

Snorkel safety

A guide for workers

Strategies for workers in the snorkelling industry to help reduce the potential for snorkelling fatalities and injuries to clients



Introduction

Queensland is world famous for its beautiful coastal and reef locations, with many visitors and locals wanting to safely snorkel to enjoy the wonders of ocean life. Queensland's recreational snorkel operators offer a range of snorkelling activities for both beginners and the more experienced.

Each year approximately 1.1 million people go snorkelling a total of 2.25 million times in Queensland waters. Approximately half are from Australia and most overseas snorkellers come from the United Kingdom, Japan and the USA. Chinese and Indian snorkeller numbers are also growing.

As with any recreational water activity, there are significant and serious risks associated with snorkelling. Sadly, each year on average five people die while snorkelling at Queensland locations (that are considered to be workplaces). Many others receive serious injuries. The emotional and financial cost of these deaths and injuries to families, businesses and Queensland's tourism industry is immense.

This guide has been developed to help businesses better inform all workers involved in the dive and snorkelling industry of the risks associated with snorkelling and how their day to day activities contribute to the safety of all participants. It also outlines legal obligations in the snorkelling industry and identifies a number of strategies that will reduce the potential for incident and injury to snorkellers.

Who should read this guide?

This guide is for snorkelling workers, and business owners and managers. It will also be useful to businesses associated with recreational snorkelling, such as those who supply or hire snorkelling equipment.

Workplace Health and Safety Queensland (WHSQ) encourages all snorkelling businesses to use the information in this guide to support the training of their snorkelling workers. Workers should read this guide and discuss its application at their own workplaces.

Snorkelling workers may include:

- ✓ snorkelling supervisors
- ✓ dive instructors
- ✓ snorkelling guides
- ✓ lookouts
- ✓ vessel masters
- ✓ rescuers
- ✓ first aid providers
- ✓ other vessel crew

Snorkelling incidents in Queensland

Examining data from snorkelling incidents identifies trends in the circumstances influencing them. Understanding these circumstances guides the development of prevention or minimisation strategies that focus on the highest risk participants and situations.

Between 2000 and 2011 there were 49 deaths in recreational snorkelling workplaces in Queensland. WHSQ records recreational snorkelling incidents where the activity was conducted by a business or undertaking. Other snorkelling incidents, such as private spear fishing or snorkelling from a public beach are not included as they are not considered to be workplaces.



WHSQ's incident data indicates Queensland recreational snorkelling workplace fatalities most commonly involve:

- people with medical conditions, in particular those with cardiac conditions
- older people, predominantly males
- inexperienced snorkellers and swimmers of all ages and gender
- international visitors with little or no understanding of English.

Introduction

Significant findings

An analysis of past incidents show that snorkellers involved in incidents often had pre-existing medical condition/s that they failed to let the snorkelling workers who were supervising them know about.

In some cases, an autopsy has shown a significant medical condition of which the snorkeller was unaware. Many of these snorkellers did have common characteristics or behaviours to suggest they may be at risk, including being:

older

overweight

a smoker

nervous

a poor swimmer or low confidence in the open water



In the majority of fatalities, the snorkellers were **not using a flotation device**, teamed with a specific **buddy** or in a **guided group**. It was also found that most incidents were silent, with no obvious distress shown by the snorkeller.

In several cases the **lookout** was not the first person to realise that a snorkeller was in trouble. Rescues were sometimes **delayed** through inappropriate equipment and techniques to handle an unconscious person or remove them from the water, particularly when the person was **overweight**.

Poor environmental conditions

contributed to incidents, most commonly rough surface conditions and currents. Several incidents however, occurred in very good conditions.

Analysis of past incidents also indicated **younger male snorkellers** who undertake **breath-hold diving** were at a significant risk of hypoxic blackout.

Non-fatal injuries to snorkellers included near drownings, salt water aspiration, jellyfish stings and injuries caused by objects such as vessel propellers and boarding ladders.

What the law says

How is snorkelling defined?

Snorkelling involves the use of a mask, fins and a snorkel to explore the underwater environment. Most snorkellers swim at the surface although some will explore below the surface while holding their breath for short periods of time.

This guide does not address the risks for snorkelling in swimming pools, snorkelling for occupational purposes, spear fishing or competitive apnoea breath-hold diving.

The law and how it applies

In Queensland, the health and safety duties of persons conducting a business or undertaking, workers and others are described by 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 risks of recreational snorkelling for customers as part of a business or undertaking.



The law and its application

The Act outlines the law, establishes duties, details penalties for offences and lists incident notification requirements.

The Regulation outlines the 'must do' rules specific to recreational diving and snorkelling.

Specific duties for the health and safety of recreational snorkellers, when the activity is conducted by a business or undertaking, are described by the *Safety in Recreational Water Activities Act 2011* (SRWA Act), the *Safety in Recreational Water Activities Regulation 2011* and the *Recreational Diving, Recreational Technical Diving and Snorkelling Code of Practice 2011*.

Business owners and their workers

When a business or an undertaking has not complied with its duties, it may be held liable under the SRWA Act, along with its officers (such as the business owner).

Workers may also be held personally liable if they have not shown reasonable care to:

- ✓ **take care of their own health and safety**
- ✓ **ensure their acts or omissions do not adversely affect the health and safety of people involved in the activity**
- ✓ **comply, so far as is reasonably practicable, with any reasonable instruction that is given by their employer.**

Codes of Practice provide advice and guidance about practical recreational diving and snorkelling. This advice must be followed or else other actions must be undertaken that are equivalent or better than the standard in the code of practice.

What the law says

CASE STUDY

Not all risks are easy to detect

A snorkeller died from a cardiac condition after completing a medical assessment form that stated there were no pre-existing medical conditions.

After the incident it was established that the snorkeller did not know about the heart disease.

How could this risk have been minimised?

The snorkeller was clearly identified as an older person and considerably overweight. These factors were not taken into consideration when workers assessed the participant and gave the all clear, based solely on the medical assessment form.

A proper assessment would have identified that the snorkeller was at risk due to age and weight, despite the information on the medical assessment form.

Identifying which snorkellers are at risk and providing them with additional care is a vital part of ensuring their safety. Control measures may include:

- ✓ **increasing supervision**
- ✓ **reducing physical exertion in the water**
- ✓ **encouraging at risk snorkelers to participate in guided snorkelling opportunities**
- ✓ **keeping at risk snorkellers close to lookouts and supervisors**
- ✓ **snorkelling with a paired buddy**
- ✓ **using flotation devices.**

For more information check out these sections of the guide:

[Assessing at risk snorkellers](#)

[Example snorkeller assessment questionnaire](#)



A proper assessment would have identified that the snorkeller was at risk due to age and weight, despite the information on the medical assessment form.

Putting the law into practice

Understanding your duties

When a new employee starts working with a snorkelling business, they will normally join a team where each worker has varying duties and responsibilities. Each worker must clearly understand their own duties, as well as those of their colleagues.

All snorkelling should be coordinated by a snorkelling supervisor. Other team members should have their duties and responsibilities detailed in their job description or a duty statement.

The legislation identifies five specific roles to be undertaken at recreational snorkelling sites:

- snorkelling supervisor
- snorkelling guide (optional)
- lookout
- rescuer
- first aid provider.

In many situations these roles will be undertaken by one or more workers who each may perform one or more duties. For example, the snorkelling supervisor may share lookout duties with another member of the snorkelling team.

[Example duty statement for snorkelling supervisors](#)

[Example duty statement for lookout](#)

Most recreational snorkelling businesses have developed standard operating procedures (SOPs) to clearly detail how their business is to be conducted. Although the SOP should be based on the regulations and codes of practice, they are typically more detailed and specific to the needs of that business. SOPs are also called operations manuals or procedures manuals.

Important

Whenever snorkelling is being conducted you must clearly understand your own role and those of your colleagues.

If you do not understand or cannot undertake your role, advise your supervisor and ensure that your duties are being covered by another worker. If you are unable to perform your duties as required you must make this known to your supervisor or manager.

You are required by law to follow health and safety instructions given to you by your employer, as far as is reasonably practicable.

CASE STUDY

Younger snorkellers are also at risk

A young adult snorkeller died while extended breath-hold diving during snorkelling to take pictures of reef fish.

His behaviour of snorkelling alone and diving deeply had been noted by both lookouts and dive instructors operating from the vessel.

No advice about the risks of breath-hold dives during snorkelling had been communicated and no additional supervision measures were provided. The snorkeller suffered hypoxic blackout during the ascent (shallow water blackout) and his body was recovered from the sea bed by passing divers.

How could this have been prevented?

Workers should have identified the snorkeller as an at risk participant due to his behaviour. Control measures could have included:

- ✓ using specifically coloured equipment or other markings so that the snorkeller was easier to supervise and monitor in the water
- ✓ arranging a buddy snorkeller so that the snorkeller was watched while underwater
- ✓ discussing the risks of breath-hold diving prior to snorkelling.

Read more on [assessing at risk snorkellers](#)

Putting the law into practice

Consultation and training

The snorkelling business must consult with its workers about risk management and any changes that may affect health and safety. During the consultation workers must be given a reasonable opportunity to express their views, raise matters and contribute to the decision-making process.

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.

Competency for new workers

New workers should provide their employer with evidence of their competence, including:

- copies of any current relevant certifications or qualifications
- evidence of their experience in snorkelling or related work, such as their resume or references.

There are a range of qualifications relevant to snorkelling workers, both in and outside of the vocational education and training (VET) system. However some of these are not specific to recreational snorkelling workplaces so additional in-house training may be required to ensure competence to undertake specified duties.

The importance of inductions

Snorkelling businesses must provide suitable and adequate information, training and instruction to their workers. This should start with an induction.

The induction should include a thorough explanation of the SOP and a demonstration of the knowledge and skills required to perform the work. Workers should have an opportunity to ask questions about anything they are unsure about and practice under supervision before working alone.

As a minimum, induction training should cover:

- relevant legislation
- the organisation of the snorkelling business
- consultation requirements
- duties and responsibilities
- standard operating procedures
- specific risks and controls associated with snorkelling clients and environment
- how to do the job safely for both snorkellers and workers
- emergency procedures
- safe use of plant and equipment, including all snorkelling and safety equipment
- health and safety consultation
- reporting hazards and incidents
- records required to be kept.

Consultation is an opportunity to resolve any concerns about work health and safety. It allows employees to speak up and share any issues or ideas they may have.



Appropriate qualifications for snorkelling workers could include:

Relevant VET courses

For example:

- SIS10 Pool Lifeguard, including SISCAQU306A – Supervise clients at an aquatic facility or environment.
- HLTFA402B Apply advanced first aid.

Relevant qualifications from recreational dive training organisations (e.g. SSI, PADI)

For example:

- perform diver rescues
- supervise diving
- instruct diving and snorkelling.

Relevant qualifications from lifesaving associations

For example:

- Royal Life Saving Society Australia.
- Surf Life Saving Australia.

Putting the law into practice

Practical training and assessment

Training should be practical and assessment should be as realistic as possible, covering all operational variables.

Practical training relevant to a worker's duties should include how to:

- assess and identify at risk snorkellers
- perform an environmental assessment
- set up a snorkel site
- provide information to snorkellers
- demonstrate the use of snorkelling equipment
- fit equipment to snorkellers
- perform lookout duties, supervisor duties and guide duties
- conduct emergency procedures.

Snorkelling businesses should provide ongoing training and supervision of their workers to maintain and improve their competence. Emergency skills need to be practiced regularly and even experienced workers need their knowledge and skills reviewed.

Snorkelling businesses should ensure their workers conduct regular snorkeller rescue drills and check that snorkel briefings contain all of the relevant information and advice. These are opportunities to challenge and test workers' skills individually and as a group. Monitoring should be based on realistic scenarios reflecting the standard operating procedures of your business. They should be practical and varied from month to month.

Simple records of training and assessments should be kept and include names of all staff involved, the date of training, what the subject of the training was, and what assessment was undertaken.



**Induction and practical training should be assessed.
The following assessment tools are available in this guide:**

[Knowledge
assessment tool](#)

[Lookout scanning techniques
assessment tool](#)

Customer assessments and snorkelling sites

Assessing snorkelling customers

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 customers from participating in snorkelling activities. It helps to identify at risk individuals so that they can be given appropriate advice, equipment and supervision. Sometimes however, the best advice may be to avoid snorkelling on that occasion.

The assessment can be completed by:

- ✓ asking the participating group questions
- ✓ talking with snorkellers individually
- ✓ using an assessment form
- ✓ observing the group.

The snorkelling worker should observe and record whether any participants:

- are either an older or a very young person
- are overweight
- smoke
- 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).

Some people, particularly older men, may be reluctant to acknowledge or discuss their concerns.

Remember a successful assessment is one that encourages honest participation by customers. Be honest about the risks of snorkelling and respectful of snorkellers concerns and privacy.

Once you have identified any at risk snorkellers, make sure all members of the team know who they are and why they are at risk. If you use a snorkelling plan, record the names and details of at risk snorkellers as a reference during the day.

Determining at risk snorkellers

Identifying which customers are at risk and providing them with additional attention is a vital part of ensuring their safety.

Example questions to help determine whether a snorkeller is at risk are below.

- Do you have any medical conditions?
- Are you currently taking any prescribed medication?
- Do you smoke?
- Are you nervous? (observe the candidate for outward signs of nervousness)
- Can you readily understand spoken and written advice in English?
- Have you snorkelled before?
- Can you swim well?



An assessment form is a simple way to gather information. See an example snorkeller assessment form and snorkel plan.

[Snorkeller assessment form](#)

[Snorkel plan](#)

Customer assessments and snorkelling sites

Controls for managing at risk snorkellers include:

- using specifically coloured equipment or other markings so they can be easily supervised and monitored in the water
- encouraging at risk snorkellers to take part in guided snorkelling trips
- keeping at risk snorkellers close to lookouts and supervisors
- arranging buddy pairs and encouraging hand holding
- encouraging the use of flotation devices.



Briefing your snorkelling customers

From the time a snorkelling customer 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 films of snorkellers
- providing translated materials where required.



Key safety messages for recreational snorkellers

- ! **There are serious risks associated with certain medical conditions, especially cardiac conditions.**
- ! **Know your own ability and snorkel accordingly.**

Key safety messages for at risk snorkellers

- ! **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.

Experienced snorkellers will rapidly tune out if they are being re-taught basic techniques and may then miss out on other important information, such as the risks of breath-hold diving.

Customer assessments and snorkelling sites

Briefing snorkellers from non-English speaking backgrounds

People from non-English speaking backgrounds are at risk if they cannot fully understand the advice they are given. The risks associated with water sports may also not be as well known to those from other countries as they usually are to Australians.

There are a number of ways to help non-English speaking snorkellers. These include:

- using staff who speak the appropriate language
- using tour guides to translate important messages
- using visual aids such as site photographs, diagrams or warning signs that do not require words
- using translated materials, such as WHSQ's snorkelling briefing materials, available in multiple languages at worksafe.qld.gov.au or check out the [quick links](#) section
- creating short films with voiceovers or subtitles
- showing WHSQ's 'Snorkelling sense' film during safety briefings.

If you have any doubt that a snorkeller (English or non-English speaking) has understood all the advice and information you have provided, always consider them at risk.

Engaging your snorkellers

Information and advice is more effective if it is delivered in multiple formats that appeal to the participants' different senses.

Good briefings emphasise key points using words, visual displays and touch.

Follow up a briefing with an open meet and greet period during which customers who want to can discretely ask staff questions or discuss medical issues. This is also a good opportunity to identify at risk snorkellers.

Differing techniques and approaches will be effective with different customers.

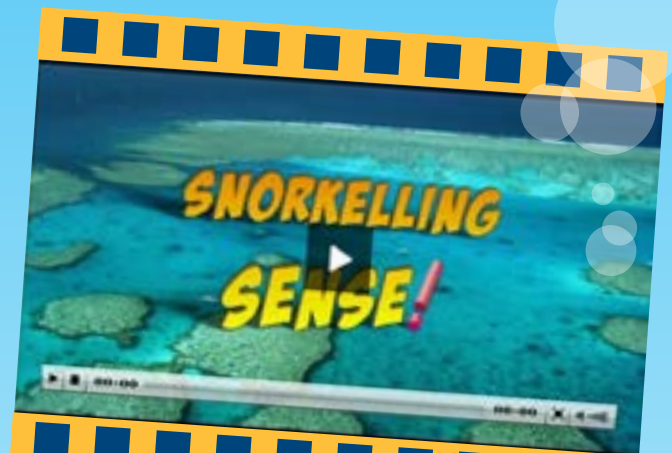
You will know if your briefing was successful if:

- ✓ you are asked questions
- ✓ people bring their concerns about their experience or medical conditions to your attention
- ✓ snorkellers are doing the things you have asked them to do.

Check out WHSQ's short film 'Snorkelling sense'

The film can be used to engage with potentially at risk snorkellers during briefing sessions.

The film demonstrates the importance of snorkellers sharing medical information with snorkelling staff prior to entering the water. It comes with Japanese, Korean and Chinese subtitles.



Customer assessments and snorkelling sites

Environmental assessment

Before snorkelling starts, assess the environmental conditions at the site and record this information on a snorkel plan. The snorkelling environment can include both natural and man-made risk factors.

The assessment should include:

- checking the weather reports and tidal predictions
- checking the conditions on arrival or at anchor (e.g. in-water visibility, swell and currents causing vessel movement and safe entry/exit from the vessel)
- noting any changing conditions (e.g. identifying the possibility of jellyfish or deteriorating weather causing undue vessel movements).

Depending on the circumstances, less favourable environmental conditions may lead to:

- cancellation of the snorkelling trip
- changing snorkelling sites or times
- limiting snorkeller participation
- changing the snorkelling entry/exit location
- signalling to moving vessels
- providing additional supervision
- the use of flotation or lycra protection for all snorkellers
- providing additional advice and information to snorkellers.

Snorkel workers should remain aware of any relevant environmental conditions and if any changes are required to the standard operational procedure.



At risk snorkellers are more likely to be affected by difficult environmental conditions.

Be especially aware when there are poor surface conditions or currents.

Snorkel site preparation

Prepare the site before snorkelling starts. This may include:

- checking entry and exit points are safe to use
- deploying markers, flags, lines and floats
- ensuring the lookout is in position and equipped to scan the snorkel site effectively
- providing a communication system (e.g. hand held radios, to allow the snorkel team to communicate easily)
- ensuring emergency equipment is available for immediate use, including first aid and resuscitation equipment, oxygen and any rescue equipment such as rescue tubes, tenders and lifting equipment.



During snorkelling activities

Snorkelling equipment

Equipment supplied to snorkellers should be the correct fit and of sufficient quality to perform effectively.

Factors to consider:

- Masks with a silicone skirt and self-draining snorkels remove some of the stress for inexperienced snorkellers.
- Carrying a range of optically adjusted masks helps snorkellers with poor vision.
- Carrying a range of mask styles caters for differing facial types.
- Carrying a full range of sizes avoids snorkellers having to wear tight wetsuits and flotation devices, which has factored in several incidents involving overweight snorkellers.

All equipment should be washed and checked daily to ensure it is in safe working condition. Particular attention should be given to snorkel lugs and drain valves, mask skirts and fin foot pockets.

Masks and snorkels should be disinfected between each use. Repairs must be made in accordance with the manufacturer's specifications.

Other equipment that may be provided includes:

- exposure suits, such as wetsuits or lycra suits for cooler water temperature, UV protection and protection from marine jellyfish stings
- flotation devices
- moored float stations
- ropes and floats to form snorkel site boundaries and trails
- towed floats for snorkelling guides
- marker or warning flags to alert other vessels to snorkellers in the water
- a supply of spare parts
- petroleum jelly for moustaches to ensure an appropriate seal of the mask.

The benefits of using a flotation device

Flotation devices used for snorkelling include personal flotation devices (PFD), non standard swim jackets, boards, life rings and tubes (such as noodles). 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 PFD compared to a noodle.

Personal flotation devices should comply with Australian Standard AS4758–2008 Personal Flotation Devices.

Fixed flotation such as moored float stations or boundaries and trails using ropes and floats can also be set up. Snorkel guides should always have a flotation device on hand that can be given to a tired or distressed snorkeller.

Not all at risk snorkellers are prepared to use a flotation device. Snorkel workers should try to persuade these snorkellers to do so by demonstrating their use and advising that it will help them to relax in the water.

WHSQ's 'Snorkelling sense' film covers the use of flotation devices. View the film at worksafe.qld.gov.au

Colour as a control

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.



Personal flotation device

During snorkelling activities

The role of the snorkelling supervisor

The snorkelling supervisor is responsible for the safe conduct of the snorkelling activity.

They have an important role in communicating and coordinating between the snorkelling team members and customers. Usually they will provide briefings and identify any at risk snorkellers.

They should be an experienced snorkeller and know the planned snorkel site well. At the site they must ensure that snorkelling only starts when the site is properly set up and supervisory staff are in position. The supervisor needs to coordinate their duties with other workers including vessel crew and dive teams.

The snorkelling supervisor can help snorkellers to select and fit their equipment and safely enter the water. They may also need to take action if participants are seen consuming alcohol, deliberately disobeying safety advice or showing off and taking part in dangerous behaviour.

Supervisors should recognise any developing risks, such as changing weather conditions, and take appropriate action.

The role of the snorkelling lookout

The lookout is a critical role, in charge of monitoring all snorkellers, detecting those in difficulty or distress and initiating emergency responses.

The lookout must be solely engaged in these duties whenever people are snorkelling unless:

- small groups of snorkellers (10 or less) are being directly supervised in the water by a guide and a risk assessment shows no lookout is required for supervision or rescue
- OR
- the lookout is carrying out rescue or first aid duties and no other lookout is available.



The lookout is key to preventing and responding to snorkelling incidents.

Developing your scanning skills

A good lookout needs excellent scanning skills.

To be most effective, the lookout should:

- have an elevated and distraction free location (distractions can be visual or audible—snorkellers asking questions is extremely distracting)
- wear brightly coloured or distinctive clothing so that they are easily recognised
- have binoculars and polarised sunglasses that do not hinder peripheral vision
- move their head while scanning, not just their eyes
- scan using patterns and zones to cover the whole site at least once every 60 seconds
- change scanning patterns periodically
- look into the water, as well as on the surface
- focus on each snorkeller, checking them for movement or signs of distress
- give greater attention to at risk snorkellers and environments, especially those that are down current or at the limits of the snorkelling area
- be aware of conditions that affect visibility such as glare, shadows and poor in-water visibility and change position to see into these areas if needed
- sit, stand and walk around while scanning, to include areas that might be hidden—for example down the sides of a vessel
- take breaks and rotate duties—all lookouts should have a break after a maximum of 60 minutes
- ensure relevant information is passed onto the new lookout when handing over lookout duties
- ensure they have enough sleep and are well rested before working
- avoid overheating and dehydration in hot conditions by taking advantage of shade and regularly drinking water
- make sure that they stay warm and comfortable in cold conditions
- avoid boredom and drowsiness, by staying cool, moving around and rotating duties
- ensure they have effective UV protection.

During snorkelling activities

Testing scanning abilities

To test how effective a lookout is at scanning the snorkelling site, arrange for a snorkeller to simulate unconsciousness or place a small distinctive object, like a red tennis ball, in the snorkelling area. Then time how long it takes the lookout to notice. Responding in less than 10 seconds indicates excellent scanning. Taking more than 60 seconds to respond indicates their scanning is not effective and this should be addressed.

[Check out a practical example to test the lookout's scanning ability](#)

The role of a snorkelling guide

A snorkelling guide can provide in-water supervision for groups of snorkellers. Although a guide usually works with a lookout, when the group is 10 participants or less and an assessment of the risks has been undertaken, a snorkelling guide may be used instead of a lookout.

Using a snorkelling guide provides direct supervision of at risk snorkellers and this should be encouraged whenever possible.



The snorkelling guide provides supervision to at risk snorkellers

Practical example

The snorkelling supervisor spots that a snorkeller entering the water appears nervous. The snorkeller is the last to enter the water and appears hesitant.



- ✓ They advise the lookout to pay special attention to this snorkeller.
- ✓ If available, they may suggest that the snorkeller goes on a guided tour.
- ✓ They also advise the snorkeller to stay close to their buddy, use a flotation device and remain close to the entry and exit point.

Rescue and emergencies

The role of rescuers, first aid and oxygen providers

Workers who will be involved in a rescue or provide first aid and oxygen to an injured snorkeller may also have other roles, for example as a lookout. Each member of the team should understand their duties in an emergency and how emergency plans will be carried out.

The worker providing rescue, first aid and oxygen should hold a current diving first aid training qualification that includes emergency oxygen administration.

Oxygen equipment and levels should also be checked daily by someone who has received training to carry out the checks correctly.

First aid must be administered quickly and appropriately when treating a snorkelling injury.

First aid kits should be available at the snorkelling site and the contents should cater for the injuries that may occur.



The oxygen system should also be able to deliver oxygen concentration of as near as possible to 100 percent to a breathing person and should also facilitate oxygen enriched artificial ventilation of a non-breathing person. Sufficient oxygen should be provided taking into account the location of the snorkel site and the access to medical facilities.

A risk assessment should be undertaken to determine if an Automatic External Defibrillator (AED) and trained operator should be available on the vessel.

Record details of any incidents or near misses and ensure these are passed on.

Emergency plans and practising drills

For an emergency plan to be effective, everyone must understand their role and drills must be practiced regularly. Real emergency responses have been hindered when snorkelling teams could not retrieve an injured snorkeller or were slow to action their missing snorkeller procedures.

Every rescue or emergency situation will be different so experience can only be gained by practicing different rescue and emergency scenarios. Consider scenarios where the snorkeller is elderly or overweight or where rescues take place in poor conditions.

Delayed signs of injury or illness

Once snorkelling has finished at the site and all snorkellers have safely exited the water, continue to monitor them for any signs or symptoms of injury or illness.

Workers should be particularly aware of the risks of stings from *Chironex fleckeri* (box jellyfish), *Carukia barnesi* (Irukandji) and related species. For example, the initial sting of a Irukandji jellyfish is only minor with severe symptoms developing over time (usually between 5–45 minutes). These include severe generalised pain, nausea and vomiting, difficulty breathing, sweating, restlessness and a feeling of impending doom.



More information on how to identify these types of stings can be found on the Australian Resuscitation Council website at <http://resus.org.au>

Risk management

There are several risk areas specific to snorkelling that should be understood by all workers. Snorkelling businesses must ensure these risks, and any new ones, are identified and controlled. If you see anything that might be a hazard, report it to your supervisor immediately.



RISK: Ensuring no one is left behind

It is very important to count everyone on board a snorkelling vessel at the start of the day before departure, when changes to passenger numbers occur and before departure from any snorkelling site. Where possible, use active counts (such as roll calls or signature sheets) because they are more accurate than a head count.

Snorkelling businesses must develop and implement a legally compliant counting system and keep records of each count.

Counting requires diligence every time it is undertaken. New workers may be reluctant to challenge more experienced workers. If there is any doubt, repeat the count again and always cross-check with your co-workers.







[View the example snorkel plan](#)



RISK: Snorkelling and moving vessels

Snorkellers can be at serious risk from vessel or propeller strikes. These can be from the vessel they arrived in or from other vessels in the area.

Minimise or eliminate the risk of divers or snorkellers being injured or killed by moving vessels by:

-  fitting propeller guards
-  using buoys and markers to separate diving activity from vessels
-  using flags and lights at night to indicate that snorkellers are present
-  appointing lookouts to maintain watch and form part of the communication system
-  ensuring that workers are familiar with snorkelling sites and able to navigate
-  implementing safe systems of work.

Most incidents are from vessels operated by the snorkelling business. Where practicable you should guard outboard propellers, use skilled tender drivers and separate the snorkelling area from any moving vessels.



Risk management

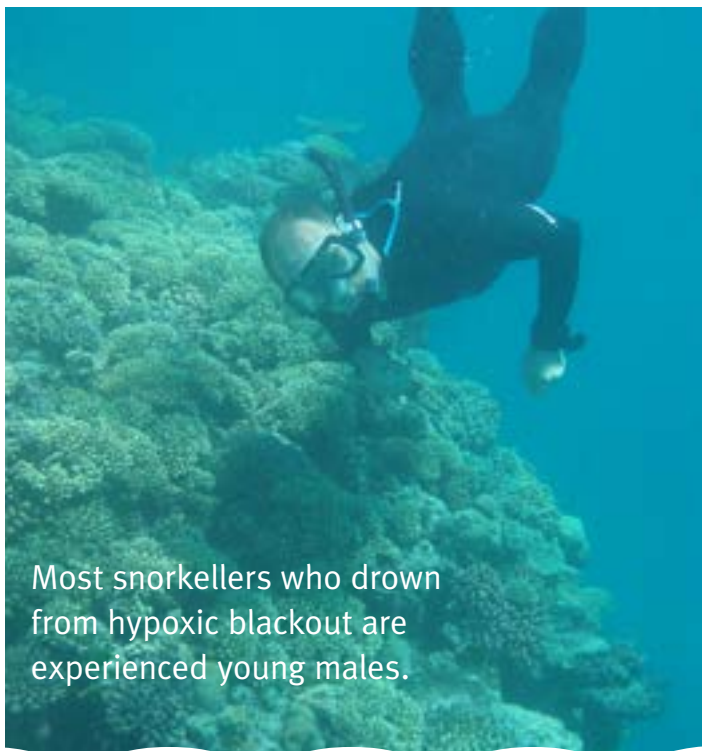


RISK: Hypoxic blackout (shallow water blackout)

Snorkellers who undertake extended breath-hold dives or hyperventilate before leaving the surface may be at risk from hypoxic blackout leading to drowning. During the briefing and assessment of snorkellers, identify any potential at risk snorkellers.

WHSQ incident data suggests experienced young males are most at risk of hypoxic blackout. Warning signs that a snorkeller is planning on breath-hold diving include choosing to use their own snorkelling equipment, requests to use weights, questions about water depths and how far they can snorkel away from supervision.

Give advice about the risk of hypoxic blackout to these snorkellers and ensure they are in buddy pairs using strict 'one up, one down' supervision arrangements. They should also be under the close supervision of a snorkelling guide or lookout.



Most snorkellers who drown from hypoxic blackout are experienced young males.



RISK: Marine life

Snorkellers may be injured by a variety of marine creatures, but the most common injuries are caused by jellyfish. There are a number of varieties of jellyfish that can inflict serious stings in Queensland and some can be fatal. Snorkellers should immediately exit the water if dangerous marine predators, such as some larger shark species, are detected.

The code of practice contains advice about marine jellyfish stings. **Information on first aid measures can be found at the Australian Resuscitation Council website www.resus.org.au**

All snorkelling workers should become familiar with local jellyfish sting symptoms and treatments.



Full body protection with an appropriate lycra or wetsuit is the best way of minimising the risk of jellyfish stings for snorkellers.

Risk management

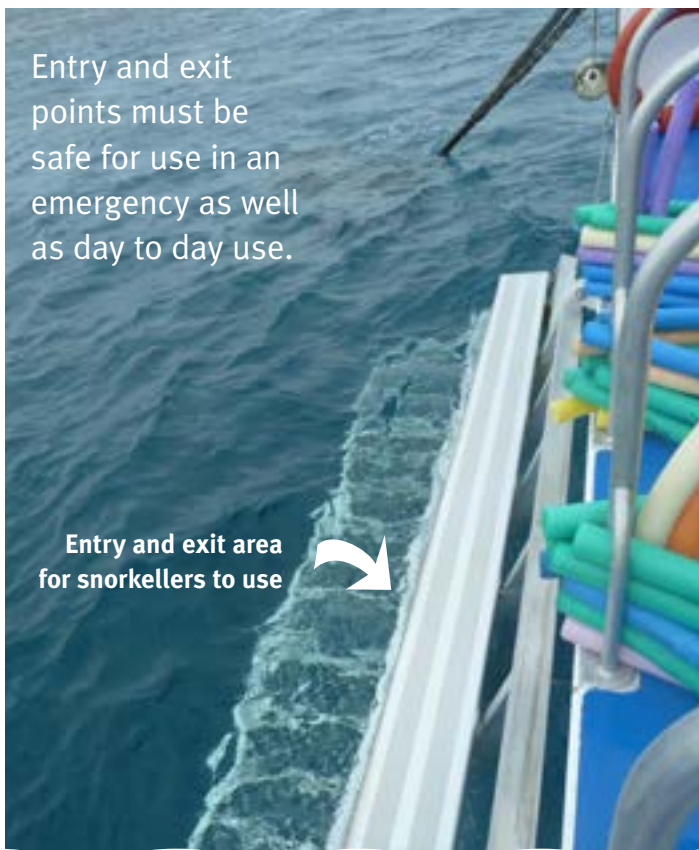


RISK: Entry and exit from the water

Snorkellers are at risk of sustaining serious injuries at entry and exit points in several ways. These include injuries caused by the vessel itself, platforms and boarding ladders, waves, currents and rocks.

Serious injuries have occurred when rolling vessels and ladders have struck snorkellers. Improperly secured platforms and ladders have caused crush injuries and in some cases amputation.

Rescues have been delayed from exit points that have not allowed the easy transfer of an injured or unconscious snorkeller. Even well-designed and maintained entry and exit points may need a team member there to assist customers if the sea is rough.



RISK: Panic and stress

Many snorkellers have little or no previous snorkelling experience and may not be strong swimmers. Despite being willing to try snorkelling, they are susceptible to panic which can make any pre-existing medical conditions worse and can lead to drowning.

During the snorkelling assessment and while snorkellers put on their equipment and enter the water, watch for signs of stress such as anyone being jumpy, hesitant, overly excited, fidgety or having shaking hands.

Ensure the lookout and any guides are aware of these at risk snorkellers. Stress can be reduced by close supervision, the use of flotation devices, guided tours and snorkelling in good environmental conditions.

Panic and stress increase the likelihood of both medical and drowning incidents.

Watch for behaviours that indicate developing panic or stress in snorkellers.



Helpful publications and websites

Additional information

Visit www.worksafe.qld.gov.au or call the WHS Infoline on 1300 362 128 for more information on:

- recreational snorkelling legislation
- snorkelling risk factors
- assessing potential snorkellers
- identifying at risk snorkellers
- assessing environmental conditions
- setting up snorkelling sites
- supervising snorkellers
- rescue and emergency procedures.

Other publications and websites

Divers Alert Network (DAN Asia Pacific)

Information includes snorkelling safety tips, first aid for diving, jellyfish first aid and prevention.

Australian Resuscitation Council

Information on first aid measures.

Royal Life Saving Society Australia

Fact sheets on supervision, resuscitation, water awareness and safety.

Surf Life Saving Australia

Information on beach and coastal safety.

Example standard operating procedure and safety management system

Handy templates and resources

This section contains a range of templates which you may find helpful. You can either print the templates and use them as they are, or adjust them to suit your own workplace.

EXAMPLE DUTY STATEMENT

Snorkelling supervisor

Responsible for planning assessments and the conduct of snorkelling operations on site.

[Go to example](#)

PRACTICAL ASSESSMENT

For the snorkeller

Assessing the current level of fitness and snorkelling experience of your customers.

[Go to example](#)

EXAMPLE DUTY STATEMENT

The snorkelling lookout

Responsible for scanning the site while snorkellers are in the water, monitoring the location, identifying people in distress and initiating a rescue.

[Go to example](#)

PRACTICAL ASSESSMENT

Lookout scanning techniques

This example is based on the content of this guide and the Safety in Recreational Water Activities Regulation 2011 and the *Recreational Diving, Recreational Technical Diving and Snorkelling Code of Practice 2011*. The assessment should be modified to suit the needs of the particular snorkelling workplace and the contents of any standard operating procedures.

[Go to example](#)

SNORKEL PLAN

Completed by the snorkelling supervisor, the plan should remain at the snorkelling site and then be returned for review and archiving to the business premises.

[Go to example](#)

ASSESSMENT RESULTS

Lookout scanning techniques

Assessment results template to provide constructive feedback to your lookout.

[Go to example](#)

ASSESSMENT

For the snorkel worker

This example is based on the content of this guide. The assessment should be modified to suit the needs of the particular snorkelling workplace and the contents of any standard operating procedures.

[Go to example](#)

The material presented in this publication is distributed by the Queensland Government for information only and is subject to change without notice. The Queensland Government disclaims all responsibility and liability (including liability in negligence) for all expenses, losses, damages and costs incurred as a result of the information being inaccurate or incomplete in any way and for any reason.

Copyright protects this document. The State of Queensland has no objection to this material being reproduced, but asserts its right to be recognised as author of the original material and the right to have the material unaltered. © State of Queensland (Department of Justice and Attorney-General) 2014 | PN 11379 | JAG 12/5164

DUTY STATEMENT

Snorkelling supervisor

The snorkelling supervisor is responsible for planning, assessments and the conduct of snorkelling operations on site.

He/she reports to the operations manager.

Competency

The snorkelling supervisor must:

- be at least 18 years old
- maintain a level of fitness so that they are able to undertake their duties without risk to their own or other people's health and safety
- have significant experience snorkelling at all designated sites and be able to assess changing marine hazards
- have significant personal snorkelling experience and be able to assess snorkeller competence
- be able to effectively instruct and advise snorkellers
- be qualified to rescue a snorkeller
- be currently qualified to give first aid, including CPR and administer oxygen, to a breathing and non-breathing person.

Duties and responsibilities

The snorkelling supervisor is responsible to ensure the implementation of control measures delegated to that position (as detailed in the standard operating procedures).

Duties and responsibilities include:

- to work as a team leader, supervise and consult with other snorkelling workers
- to assist other workers as required, including lookout, rescue and first aid
- ensure prospective snorkellers complete any required documentation, such as medical statements
- assess the competence and fitness of prospective snorkellers
- complete a snorkel plan prior to snorkelling commencing
- ensure there are sufficient people to be guides, lookouts, rescuers and first aid personnel
- ensure snorkellers are appropriately equipped
- ensure equipment, plans and personnel are available for snorkelling emergencies
- conduct an environmental assessment of conditions at the snorkelling site
- cancel or modify the conduct of snorkelling where existing control measures mean it cannot be conducted safely
- remain at the snorkelling site to control the overall snorkelling operation and ensure all control measures are implemented
- instruct, train and advise snorkellers, including ensuring all snorkellers are given a pre-snorkel briefing
- enter the water to instruct, guide and supervise from that position if required
- ensure snorkellers are arranged in buddy pairs
- arrange appropriately sized guided groups as required
- ensure a headcount is conducted as required
- ensure all incidents and injuries are recorded and reported
- ensure all trip documentation is returned to the place of business.

DUTY STATEMENT

The snorkelling lookout

The lookout is responsible for scanning the site while snorkellers and divers are in the water, monitoring the location of all participants, identifying people in difficulty or distress and initiating a rescue.

He/she reports to the dive/snorkelling supervisor.

Competency

The lookout must:

- be at least 18 years old
- maintain a level of fitness so that they are able to undertake their duties without risk to their own or other people's health and safety
- have experience diving or snorkelling at all designated sites and be aware of environmental conditions at the site
- have training in being a lookout and in the supervision of people in water.

Duties and responsibilities

The lookout is responsible to ensure the implementation of relevant control measures (as detailed in the standard operating procedures).

Duties and responsibilities include:

- to work as a team and consult with other workers
- to assist other workers as required, including rescue and first aid
- to be positioned in an elevated position where they can see the entire site
- to request assistance if needed
- to be solely engaged in being the lookout whenever people are in the water unless engaged in an emergency response
- the lookout shall wear distinctive brightly coloured clothing and be equipped with binoculars, polarised sun glasses and communications equipment so that effective communications can be made with the snorkelling supervisor and people in the water
- recognise and report relevant hazards (e.g. changing conditions) to the snorkelling supervisor
- identify people in difficulty or distress
- to act as rescuer and first aid provider if required (see separate duty statements)
- scan the area effectively and efficiently to observe all snorkellers and divers
- alert divers and snorkellers moving outside the designated site
- provide higher levels of supervision to participants assessed by the snorkelling supervisor as being 'at risk'.

SNORKEL WORKER ASSESSMENT

Answer the following questions on the attached paper. Ensure your answers are numbered and that your name and date is put on each answer sheet. Candidates should have access to the relevant legislation, standard operating procedures and the training support guide for snorkelling workers.

All questions must be answered correctly for a competent assessment result.

Time allowed: Two hours

- 1 What legislation covers the health and safety of recreational snorkellers at a business or undertaking? List three documents.
- 2 What is the main difference between a regulation and a code of practice?
- 3 Under the legislation, what three types of incident have to be notified to Workplace Health and Safety Queensland?
- 4 What specific duties do workers have under this legislation?
- 5 List five specific snorkelling safety issues addressed by the regulation and code of practice.
- 6 Where can you find a copy of the legislation at work?
- 7 List three roles to be undertaken by snorkel workers identified in the regulation and code of practice that are needed for snorkelling safety. Which of these duties apply to your work?
- 8 List three qualifications that could help demonstrate the competence of a snorkel worker.
- 9 Describe the main demographic features of snorkelling customers of your business. Consider age, gender, nationality and experience.
- 10 What types of snorkellers are most at risk and why? List at least three categories.
- 11 How do you identify and assess 'at risk' snorkellers?
- 12 What are the four key safety messages to reinforce when giving advice to at risk snorkellers?
- 13 How can increased supervision be provided for at risk snorkellers? List at least two methods.
- 14 How can you provide safety advice to people from non-English speaking backgrounds?
- 15 When assessing the conditions at a snorkelling site, what are three important conditions to note?
- 16 List five ways in which your snorkelling operation could be modified in poor environmental conditions.
- 17 List four actions that should be undertaken to prepare a snorkel site for use.
- 18 What are at least two risks caused by supplying customers with poorly fitting snorkelling equipment?
- 19 Consider the flotation devices you supply. How can you encourage 'at risk' snorkellers to use these flotation devices?
- 20 You see an at risk snorkeller entering the water without a buddy. List three ways you can provide increased supervision for this snorkeller.
- 21 List five tasks normally undertaken by your snorkelling supervisor.
- 22 List 10 ways in which the lookout's scanning can be made more effective.
- 23 Guided snorkelling tours are an excellent way of providing close supervision. Does a guided snorkel tour need to have a lookout as well? Discuss.
- 24 Consider your snorkelling emergency plans, what is the best way to ensure that these plans can be actioned efficiently and effectively?
- 25 List two actions that should be undertaken once snorkelling has finished at the snorkelling site.
- 26 Consider your work procedures for ensuring no persons are left behind; describe a way in which this system might fail and how your actions might prevent this occurring.
- 27 List three ways to reduce the likelihood of vessel and snorkeller incidents used at your workplace.
- 28 What types of snorkeller are most at risk from hypoxic blackout and why?
- 29 List three ways in which the risks of hypoxic blackout might be controlled.
- 30 Consider some of the most common serious marine stinger risks a snorkeller may receive at your workplace? What is the appropriate first aid?
- 31 List five signs that a snorkeller might be stressed and liable to panic. What should you do if you observe these?
- 32 Consider needing to move an unconscious snorkeller from the water at your business. What considerations, if any, should be given to the design of the entry and exit point?

PRACTICAL ASSESSMENT

Lookout scanning techniques

Evaluate the effectiveness of the lookout's scanning techniques by watching them during normal duties and recording comments and ratings against the stated criteria. Ratings should be reviewed and addressed as required with the lookout.

Assessor name _____

Lookout name _____

Date/Location _____

Criteria	Comments	Good	Adequate	Poor
1 An elevated and distraction free location				
2 Wearing brightly coloured or distinctive clothing				
3 Equipped with binoculars and polarised sunglasses				
4 Moving the head while scanning, not just the eyes				
5 Scanning consciously using patterns and zones to cover the whole snorkelling area at least once every 60 seconds				
6 Changing scanning patterns periodically				
7 Looking into the water as well as on the surface for snorkellers				
8 Focus on individuals, checking them off for movement or signs of distress				
9 Giving greater attention to 'at risk' snorkellers and environments e.g. down current or at the limits of the snorkelling area				
10 Sit, stand and walk while scanning				
11 Take breaks and rotate duties. Max. 60 minutes				
12 When handing over lookout duties, ensure relevant information is passed onto the new lookout				
13 Avoiding overheating and dehydration. Good UV protection				
14 Avoiding boredom and drowsiness e.g. staying cool, moving around and rotating duties				
15 Arrange for a snorkeller simulating unconsciousness or a small distinctive object, like a red tennis ball, to be displayed in the snorkelling area and time how long it takes the lookout to notice Good: Identifying the ball in less than 10 seconds Adequate: Between 11 and 60 seconds Poor: More than 60 seconds requires immediate action and investigation				

ASSESSMENT RESULTS

Lookout scanning techniques

Comments

Provide constructive feedback including outstanding areas and room for improvement...

Areas for improvement

Include areas that require either urgent or moderate training...

Action plan

Include training details, corrections required, date of reassessment...

Lookout

Signed: _____

Date: _____

Supervisor

Signed: _____

Date: _____

SNORKELLER ASSESSMENT

Name _____ Age _____

Address _____

Emergency contact name, phone number and address _____

Please rate your current level of fitness and snorkelling experience (please circle)

Swimming abilityPOOR / AVERAGE / GOOD

Snorkelling abilityPOOR / AVERAGE / GOOD

FitnessPOOR / AVERAGE / GOOD

	Yes	No
Are you nervous about snorkelling today?		
Have you snorkelled in similar sea conditions?		
Are you intending to breath-hold dive? For example, holding your breath for extended periods of time whilst diving under the surface.		
Are you suffering from any medical condition/s that may be made worse by exertion? For example heart conditions, asthma, some lung diseases. If yes, please list:		
Are you suffering from any condition that may affect your consciousness? Examples include epilepsy and diabetes. If yes, please list:		
Are you suffering from asthma that can be brought on by cold water or salt water mist?		
Are you taking any prescribed medications (other than oral contraceptives)? If yes, please list:		
Do you smoke?		
Are you overweight?		

Snorkelling supervisor to complete

List other risk factors displayed by participant (nervousness, obesity etc)

Is the participant able to understand information and advice provided? YES / NO

Is the snorkeller 'at risk'? (If yes, highlight risk factors from list above) YES / NO

Specific risks and controls explained to snorkeller and recorded on snorkel plan? YES / NO

Tick relevant controls:

☐ Identification of snorkeller

☐ Guided tour

☐ Others (list)

☐ Buddy

☐ Staying close to supervision

☐ Flotation

SNORKEL PLAN

1/2

To be completed by the snorkelling supervisor.
The document shall remain at the snorkelling site
and then be returned for review and archiving to the
business premises.

Date _____

Location/s and vessel (if applicable)

Organisation

Snorkelling supervisor _____

Lookout/s _____

Rescuer/s _____

First aid provider/s _____

Snorkel guide/s _____

Snorkeller assessment: Have all snorkellers been assessed?

At risk snorkeller name	Risk factor/s	Additional control measure/s

Environmental conditions and assessment

Conditions	Site 1	Site 2
Water depths (m)		
Temperature (°C)		
Surface conditions		
Currents (strength and direction)		
Hazardous marine creatures		
Other vessels		
Other hazards		

Environmental hazard	Specific risk factor	Additional control measure/s
<i>Eg. Current</i>	<i>Moderate SE current</i>	<i>Deploy mermaid lines from vessel. All snorkellers in guided groups.</i>

Preparation checklist

Checklist	Yes	No	Comments
Clean and serviceable snorkelling equipment checked (with appropriate sizes and spares)?			
Necessary documentation such as waivers, incident reports, standard operating procedures and emergency plans on hand?			
Rescue equipment, first aid kit, oxygen equipment, communications and emergency plans checked?			
Advice and instruction given to all snorkellers?			
Non English speakers identified and given appropriate advice?			

Count of all persons on board

Stage	Count 1	Count 2	Initials	Verifying signature
Initial departure				
Departure – Site 1				
Departure – Site 2				

On site checklist (tick when complete, add comments)

Checklist	Complete	Comments
Emergency equipment (rescue and first aid) ready for immediate use?		
Communications system working?		
The lookout is in position and equipped to scan the snorkel site effectively		
Ongoing assessment of snorkellers for water skills, health issues, nervousness, inappropriate behaviours and breath-hold diving		
Entry and exit points are safe to use		
Rescue tender, markers, 'A' flag, lines and floats deployed		
Lookout duties rotated when required		
Snorkel tours conducted		

Post snorkel (tick when complete, add comments)

Checklist	Complete	Comments
Counts of all persons on board complete		
Monitor snorkellers for any illness or injuries		
All equipment checked, cleaned and stored		
Records completed and returned as required		
Additional hazards noted or control measures not adequate?		

This snorkel plan has been completed by (snorkelling supervisor) on (date)