activities Act 2011*
    - the Safety in Recreational Water Activities Regulation 2011
- provide practical advice on how to manage the risks associated with the activities of the business or undertaking; and
- make the business or undertaking activities healthier and safer.

Guidance material takes various forms such as guidelines, guides, safety or hazard alerts, and fact sheets. Guidance material are not legislation and are therefore not mandatory, however duty holders are encouraged to follow the advice to assist in discharging legal duties.

Workplace Health and Safety Queensland has developed specific information landing pages on its website (www.worksafe.qld.gov.au) for industries and occupations. The Diving and Snorkelling industry specific information landing page contains up to date information, including guidance material, relevant for people engaged in the Diving and Snorkelling industry.

Diving and Snorkelling industry guidance material provided includes information on:

- aluminium alloy cylinders
- appropriate powered tender vessels and propeller guarding for rescue of recreational divers and snorkellers
- boarding facilities for passenger carrying vessels
- carbon monoxide poisoning, hookah compressors and diving
- dangers associated with mismatching portable (scuba) cylinders and valve fittings
- defibrillators and recreational diving and snorkelling
- enriched air nitrox compressor systems
- entry to confined spaces on marine craft
- fill pressures on scuba cylinders with yoke fittings
- hypoxic blackout at recreational snorkelling workplaces
- medical requirements and recommendations for underwater divers - information for doctors
- potential for explosion of Bauer oil/water separators
- powered tender vessels
- recreational diving—equipment to minimise the risk of missing diver emergencies
- recreational diving and snorkelling emergencies—operator preparedness.
- safe filling of portable aluminium cylinders
- underwater diving work and medical certificates
- uwatec analogue submersible pressure gauges, part number A1-111, A1-115
- dive safety log
- diving fact sheet
- diving risk assessment—certificated divers
- diving risk management process
- head counts
- medical declaration for resort diving
- proof of competence occupational dive industry
- recreational diving and snorkelling
- safety information for scuba diving and snorkelling (including foreign languages)
- written record of count of all people on board.

Appendix 9: Dictionary

Appropriate powered tender vessel A vessel suitable to undertake the rescue of a diver or snorkeller.

AS Australian Standard.

At risk medical condition Any medical condition mentioned in the medical declaration form.

Body Mass Index (BMI) A simple index of weight-for-height that is commonly used to classify people as underweight, overweight or obese. It is defined as the weight in kilograms divided by the square of the height in metres (kg/m^2). For example, a person weighing 70kg who is 1.7m tall would have a BMI of 24.22.

Bottom time The time between a diver leaving the surface at the start of a dive and starting the final ascent.

Certificated diver A person who holds a certificate in **recreational diving** issued by a **recreational scuba or dive training association**.

Certified assistant A person who holds a current qualification from a **dive training organisation**, designed to qualify the person to assist a **dive instructor.**

Competent person A person who has acquired, through training, qualifications, experience or a combination of these, the knowledge and skill enabling the person to competently carry out the activities for which the **competent person** is responsible.

Confined water Water which offers pool-like conditions, good visibility, and water which is shallow enough so that all divers can stand up with their heads well clear of the water.

Decompression diving Diving that requires a diver to take a planned stop during the final ascent to decompress.

Dive instructor A person who holds a current qualification from a **recreational scuba or dive training association**, designed to qualify the person as a recreational **dive instructor**

Dive supervisor The person appointed to supervise the diving area whenever divers are in the water. The person should hold a minimum of a current **certified assistant** qualification from a **dive training organisation** and should have appropriate experience for the area supervised.

Dive team The maximum number of divers in the water with the same dive plan.

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 A current qualification received for training in:

- first aid and emergency oxygen administration to injured divers
- dive accident management
- field clinical assessment.

Diving operations Any activity in which there is a person using underwater diving equipment and breathing compressed air or other gas, and who is subject to pressure greater than 1 atmosphere absolute.

Diving/snorkelling Where **diving operations** are being undertaken this term refers to diving. Where snorkelling operations are being undertaken this term refers to snorkelling.

EANx A mixture of oxygen and nitrogen in which the volume of oxygen in the mixture is at least 22%.

Entry-level certificate diving Recreational diving, other than resort diving, by a person who is undertaking initial training by a dive instructor, at the conclusion of which a certificate is to be issued to the diver.

Hazard A situation or thing that has the potential to harm a person. Hazards at work may include: noisy machinery, a moving forklift, chemicals, electricity, working at heights, a repetitive job, bullying and violence at the workplace.

Helmet diving A resort dive, undertaken in a free flow gas supplied helmet, including helmets integral to underwater vessels.

Mixed gas An underwater breathing mixture other than compressed air or **EANx**.

Non-English speaking person A person who cannot understand and speak any English, or whose grasp of the English language is such that he or she is not able to readily understand or question any instruction and advice given in English.

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

PPO_2 Partial pressure of oxygen.

Rebreather A semi-closed or closed circuit self-contained underwater breathing apparatus.

Recreational diving Underwater diving for recreation using compressed air, other than diving in a swimming pool, and includes any of the following:

- 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
- 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 or dive training association An organisation engaged in the certification of recreational divers through documented training procedures which, in principle, comply with sections 2 and 3 of Australian Standard 4005.1 - 2000 -Training and certification of recreational divers Part 1: Minimum entry level SCUBA diving.

Recreational technical diving Underwater diving for recreation, other than in a swimming pool:

- using **EANx** or **mixed gas**

or

- that is **decompression diving** using compressed air or other gases.

Redundant gas system An additional gas storage and delivery system that contains sufficient gas to allow the diver to return from the furthest point of the dive achievable on the current gas and ascend to a point where another gas supply is available. This should take into consideration the possibility of ascent line loss.

Repetitive dive A multiple dive when the surface time between dives is less than 12 hours.

Repetitive dive group/pressure group A letter of the alphabet, given by dive tables, that represents an estimate of 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 A letter of the alphabet, given by dive tables that represents an estimate of the amount of **residual nitrogen** in a diver's tissues as determined by the **repetitive dive** group and the **surface interval**.

Residual nitrogen Nitrogen in excess of the amount normally present in a person's tissues, that is dissolved in the person's tissues.

Resort diving An introductory dive experience, or introductory educational diving program, conducted according to a **recreational scuba or dive training association**'s program or a recreational technical **recreational scuba or dive training association**'s program, whether or not the person is being photographed, filmed or videoed while diving.

Risk The possibility that harm (death, injury or illness) might occur when exposed to a hazard.

Scuba An open circuit self-contained underwater breathing apparatus.

Snorkelling Swimming for recreation with the aid of a snorkel, other than snorkelling in a swimming pool.

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

Technical dive training organisation An organisation engaged in the certification of recreational technical divers through documented training procedures.

Training agency standards Diver training standards developed by **technical dive training organisation**s, such as PADI, SSI, RAID, TDI/SDI and NAUI, or those based on the minimum international standards recognised by the Recreational Scuba Training Council.

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

Time out The time a diver surfaces at the end of a dive.